GOVERNMENT OF INDIA

Evaluation of the 1958-59 Rabi Crops Campaign in Punjab, Rajasthan & U.P.

सत्यमेव जयते

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PREFACE

An evaluation of the Rabi crop campaign launched in 1958-59 was undertaken by the Programme Evaluation Organisation at the request of the Ministry of Food and Agriculture. The area of investigation was, by mutual agreement, restricted to certain parts of Punjab, Rajasthan and Uttar Pradesh which form the three major States in respect of production of rabi crops. The report describes and assesses the plan of the campaign, the acceptance of the agricultural practices sponsored under it, and the reasons for their non-acceptance wherever noted. It also attempts to indicate the role of the campaign in influencing the production of *Rabi* crops, particularly wheat in the areas selected for study. The data are given separately for the selected districts, blocks and non-block areas, and for three broad holding groups corresponding to the three categories of big, medium and small cultivators. A separate section describes the role played by the Gram Sahayaks in the campaign and compares their performance with that of the other cultivators.

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NEW DELHI;
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PART I

CHAPTER I

General Introduction

1·1 Reviewing the food situation with his cabinet colleagues on the eve of the rabi season, 1958-59, the Prime Minister urged that a food production drive should be taken up during the season. The Minister for Food and Agriculture, acting on the suggestion, initiated the Rabi Crop Campaign on August 5, 1958. He wrote to the Chief Ministers of the States that substantially higher yields were reported during the crop competitions, and if everything possible was done by the Government, enough could be done to boost up production even in the face of possible natural calamities. Among the programmes to be stressed under the campaign, he emphasized the building up of an efficient organisation at all levels, the coordination of the departmental arrangements for timely supply of seeds, manures, improved implements, etc., and the mobilisation of cultivators.

1·2 The evaluation of the campaign was undertaken by the P.E.O. at the request of the Ministry of Food and Agriculture. At a meeting of the Chairman, Programme Evaluation Board (PEB), the officers of the Ministry of Food and Agriculture and of the Ministry of Community Development and Cooperation held on October 1, 1958, it was agreed that the evaluation would be confined to three states, viz., Uttar Pradesh, Punjab and Rajasthan. In pursuance of this decision, the Chairman, PEB, had a meeting with the representatives of the Agriculture Departments of the three States on October 15. It was then decided that the study would be taken up in Amritsar, Ludhiana and Hissar districts in the Punjab; in Sri Ganganagar, Bharatpur, and Kota in Rajasthan and in Muzaffarnagar, Rae Bareli and Deoria in U.P. The selection of districts was determined in the light of the personnel resources of the P.E.O. and the distribution of the selected rabi crops in the States.

1·3 In each district, a representative block and non-block area with comparable agricultural conditions were selected for intensive study in consultation with District Agriculture Officers and Deputy Commissioners. Ten villages were selected at random from each of these districts, five each from the block and the non-block area. In each of these villages, detailed information about the campaign was collected from 15 respondents drawn from three groups of cultivators, big, medium and small, in proportion to their numbers.

1·4 In the non-block area of Kota (Degod Tehsil) in Rajasthan, however, the villages were selected in that part of the Tehsil where the Rabi Campaign was reported to have been actually taken up by the District authorities. In Sri Ganganagar, the villages were too small to give a sample of 15 cultivators in each of the three size groups. Hence five panchayats, instead of five villages, were selected and two or three contiguous 'chaks' in each Panchayat area were grouped together to constitute a frame of at least 75 cultivators for selecting the required 15.

1·5 Information was collected from government organisations at different levels; the building up and the conduct of the campaign were observed; and questionnaires canvassed with respondents in the selected villages during three periods, October-November 1958, December 1958—January 1959 and April-May 1959, covering the three phases of the rabi crop calendar, viz., pre-sowing and sowing, maturing and harvesting respectively. The schedules and questionnaires were framed to cover different aspects of the campaign as described in the literature supplied to the P.E.O. by the Ministry of Food and Agriculture. During the field work, it was observed that a few of the practices recommended by the Ministry were not sponsored in most of the selected areas. Information on them was therefore not collected during the inquiry. In the case of certain other practices, only incomplete data could be collected and could not as such be used in the report.

1·6 To ascertain the impact of the campaign effort on the supply of seeds, chemical fertilizers, pesticides and taccavi loans at the village, block, non-block area and district levels, a proforma (R-2·1) was prepared and got filled in during the second round. The investigators working on the inquiry were instructed to prepare a village note which, among other things, was intended to indicate the problems of the people in implementing the sponsored campaign practices in the village. The officers working on the inquiry similarly prepared an observation report on each phase of the campaign. Some cultivators among the respondents who had responded very well to the campaign and a few others who were totally indifferent to it were interviewed intensively for obtaining a deeper understanding of the attitude of the people.

1·7 Information was collected from the respondents on their knowledge and adoption of improved practices in the rabi seasons of 1957-58 and 1958-59. The content of each practice was ascertained from the Agriculture Officers in the areas concerned; and some rough tests of knowledge and adoption were laid down. The replies of the respondents have been used as the data for the report. In the case of preparation of soil, irrigation, top dressing, weeding and interculture, the criterion employed was the number of times they should, according to the agricultural department, have been done by the cultivators. Where a cultivator did not do them the recommended number of times, he was considered as not having adopted them. In the case of improved seeds, line sowing, basal application and rogueing, the criterion was whether he had adopted them or not as recommended by the department. But insufficient use of fertilizers in basal application and top dressing, imperfect line-sowing, inadequate weeding etc., could not be checked. They have been ignored.

1·8 The progress made in the rabi season of 1958-59 over 1957-58 has been indicated in the reports. But an increase in the adoption of sponsored practices cannot be directly taken to be a measure of the impact of the campaign. It could be due to other factors especially the normal radiation of knowledge already with the farmers. To eliminate the influence of this factor, it was necessary specifically to ask the cultivators who followed a practice in 1958-59, if in adopting it they were influenced by the campaign or not. Some of these farmers might have acquired knowledge of the practice in earlier years but did not happen to grow the crop in 1957-58. The fact that they did so in 1958-59 could not necessarily be ascribed to the campaign.

1·9 Among the questions asked were the reasons for total and partial non-adoption of improved practices by the farmers. Their answers give us an idea, inter-alia, of the extent of technical knowledge among cultivators. They also suggest how future extension efforts should be framed.

1·10 Information about the yield of the campaign crops was collected from the respondents through a questionnaire and not from crop cutting. The respondents were called upon to comment on the reasons for the difference, if any, in the yield between the previous (1957-58) and the current (1958-59) season. In order to ascertain the validity of the replies of the respondents these were discussed with a group of knowledgeable persons. This convinced us that the data could be processed and broad general observations could be made in the report about the influence of the area, season and the campaign on the yield of wheat, the most important crop.

1·11 Besides, the data on the monthly rainfall in the rabi season for the last 20 years and the yield of wheat per acre during this period were collected and processed with a view to establish correlation between the variation in rainfall and the yield per acre. No correlation between the two could, however, be established and the attempt to estimate yield per acre for 1958-59 on the basis of rainfall distribution in the year had to be abandoned. Similarly the yield data of crop cutting experiment conducted in the selected districts in 1957-58 and 1958-59 were also collected with a view to compare these yields with those reported by the respondents in the blocks. Since, however, the crop cutting experiments in each selected block were very few and practically nil in each of the selected villages, the data could not be used for the comparative study visualized earlier.

1·12 One of the important aims of the campaign was to orient Gram Sahayaks or village leaders towards the sponsored practices so that they could help spread them among the mass of cultivators. In order to assess their contribution, a questionnaire was prepared for such of the sample cultivators as had attended the Gram Sahayaks training camps. However, as the number of such cultivators in the sample proved inadequate, 15 other Gram Sahayaks in each State, 5 from each of the three selected blocks, were further selected for canvassing the special questionnaire. The information collected in this manner helps us compare the technical knowledge of Gram Sahayaks with that of other cultivators and assess the contribution they made to the campaign as unofficial extension agents.

1·13 Studies based on the investigations described above have been prepared separately for each of the three selected States. The treatment of the subject matter follows the same pattern in all three. Each report starts with an account of the organisation of the campaign in the State, then goes on to present an evaluation and assessment of the campaign in respect of its organisation, administration, impact and role of Gram Sahayaks and ends with a summary of the conclusions. Part II deals with the campaign in Punjab, and Parts III and IV with that in Rajasthan and U.P. respectively. Appendices A, B and C give State-wise data and tables separately for districts, block and non-block area and for Gram Sahayaks and other cultivators, and Appendix D the schedules used for the enquiry.

PART II

RABI CAMPAIGN IN PUNJAB (1958-59)

CHAPTER II

ORGANIZATION OF THE RABI CROP CAMPAIGN IN PUNJAB

1·1 *Introduction*—The State Government decided to organise Rabi Campaign in 1958-59 in keeping with the directive of the Government of India. It selected wheat, gram and barley for the rabi drive in Punjab. It had to cover wheat crop in all districts but gram and barley in the districts of Hissar, Ferozepur, Karnal, Rohtak, Gurgaon, Bhatinda, Sangrur and Mohindergarh. Wheat is one of the most important crops in Punjab. It is grown all over the State and occupies an area of about 50 lakh acres or 21·4 per cent of the gross area sown in the State. Approximately 50 per cent of the area under wheat is rainfed and 50 per cent is irrigated. Gram occupies about 23 per cent of the gross area in the State and barley 2·6 per cent. Practically, the whole of the gram area is rainfed. Of the average gross sown area under wheat in the country as a whole, 16·3 per cent is in Punjab and the proportions for gram and barley are 26·2 per cent and 6·7 per cent respectively. The output of wheat, gram and barley in the State form 23·3 per cent, 33·8 per cent and 7·3 per cent respectively of their total output in the country.

1·2 The production of food grains in the State during the First Five Year Plan was reported to have increased by 39 per cent. The Second Five Year Plan set up a target of a further increase of 32 per cent. The production in 1956-57 had already been 23 per cent higher than in the year 1955-56. But according to the experts, the yield per acre of wheat could be further improved if all the existing resources were made use of by every farmer. Whereas the highest yield per acre of wheat obtained at the yearly crop competitions stands at 6640 lbs., the average in the State has varied from 830 to 921 lbs. The magnitude of the difference shows that there is considerable scope for raising the yield level from its present position.

Organisation of the campaign—

1·3 The organisation of the campaign had two important aspects, viz., co-ordination and intensification of the efforts of different departments and enlisting the participation of non-servicemen.

1·4 After the campaigns for plant protection, the Government of Punjab had realised that they could not be managed by the Agriculture Department alone, and that the assistance of other departments had to be secured. It was also felt that the main task was to enthuse the cultivators and assist them in using existing resources to the maximum and that efforts should be concentrated on a few items of importance likely to contribute most to additional production. The items selected were:—

(*a*) Use of disease-free improved seed;

(*b*) Timely sowing;

(*c*) Extensive use of fertilizers;

(*d*) Optimum use of irrigation water;

and (*e*) Weeding and interculture.

1·5 The responsibilities of the different departments and officers in respect of the campaign were clearly demarcated quite ahead of the sowing season. The Department of Agriculture was made responsible for formulating recommendations, preparing agricultural literature, supplying seeds and fertilizers to district wholesale societies and supplying an adequate quantity of fungicide for seed treatment. The Development Department was to arrange supplies of fertilisers through sale depots and of seed through cooperatives. The Panchayat Department was expected to prepare village panchayats to take full responsibility for the campaign in the villages, and the Publicity Department was to arrange publication of literature prepared by the Department of Agriculture. The Deputy Commissioner was made responsible for the campaign in the block as well as the non-block areas of his district. On 31st October, 1958, the Chief Minister issued a letter to all Deputy Commissioners insisting that they and certain other officers should themselves adopt a specified number of villages for intensive campaign work. Campaign committees consisting of officials and non-officials were to be organised at the State, district, block, tehsil (in non-block areas) and panchayat levels to associate non-officials with the planning and the execution of the campaign. One day camps were to be organised for village leaders with a view to activise them for the propagation of the campaign items. In the non-block areas, the Tehsildar was to organise the campaign. The officers of the concerned departments were directed to undertake joint tours.

1·6 The Government decided that every development official should prepare targets of additional production for each village and family on an *ad hoc* basis taking into consideration the available resources. The targets were to be not less than 20 per cent of the production of the last year. The block and non-block areas were to be divided into zones and placed under the charge of extension officers and Tehsil level officers respectively. To avoid delay, the staff were to issue permits for acquiring fertilizers in the villages. The block officials and VLWs were asked to collect information regarding the demand for fertilizers in their areas so that adequate supply could be arranged in time. The number of distribution outlets was to be increased to ensure the convenient supply of seeds and fertilizers. In flood affected areas, seed was to be sold at a subsidised rate of Rs. 10 per maund, and supplied as taccavi loan in kind to those who had lost more than 50 per cent of their kharif crops due to floods and who had land holdings less than 10 acres in area.

CHAPTER III

Evaluation of the Campaign

I

Evaluation of Organization and Administration

Selection of areas—

3-1·1 The evaluation of the rabi campaign in Punjab was taken up in three districts, Amritsar, Ludhiana and Hissar, after consultation with the Department of Agriculture of the State Government. In each district one block and one non-block area were chosen for intensive study. The following areas were selected—

Table No. 3-1·1

Areas selected for study

District	Block	Non-block area
1	2	3
Ludhiana	Ludhiana	Samrala
Amritsar	Naushera Panwan	Rayya
Hissar	Hissar II	Sirsa

3-1·2 While wheat was a campaign crop in all the three districts, it was only in Hissar that gram and barley formed a campaign crop in addition to wheat. Wheat covered 30·9 per cent and 28·8 per cent of the gross cropped areas in Ludhiana and Amritsar districts respectively. In Hissar, it covered 6·2 per cent, while gram and barley occupied 32·6 per cent and 2·6 per cent respectively of the gross cropped area. The areas covered by wheat and gram in the three selected districts amounted to 22·7 per cent and 30·9 per cent respectively of the areas under these crops in the State.

Implementation of Govt. directives—

3-1·3 In Ludhiana, the Deputy Commissioner took a keen interest in the campaign. Inter-departmental coordination was very good. The staff were very active at the district as also at the lower levels. The revenue officers helped in the distribution of seed. The drainage section of the Irrigation Department pumped out surplus water from flooded areas. The Cooperative Department increased the number of fertilizer depots from 75 to 135. The staff of the Agriculture College, Ludhiana and its extension wing took keen interest in the campaign and visited a large number of villages. The Publicity Department distributed leaflets and arranged special meetings. The block was divided into zones which were entrusted to extension officers. The BDO and his staff organised camps for Gram-Sahayaks. They issued permits for fertilizers in the villages. Some panchayats also organised campaign committees. The campaign could not, however, be organised properly in the non-block area of the district because of the preoccupation of the officials with the flood relief measures.

3-1·4 In Amritsar in both the block and the non-block areas, the conduct of the campaign was disturbed by floods resulting from heavy rains in September—October. As the entire district machinery had to be diverted to relief work, the campaign could not be given a timely start. In a way, however, the flood relief work itself could be considered a measure for the campaign as it helped the farmers to sow on the land which would have otherwise remained unsown on account of flood water, lack of seed etc. Of particular importance was the draining out of flood water from the fields by the Irrigation Department and the digging of water channels with the active participation of the people.

3-1·5 The Naushera Panwan block in Amritsar was divided among block level specialists, each being placed in charge of 2 VLW circles. In some villages the specialists held meetings to educate the people about the campaign. But as has been mentioned in the preceding paragraph, efforts had to be diverted to meet the emergency created by the floods and there was no particular activity which could be called a campaign activity. In the selected non-block area also, there was no activity.

3-1·6 In Hissar there was a lack of a sense of urgency or of enthusiasm for the campaign in the block as well as the non-block areas. Of the crops selected for rabi drive, gram and barley in particular did not come under any programme in the selected areas. The season was favourable and production was expected to increase in part, due to the increased irrigation by the Bhakra Canal System. There was also a lack of a clear idea of the campaign; even the post of the District Agriculture Officer was lying vacant when the campaign was undertaken. In Hissar II block also, not much of activity was in evidence. Practically nothing had been done for the campaign. No officer from the Revenue or other departments visited the villages, nor were the panchayats called upon to play any role.

3-1·7 The directive regarding joint touring by the officers of the Agriculture, Cooperation and Panchayat Departments in their areas was not carried out in any of the selected districts in either block or non-block areas. Similarly the Chief Minister's instructions that every development official should select a specified number of villages for intensive effort on his own, was not seriously carried out by any of the officers at the district level. This was not done in any of the non-block areas selected for study. In the block areas, the staff did in some cases adopt villages and engage in intensive work. One B.D.O. got a six-mile long channel dug with the help of villagers. The lack of serious effort in general was explained on the ground that the campaign work in the allotted villages was in addition to the normal departmental work, that the number of villages proposed for adoption was too many and that justice could be done to the campaign only by suspending normal work. Another difficulty mentioned was that the necessary instructions were issued rather late.

Campaign committees and participation of non-servicemen—

3-1·8 Rabi campaign committees were constituted at all levels. One of the objectives of these committees was to associate non-servicemen (non-officials) with the planning and execution of the campaign. A State rabi campaign

committee was set up. It consisted of the Financial Commissioner (Development) as the Chairman, the Development Commissioner as Vice-Chairman, heads of the departments concerned and also three members of the Farmers' Forum, who, however, did not attend any of its meetings. The committee met only twice, first in September, 1958 and then on 31st October, 1958. No meeting was subsequently held to review the progress.

3-1·9 At the district level, the District Development Committee functioned as the Rabi Campaign Committee. In all the three districts selected for study these committees met before the sowing of crops. The instructions issued by the State Government were considered and decisions for the execution of the campaign taken. Thereafter, the interest taken by the committees varied from district to district. In Ludhiana, the committee met regularly every month and discussed the progress of the campaign in detail. A sub-committee of the committee consisting of district officials and two M.L.As reported the progress of the campaign to the committee. In Hissar, the campaign was discussed in broad outlines only at the meeting of the District Development Committee (D.D.C.) held in October, 1958. In subsequent meetings the D.D.C. did not discuss the progress of the campaign. In Amritsar, it was only at the meeting held in September, 1958 that the D.D.C. discussed the campaign programme. The committee did not meet thereafter upto March, 1959.

3-1·10 At the block level, the Block Advisory Committees (B.A.Cs) were entrusted with the planning and the execution of the campaign. The extent of their activity also varied from block to block. In the Ludhiana block the B.A.C. participated actively in the planning and the execution of the campaign. A sub-committee of the Block Advisory Committee consisting of officials and non-officials was formed. A camp for three days was held in which the sub-committee was oriented about the various items of the campaign. The committee met frequently to take decisions and to review the progress of the campaign. The difficulties in the execution of the campaign were discussed at subsequent meetings. In Naushera Panwan block in Amritsar, the Rabi Campaign Committee met in September, 1958, and was addressed by the Deputy Commissioner. As the minutes of the meetings showed, the details of the campaign were not thoroughly worked out. No other meeting was held. In Hissar block II also the committee met only once for the purpose of the campaign. It discussed the circular of the campaign in a general way. No meeting was held subsequently.

3-1·11 In the selected non-block areas no committees were organised either at the tehsil or at the sub-tehsil level.

3-1·12 It was laid down that the panchayat would constitute the Rabi Campaign Committee at the village level with the Patwari and the village headman as additional members. In Ludhiana, some panchayats organised campaign committees and the village leaders, the panchayat members and the progressive farmers helped the officials in issuing fertilizer permits. In Amritsar and Hissar, some village leaders and panchayat members participated as individuals in the execution of the campaign. The institution as such did not participate actively in the programme. The other agencies which could help in the campaign were cooperative societies and organisations like the Bharat

insurance premia paid by an assessee on policies on his own life or on that of his wife, have been exempt in India since 1886; similar exemption has been available since 1918, to contributions to provident funds governed by the Provident Funds Act. The total amount enjoying exemption in respect of these items is subject to a maximum of one-sixth of the total income, a monetary limit of Rs. 6,000 (Rs. 12,000 for Hindu undivided families) being added in 1939. The exemption now takes the form of a rebate of income-tax (but not of super-tax) at the average rate of tax applicable to the total income of an assessee.

Differentiation

34. The introduction of the principle of differentiation between earned income and unearned income is another interesting development in the history of Indian income-tax. The differentiation was effected in two different ways. For income-tax purposes, the assessee was allowed to exclude from his income a fixed proportion subject to a maximum limit. This scheme was introduced in 1945 and has continued ever since with changes in the amount of exemption granted from time to time. For super-tax purposes, the method adopted was to levy tax on the earned income at lower rates than on unearned income. The latter differentiation was, however, short-lived, the rates of super-tax on earned as well as unearned incomes being uniform at present.

Abatement for voluntary donations

35. Another allowance, introduced in 1948, was an abatement in respect of voluntary donations to approved religious and charitable institutions. The abatement is at present at the average rate of income-tax and super-tax applicable to an assessee (but not exceeding a total of 8 annas in the rupee), and applies to donations of not less than Rs. 250 or not more than Rs. 1 lakh in a year, and not exceeding five per cent. of the assessee's income.

Family allowances

36. The present structure does not take into account fully the personal circumstances of assessees. The role of family allowances, which is a feature of the income-tax structure of many countries, is sought to be filled in India by a tax-free slab available to all assessees. The slab is supposed to represent the minimum subsistence needs of an average family.

Hindu undivided family

37. The exemption limits and rates of tax for Hindu undivided families, unregistered firms and other associations of persons were the same as for individuals from 1939-40 to 1948-49, the higher exemption limit for super-tax, which was previously available for a Hindu undivided family, having been given up, during this period. Subsequently, however, they were given a higher exemption limit for income-tax, in partial implementation of a recommendation of the Income-tax Investigation Commission. Thus, for 1949-50 the exemption limit for a Hindu undivided family with two or more members was fixed at Rs. 5,000 as against Rs. 3,000 for individuals, and from 1950-51 the exemption limit for a Hindu undivided family has been twice that for individuals.

Non-residents

38. There have been some significant changes since 1928 in the rates of tax applicable to non-residents. Prior to that year, such rates depended only on the income of the non-resident which was liable to tax in India. The law was amended in 1928 so as to withhold the grant of refund on

In addition, mixtures of improved and unimproved seeds were distributed at subsidised rates in the flood affected areas. In Ludhiana and Amritsar, 28,071 mds. and 65,000 mds. of wheat seed respectively were distributed as a flood relief measure. The government had to mobilize the staff of practically all departments on an emergency basis in order to procure and distribute the seeds.

3-1·18 In the blocks, the quantity of wheat seed distributed in the rabi season of 1958-59 was much more than in the rabi of 1957-58, the extent of increase being 33·3 per cent, 514·8 per cent and 341·7 per cent in the selected blocks in Amritsar, Ludhiana and Hissar respectively. In the non-block areas in Ludhiana and Hissar the increase in the quantity of wheat seed distributed in 1958-59 was 70 per cent and 94 per cent respectively; but in the non-block area in Amritsar there was a decrease in the quantity of seeds distributed by 62 per cent.

3-1·19 The views of the respondents who got supplies of wheat seed from departmental stores and cooperative stores (described by us as institutional agencies) are given in Appendix A, Table No. 1·12. Only 57 per cent of the respondents considered that supplies were adequate. But the price of seeds was considered reasonable by a much larger section, namely 84 per cent of them. Moreover the respondents who had not used improved seed or used it only on a part of the wheat area in their holdings attributed this to only one factor viz., the shortage of supplies. This showed that though the supply of improved seed was stepped up during the campaign, there was considerable scope for increasing it even more, particularly since the price was regarded as reasonable by most farmers.

3-1·20 *Fertilizers*—The sale of fertilizers increased by 20·7 per cent in Ludhiana and 43·6 per cent in Hissar, but decreased by 23·9 per cent in Amritsar as compared with the previous rabi season. (Table No. 1·11 of Appendix A). It increased by 96 per cent in Ludhiana block and decreased by 6·7 per cent in its non-block area. The sale of fertilizers increased by 24·9 per cent in the selected block in Amritsar but decreased by 18·4 per cent in the selected non-block area. In Hissar block, the quantity sold increased by 485·7 per cent. No conclusion could, however, be drawn for the non-block areas, as the data for distribution in 1958-59 were not available. In both Amritsar and Ludhiana districts, the floods considerably delayed the sowing of the crops and consequently the application of fertilizers.

3-1·21 *Supply points*—The supply points for seeds and fertilizers were increased in all the three districts. In Ludhiana particularly, the cooperative department took great interest in the campaign and the outlets for seed increased from 25 in the previous season to 35 in the campaign season. The number of cooperative fertilizer depots increased from 75 to 135. But in Amritsar and Hissar districts, the increase in the number of supply points was not significant. Similarly, in the Ludhiana block, the number of fertilizer depots increased from 11 to 24, but there was no significant increase in the Amritsar and Hissar blocks. In the non-block area in Ludhiana, the number of depots increased from 11 to 32; in the Amritsar non-block area, the number increased by five; but the number of depots remained the same in the non-block area in Hissar.

3-1·22 The sample data regarding wheat seed, given in Appendix A Table No. 1·12 and 1·13, show that in the selected districts put together the number of cultivators using improved seeds and depending on supply through cooperative seed stores and agricultural stores increased from 3·0 per cent to 17·0 per cent. The increase was most marked in Amritsar and Ludhiana districts.

II

Impact of the Campaign on Sample Cultivators

*Particulars of the sample**—

3-2·1 For evaluating the impact of the campaign, ten villages were selected in each district, five from the selected block and five from the selected non-block area thus giving us a total first stage sample of 30 villages in the three districts. Relevant data were collected from a sample of 15 farmer respondents in each village on the basis of questionnaires and by the interview method. The respondents were selected from among the cultivators with big, medium and small holdings in proportion to their relative numbers in each village. The following table gives the number of holdings in each group and the average area in it.

TABLE NO. 3-2·1

Big, medium and small cultivators in the sample

District	Big			Medium			Small		
	No.	%	Average holding (acres)	No.	%	Average holding (acres)	No.	%	Average holding (acres)
1	2	3	4	5	6	7	8	9	10
Ludhiana ..	29	19·3	32·5	55	36·7	18·8	66	44·0	9·4
Amritsar ..	14	9·3	24·0	72	48·0	11·3	64	42·7	5·1
Hissar	27	18·0	96·0	59	39·3	33·3	64	42·7	14·2

Big holdings were fewer and the medium ones relatively more numerous in Amritsar than in Ludhiana and Hissar. The average holdings were bigger in Hissar than in Ludhiana and those in Ludhiana bigger than in Amritsar.

3-2·2 About 70 per cent of the cultivated area of all cultivators in Ludhiana was irrigated. The corresponding proportions for Amritsar and Hissar were 83 per cent and 45 per cent. 70 per cent of cultivated area of the respondents in Ludhiana was reported under rabi crops including fodder. In Amritsar and Hissar, 74 per cent and 67 per cent respectively of the area were under rabi crops. Excluding the mixed crops (mixtures of wheat and other crops), the area

* *See* Appendix A, Table No. 1·1.

under wheat in the holdings of the cultivators formed 31 per cent in Ludhiana, 15·5 per cent in Amritsar and 8 per cent in Hissar. Gram and barley crops were also covered in the rabi drive in Hissar and the area under unmixed gram and barley crops in the holdings of the sample cultivators in this district formed 44·3 per cent and 0·7 per cent respectively of the area.

3-2·3 The sample of 450 cultivators in the three districts included 21 Gram Sahayaks, all from the block areas. Another 15 Gram Sahayaks, 5 from each of the three blocks, were selected with a view to obtaining a sizeable number of Gram Sahayaks in the sample necessary for comparing their performance with that of the other cultivators. Among these 36 Gram Sahayaks, 19 per cent were big, 56 per cent medium and 25 per cent small cultivators. This distribution seems to suggest that Gram Sahayaks were well spread out over the different holding groups.

Items selected for evaluation—

3-2·4 For the wheat crop, the government recommended the following items for campaign—

1. Use of disease-free improved seeds
2. Timely sowing
3. Extensive use of fertilizers
4. Optimum use of irrigation water
5. Weeding and interculture

We could not collect information about optimum use of irrigation water. But we considered all the other items as well as a few more which are usually included in the normal programme of the Agriculture Department and are important for production. The main items for which we collected information were as follows—

1. Seed treatment
2. Improved seed
3. Timely sowing
4. Basal application of fertilizers
5. Top dressing of fertilizers
6. Weeding and interculture
7. Plant protection measures

3-2·5 For gram and barley crops also the Government generally recommended the five practices mentioned earlier. And information on all the seven items was collected for the gram and barley areas in the holdings of the cultivators in Hissar. But the observations on the conduct of the campaign and the replies of the respondents clearly indicate that no attention was given to these crops in the campaign. None of the sample cultivators adopted any of these items under the influence of the campaign and there were no improvements in the practices adopted by them in the 1958-59 season as compared with those in the previous season.

General knowledge of the campaign—

3-2·6 The following table depicts areawise the number of respondents who reported knowledge of the campaign—

TABLE No. 3-2·2

Knowledge of the campaign

District	Blocks				Non-block area				Total				Percentage reporting knowledge
	B	M	S	T	B	M	S	T	B	M	S	T	
1	2	3	4	5	6	7	8	9	10	11	12	13	14
1. Ludhiana	16	32	27	75	12	18	32	62	28	50	59	137	91·3
2. Amritsar	3	33	23	59	7	24	25	56	10	57	48	115	76·7
3. Hissar ..	11	25	18	54	..	1	—	1	11	26	18	55	36·7
All districts	30	90	68	188	19	43	57	119	49	133	125	307	68·2
% reporting knowledge.	76·9	90·0	78·2	83·6	61·3	49·4	53·3	52·9	70·0	71·5	64·4	68·2	

B—Big cultivators

M—Medium cultivators

S—Small cultivators

T—Total

3-2·7 Out of 450 cultivators, 307 or 68·2 per cent reported knowledge of the campaign. Districtwise, the knowledge was the highest in Ludhiana, i.e. 91·3 per cent, followed by Amritsar (76·7 per cent) and then Hissar (36·7 per cent). Knowledge of the campaign was again more widely spread in the blocks (83·6 per cent) than in the non-block area (52·9 per cent). By and large, the propaganda seems to have reached the small cultivators less than the big and the medium.

3-2·8 34 out of 36 Gram Sahayaks or 94 per cent reported knowledge of the objectives of the campaign. Of those claiming knowledge, 17 or 50 per cent knew their role in the campaign. The overall knowledge of the campaign was better among the Gram Sahayaks than among the non-Gram Sahayaks*

* In the report the comparison of Gram Sahayaks with non-Gram Sahayaks relates to block areas only as there were no Gram Sahayaks in the non-block area.

3-2·9 The following table shows the distribution of cultivators according to whether they came to know of the campaign till or after the sowing of the crops

TABLE No. 3-2·3

Knowledge of the campaign before and after sowing

(In number of cultivators)

District	Block		Non-block area		Total	
	Till sowing	After sowing	Till sowing	After sowing	Till sowing	After sowing
1	2	3	4	5	6	7
1. Ludhiana ..	56	19	37	25	93 (62·0)	44 (29·3)
2. Amritsar ..	18	41	24	32	42 (28·0)	73 (48·7)
3. Hissar ..	49	5		1	49 (32·7)	6 (4·0)
Total ..	123 (54·7)	65 (28·9)	61 (27·1)	58 (25·8)	184 (40·9)	123 (27·3)

NOTE—Figures in brackets give percentages of respondents who reported knowledge of the campaign.

3-2·10 In Ludhiana, 62 per cent of the respondents were reached by the campaign till the sowing of the crops. In Amritsar, there was a long delay in initiating the campaign and only 28 per cent of the sample cultivators knew of it before sowing. In Hissar the campaign propaganda died down practically after sowing even though only 1/3rd of the respondents knew about it before sowing.

*Wheat cultivators**

3-2·11 The following table shows the wheat cultivators in the sample and the area under wheat—

TABLE No. 3-2·4

Wheat cultivators and their area

Rabi seasons	No. of wheat cultivators	Wheat area (in acres)	No. having irrigated wheat	Irrigated wheat area (in acres)
1	2	3	4	5
1958-59	299	1480·0	295	1421·2
1957-58	263	1248·7	259	1222·5

* *See* Appendix A, Table No. 1·2 for the distribution of wheat cultivators in different areas and by broad holding groups.

In the rabi season of 1958-59 there were about 14 per cent more wheat growers than in the previous season and the area was more by 231 acres or about 18 per cent. Out of 299 wheat cultivators 148 came from Ludhiana block and non-block areas, 81 from Amritsar and 70 from Hissar. Again, of the total number of wheat growers, 156 belonged to blocks and 143 to non-block areas.

*Knowledge of improved practices**—

3-2·12 In the 1957-58 season all wheat cultivators in the sample had knowledge about the use of improved seed, timely sowing, weeding and plant protection measures in all the three districts and in block as well as non-block areas. In the case of other practices, however, there was scope for improving knowledge during 1958-59. The following table shows the extent of knowledge about these practices in the 1958-59 and in 1957-58 seasons:

TABLE No. 3-2·5

Knowledge of campaign practices

(Percentage of wheat growers reporting knowledge

Campaign practices	Ludhiana	Amritsar	Hissar	All districts	All block	All Non-block areas
1	2	3	4	5	6	7
Seed treatment—						
1957-58 ..	63·0	68·8	3·8	52·5	58·6	46·2
1958-59 ..	71·6	70·4	2·9	55·2	57·7	52·4
Percentage increase or decrease.	13·7	2·3	—23·7	5·1	—1·5	13·4
Basal application—						
1957-58 ..	42·5	100·0	96·2	67·3	66·9	67·7
1958-59 ..	73·6	100·0	84·3	83·3	84·6	81·8
Percentage increase or decrease.	73·2	..	—12·4	23·8	26·5	20·8
Top dressing†—						
1957-58 ..	100·0	100·0	96·1	99·2	98·4	100·0
1958-59 ..	100·0	100·0	88·1	97·3	94·7	100·0
Percentage increase or decrease.	..	..	—8·3	—1·9	—3·8	..

*See Appendix A, Tables No. 1·3 and 1·4 for details.

†The percentages in the case of top dressing are based on the number of wheat growers having irrigated wheat.

3-2·13 As Table 3-2·5 shows, the percentage of cultivators having knowledge of seed treatment increased by 5·1 per cent, of basal application by 23·8 per cent but that of top dressing decreased by 1·9 per cent. In the last case, the new growers of wheat in Hissar generally reported no knowledge of this item. The percentage of cultivators reporting knowledge of seed treatment remained almost constant in the blocks but increased by 13·4 per cent in non-block area. In basal application, there was increase by 26·5 per cent in the blocks and by 21 per cent in non-block area. The percentage for top dressing shows a decrease of about 4 per cent in block areas, but no change in non-block areas. This decrease implies that the additional growers in the 1958-59 season did not have knowledge of these practices to the same extent as others.

3-2·14 The position regarding knowledge of the three items mentioned above among the big, medium and small holding groups in the two rabi seasons is shown in the following table:-

TABLE No. 3-2·6

Knowledge of campaign practices by holding groups

(In percentage of growers reporting knowledge)

Campaign practices	Big cultivators			Medium cultivators			Small cultivators		
	1957-58	1958-59	% increase or decrease	1957-58	1958-59	% increase or decrease	1957-58	1958-59	% increase or decrease
1	2	3	4	5	6	7	8	9	10
1. Seed treatment.	61·7	67·3	+9·1	54·6	54·8	+0·4	46·3	50·0	+8·0
2. Basal application.	70·2	78·2	+11·4	72·2	84·9	+17·6	61·1	83·9	+37·3
3. Top dressing*	97·8	92·6	—5·3	99·1	97·6	—1·5	100·0	99·2	—0·8

*For top dressing the percentages are based on the number of cultivators having irrigated wheat only.

3-2·15 Increase in the knowledge of seed treatment was about equal among the big and small cultivators, 9·1 per cent and 8·0 per cent respectively. The knowledge of basal application increased among the small cultivators by 37·3 per cent whereas it increased only by 11·4 per cent and 17·6 per cent among the big and the medium farmers respectively. The proportion of cultivators having knowledge of top dressing decreased by about 5 per cent and 1·5 per cent among the big and medium cultivators respectively and only by 1 per cent among the small cultivators.

Adoption of campaign items—*

3-2·16 Table 3-2·7 gives data regarding the adoption of the campaign items by the farmers growing wheat in 1958-59 and 1957-58 seasons:

TABLE NO. 3-2·7

Adoption of campaign practices

(In percentage of relevant wheat growers)

Campaign practices	1957-58	1958-59	% increase or decrease
1	2	3	4
1. Seed treatment	11·0	11·0	Nil
2. Improved seed	89·3	91·6	+2·5
3. Timely sowing	90·5	88·0	—2·7
4. Basal application	7·2	14·4	+100·0
5. Top dressing	20·8	29·2	+40·5
6. Weeding and interculture	82·1	76·9	—6·3
7. Plant protection measures	12·2	17·1	+40·2

3-2·17 As compared with the rabi season of 1957-58, the proportion of wheat growers using improved seed in 1958-59 increased by 2·5 per cent, and the proportions adopting basal application, top dressing and plant protection measures by 100 per cent, 40·5 per cent and 40·2 per cent respectively. On the other hand, the proportion doing weeding and timely sowing actually decreased by 6·3 per cent and 2·7 per cent respectively. This decrease was due to the heavy rains late in the 1958-59 season. The general conclusion is that those practices (like timely sowing, use of improved seed, weeding etc.) that had already been adopted by a large proportion of the wheat growers did not register any progress, except for the solitary exception of seed treatment while the ones that had been adopted by a small proportion registered increases of 40 per cent to 100 per cent. In their case, however, inspite of a sizeable increase, the extent of adoption left wide scope for further improvement. For example, in the 1958-59 season only 11 per cent, 14·4 per cent, 29·2 per cent and 17·1 per cent of the cultivators adopted seed treatment, basal application, top dressing and plant protection measures respectively.

3-2·18 As for use of improved seed and timely sowing, the increase or decrease in their adoption was registered practically in all the selected districts and in block as well as non-block area. As regards seed treatment, though there was a slight increase or decrease in individual areas, this does not merit any further analysis. The following table shows the position regarding changes in the adoption of the remaining practices separately for the different areas.

* *See* Appendix A Table No. 1·5.

TABLE NO. 3-2·8

Adoption of practices in different areas

(In percentage of relevant wheat growers)

Campaign practices	Ludhiana	Amritsar	Hissar	All districts	All blocks	All non-block areas
1	2	3	4	5	6	7
Basal application—						
1957-58 ..	6·2	15·6	..	7·2	11·3	3·1
1958-59 ..	21·6	8·6	5·7	14·4	19·9	8·4
Top dressing—						
1957-58 ..	35·6	..	3·9	20·8	28·7	13·1
1958-59 ..	53·4	..	10·4	29·2	36·8	21·0
Weeding—						
1957-58 ..	100·0	84·4	30·2	82·1	84·2	80·0
1958-59 ..	96·6	74·1	38·6	76·9	73·1	81·1
Plant protection measures—						
1957-58 ..	15·1	1·6	17·0	12·2	20·3	3·8
1958-59 ..	30·4	6·2	1·4	17·1	28·2	4·9

3-2·19 The overall increase in the adoption of basal application and top dressing could be accounted for practically entirely by the increase in the Ludhiana district. In Amritsar, the percentage adoption of basal application actually decreased by 45 per cent. The increase in the case of Hissar district, though very large in terms of percentages, was absolutely very nominal as the number of cultivators adopting the practice was too small to make any significant effect on the overall position. In the case of weeding, there was some increase in adoption in the Hissar district mainly on account of favourable weather but a decrease in Ludhiana and Amritsar caused by heavy rains. The increase in the case of plant protection measures was mostly limited to Ludhiana and Amritsar districts. In Hissar, however, there was a considerable decrease in the proportion of cultivators reporting its adoption, as they thought that plant protection measures were not necessary in the year 1958-59

3-2·20 The percentage of big, medium and small holders adopting the different practices are given below:

TABLE No. 3-2·9

Adoption of improved practices by broad holding groups

(In percentages)

Campaign practices	1957-58				1958-59			
	Big	Medium	Small	Total	Big	Medium	Small	Total
1	2	3	4	5	6	7	8	9
1. Seed treatment.	10·6	12·0	10·2	11·0	16·4 (+54·7)	11·9 (—0·8)	7·6 (—25·5)	11·0 (0·0)
2. Improved seed	87·2	92·6	87·0	89·4	94·5 (+8·4)	94·4 (+1·9)	87·3 (+0·3)	91·6 (+2·5)
3. Timely sowing	100·0	84·2	92·6	90·5	90·9 (—9·1)	80·2 (—4·8)	94·9 (+2·5)	87·9 (—2·7)
4. Basal application.	8·5	9·3	4·6	7·2	16·4 (+92·9)	15·9 (+70·9)	11·9 (+158·7)	14·4 (+100·0)
5. Top dressing	33·3	17·0	19·4	20·8	42·6 (+27·9)	24·4 (+43·5)	27·9 (+43·8)	29·2 (+40·4)
6. Weeding ..	80·8	84·2	80·6	82·1	78·2 (—3·2)	73·0 (—13·3)	80·5 (—0·1)	76·9 (—6·3)
7. Plant protection measures.	8·5	19·4	6·5	12·2	21·8 (+156·5)	20·6 (+6·2)	11·2 (+72·3)	17·1 (+40·2)

Figures in brackets give percentage increase(+) or decrease (—) over the previous season.

3-2·21 The increase in adoption in the case of basal application and top dressing was 93 per cent and 28 per cent respectively among the big cultivators as against 158·7 per cent and 43·8 per cent respectively among the small cultivators. In the case of plant protection measures, the increase in adoption among the small cultivators was 72 per cent as against an average increase of 40 per cent for all cultivators and of 156·5 per cent and 6 per cent respectively for big and medium cultivators. The decrease in the adoption of weeding was much less for small cultivators than for the medium and the big ones. It can, therefore, be safely concluded that the small cultivators as a group did not lag behind the other two groups in respect of adoption of campaign items.

The campaign and its influence on adoption—

3-2·22 A newly adopted practice can be either of the nature of an innovation or of an improvement and modification of an old practice. Moreover, the adoption could come about either through the radiation effect (imitation) of adoption by neighbours, relations or other people or directly as a result of the campaign. The specific impact of the campaign on adoption had, in these circumstances, to be ascertained by an enquiry into the motivation for adoption. The following table shows the broad impact of the campaign on the practices, as reported by the respondents.

TABLE No. 3-2·10

Adoption of practices due to campaign

Campaign practices	Total adoption during 1958-59		Adoption ascribed to campaign	
	No.	% of growers	No.	% of growers
1	2	3	4	5
1. Seed treatment	33	11·0	12	4·0
2. Improved seed	274	91·6	2	0·7
3. Basal application	43	14·4	26	8·7
4. Top dressing	86	29·2	60	20·3
5. Plant protection measures ..	51	17·1	47	15·7

3-2·23 The campaign had little or no effect in inducing timely sowing and weeding; so these two items have not been included in Table 3·12. In the rabi season of 1958-59, the adoption of top dressing was to a large extent influenced by the campaign, and in particular by the arrangements made for distributing fertilizers. In respect of plant protection measures and basal application also, the achievement of the campaign was significant, and this too in part could be attributed to the facilities made available during the campaign. The campaign's impact would appear smaller, however, if those who had adopted these practices in 1957-58 and reported their continuance in 1958-59 on account of the facilities made available in the rabi drive were excluded. Moreover, in the case of all the practices noted above except the use of improved seed, practically all the achievement of the campaign was concentrated in Ludhiana. Among those ascribing the adoption of these practices to the campaign, all shown against seed treatment, 20 out of 26 reporting basal application, 58 out of 60 recording top dressing and 43 out of 47 reporting plant protection measures were from Ludhiana (both block and non-block area) only.

3-2·24 The blocks recorded better progress in adoption under the impact of the campaign than the non-block areas. As between the three holding groups the influence of the campaign was proportionately greater among big cultivators than among those in the medium and small groups.

Area under campaign practices :

3-2·25 The areas on which the campaign practices were adopted are shown in the following tables—

TABLE No. 3-2·11

Wheat area under campaign practices

Campaign practices	1957-58		1958-59		%increase (+) or decrease(—)
	Area (acres)	% of relevant wheat area	Area (acres)	% of relevant wheat area	
1	2	3	4	5	6
1. Improved seed	1,142·7	91·5	1,381·8	93·4	+2·1
2. Timely sowing	1,170·2	93·7	1,350·1	91·2	—2·7
3. Basal application	40·3	3·2	105·3	7·1	+121·8
4. Top dressing	181·4	14·8	319·0	22·4	+551·4
5. Weeding	891·0	71·4	1,047·1	70·8	—0·8
6. Plant protection measures ..	145·4	11·6	270·0	18·2	+56·9

3-2·26 In the two rabi seasons the area under improved seed as well as the areas sown in time and weeded as many times as recommended by the Agriculture Department, formed more than 70% of the total. In the 1958-59 season, there was relatively less scope for the extension of these practices on larger areas and the increases in acreage under them were practically in proportion to the increase in the area under wheat. The remaining practices *viz.* basal application of fertilizers, top dressing and plant protection measures, each one of which covered less than 15% of the area in 1957-58, provided extensive scope for improvement. The increases in the acreage under these practices in 1958-59 were significant, even though the acreages involved were small. Thus only 105 acres or 7% received basal application, 319 acres or 22% were given top dressing of fertilizers, and 270 acres or 18% of the area came under plant protection measures. Inspite of the progress recorded by the campaign, between 80 and 90% of the area thus remained uncovered.

3-2·27 As among the districts, the changes in areas under improved seed in the rabi seasons of 1957-58 and 1958-59 were not significant. In Ludhiana and Amritsar, 100% of the area, was sown with improved seed of wheat in both the seasons. In Hissar, the area under improved seed increased from 70% to 78%. Ludhiana and Hissar did not show any significant changes in area reporting timely sowing, and Ludhiana and Amritsar in weeding. In Amritsar, less than 60% of the area was reported under timely sowing in both the seasons, 58% in the 1957-58 season and 55% in 1958-59. In Hissar, weeding was reported on 13% of the area in the 1957-58 season and 23% in 1958-59. The progress here appears to be significant in view of the fact that there was considerable increase in the area under wheat in the 1958-59 season. The areas under the remaining practices in the individual districts are shown in Table 3-2·12 with break-down for block and non-block areas.

TABLE No. 3-2·12

Wheat Area under campaign practices in selected districts, blocks and non-block areas

(Area in acres)

Campaign Practices/ Rabi seasons	Districts						All blocks		All non-block area	
	Ludhiana		Amritsar		Hissar					
	Area	% of relevant wheat area	Area	% of relevant wheat area	Area	% of relevant wheat area	Area	% of relevant wheat area	Area	% of relevant wheat area
1	2	3	4	5	6	7	8	9	10	11
1. Basal application—										
1957-58 ..	25·3	3·6	15·0	8·0	..	..	35·3	6·2	5·0	0·7
1958-59 ..	68·3	8·4	20·5	8·9	16·5	3·8	85·8	12·5	19·5	2·5
2. Top dressing—										
1957-58 ..	174·4	25·0	..	..	7·0	2·0	130·5	23·6	50·9	7·6
1958-59 ..	279·0	35·6	..	..	40·0	9·4	200·2	31·4	118·8	15·1
3. Plant protection measures—										
1957-58 ..	105·4	15·0	10·0	5·3	30·0	8·4	126·9	22·2	18·5	2·7
1958-59 ..	252·0	31·0	14·0	6·1	4·0	0·9	243·0	35·5	27·0	3·4

3-2·28 In both the seasons the areas under basal application in each of the three districts had been less than 10%. There was no change in the proportion of the area under this practice in Amritsar, an increase of about 40 acres in Ludhiana and 16 acres in Hissar. In top dressing, there was significant increase in the area and in the proportion under it in Ludhiana and Hissar districts. In Amritsar where two top dressings were recommended, none had done so. No area has, therefore, been shown under the practice in the above table, though 20 acres or 8·7% of the wheat area were given one top dressing. The area under plant protection measures increased by more than 100% in Ludhiana, but did not increase significantly in Amritsar and actually decreased in Hissar.

3-2·29 Both in the 1957-58 and 1958-59 seasons, the area under these three practices had been more in the blocks than in the non-block areas. In the non-block areas, except for top dressing there was practically no increase in the area brought under the other two practices. Though larger proportions of the area were brought under each of the three practices in 1958-59 than that in the previous, the achievement in respect of them left more than 65% of the area uncovered in the blocks and 85% in the non-block areas.

3-2·30 In the two seasons, there were no significant changes among the three holding groups in the proportions of their areas brought under timely sowing and weeding. In the case of big cultivators the proportion of area weeded was around 55 per cent in both, 1957-58 and 1958-59 seasons, whereas it was around 80 per cent for the medium and small cultivators. In the case of area under improved seed in Hissar, the progress recorded by the big cultivators was much better than that by the medium and small. The following table gives the area under the remaining practices in the two seasons.

TABLE NO. 3-2·13

Wheat area under campaign practices by broad holding groups

Campaign practices	1958-59			1957-58		
	Big	Medium	Small	Big	Medium	Small
1	2	3	4	5	6	7
1. Basal application ..	39·6 (6·9)	43·6 (7·5)	22·1 (6·7)	8·5 (1·8)	22·1 (4·7)	9·7 (3·2)
2. Top dressing ..	134·9 (23·9)	111·5 (20·7)	72·6 (22·7)	86·9 (18·6)	50·5 (11·0)	44·0 (14·7)
3. Plant protection measures.	98·0 (17·2)	129·9 (22·5)	42·1 (12·7)	32 8 (6·9)	93·7 (19·9)	18·9 (6·3)

(Figures in brackets indicate percentages of the relevant wheat area under each practice.)

3-2·31 In the three holding groups, the proportions of the areas brought under any of the three practices did not exceed 25 per cent in the two seasons. Progress in the area under each was, however, recorded by all the three groups. The increase in the proportion of the areas of the small cultivators brought under top dressing and plant protection measures compares favourably with that of the big and medium cultivators.

3-2·32 The respondents credited some of the area brought under improved practices to the campaign. The following table gives the relevant practices, the area under them in the current season and that credited to the campaign,—

TABLE NO. 3-2·14

Wheat area under improved practices attributed to campaign

(In acres)

Campaign practices	Area under different practices during 1958-59 season		Area attributed to campaign	
	Area	% of relevant wheat area	Area	% of relevant wheat area
1	2	3	4	5
1. Improved seed	1,381·8	93·4	13·0	0·9
2. Basal application	105·3	7·1	67·9	4·6
3. Top dressing	319·0	22·4	217·2	15·3
4. Plant protection measures	270·0	18·2	249·7	17·0

3-2·33 The areas brought under three practices viz. plant protection measures, top dressing and basal application, as a result of campaign were significant. If, however, the areas which had been under these practices in the 1957-58 season and which continued to be under them in 1958-59 because of the campaign and the consequent improvement in the facilities of supplies were excluded, the achievement of the campaign would appear smaller. Moreover, the areas covered by none of the three practices had been more than 25 per cent. Inspite of the campaign, therefore, about 75 per cent of the wheat area remained uncovered.

3-2·34 In Ludhiana and Amritsar, all the area was under improved seed in both the seasons. In Hissar, about 78 per cent of the area was reported under improved seed in the 1958-59 year and only 3 per cent was ascribed to the campaign. As regards the other practices, 10 acres out of 16 under basal application in Hissar were credited to the campaign. Similarly in the other two districts more than 50 per cent of the area under it was due to campaign. In top dressing, the contribution of the campaign was significant only in Ludhiana. Two-thirds of the area under it was credited to the campaign. In plant protection measures, almost the entire area under this practice in the 1958-59 season in Ludhiana and Amritsar was credited to the campaign.

3-2·35 A larger proportion of the area under each of the practices was credited to the campaign in the blocks than in the non-block areas. For example, 8·2 per cent of the acreage under basal application was attributed to the campaign in the blocks as against 1·4 per cent in the non-block areas. In top dressing, 22 per cent of the acreage was attributed to the campaign in the blocks as against only 8 per cent in the non-block areas. The difference was wider still in the case of plant protection measures; 23 per cent of the area under this practice was attributed to the campaign in the blocks and only 3 per cent in the non-block areas.

3-2·36 In each of the three holding groups, the contribution of the campaign was uniformally insignificant. Only in respect of adoption of top dressing, the medium and small cultivators gave greater credit to the campaign than the big cultivators. The adoption of plant protection measures was credited solely to the campaign by each of the three groups.

Reasons for non-adoption of practices—

3-2·37 The account given so far has been based largely on the wheat growers who adopted the campaign practices either fully or in part. An attempt will now be made to show the extent of partial adoption of the practices and to discuss the reasons for partial adoption and non-adoption, as given by the respondents.

TABLE No. 3-2·15

Adoption and non-adoption of campaign practices

(In percentage of relevant wheat growers)

Campaign Practices	Adopting		Not adopting
	Wholly	Partially	
1	2	3	4
1. Seed treatment	11·0	..	89·0
2. Improved seed	91·6	..	8·4
3. Timely sowing	87·9	..	12·1
4. Basal application	4·7	9·6	85·7
5. Top dressing	9·8	19·4	70·8
6. Weeding	71·2	5·7	23·1
7. Plant protection measures	15·1	2·0	82·9

3-2·38 Col. 3 of the table shows that among those who adopted improved practices appreciable percentages applied them to only portions of their fields, though the proportions vary for different practices. More than 19 per cent of the wheat growers had done top dressing on portions of their lands. This is quite a high figure. Similarly basal application had been done on parts of their wheat lands by about 10 per cent of the cultivators, weeding by about 6 per cent and plant protection measures by 2 per cent. These figures seem to suggest that some of the practices were still new and some adopted them tentatively.

3-2·39 The number of cultivators who adopted improved practices on portion of their wheat areas and those who did not adopt them at all are given in Table No. 3-2·16 along with the reasons for their actions.

TABLE No. 3-2·16

Reasons for total and partial non-adoption

Reasons	Campaign practices						
	Seed treatment	Improved seed	Timely sowing	Basal application	Top dressing	Weeding	Plant protection measures
1	2	3	4	5	6	7	8
1. Natural conditions.	7 (2·3)	..	36 (12·1)	3 (1·0)	2 (0·7)	35 (11·7)	..
2. Lack of supply.	..	25 (8·4)	..	..	2 (0·7)	..	125 (41·8)
3. Difficulties of finance.	..	..	..	25 (8·4)	22 (7·6)	..	..
4. Too costly.	..	..	..	85 (28·4)	92 (31·2)	..	..
5. Lack of time.	..	..	..	31 (10·4)	7 (2·3)	6 (2·0)	..
6. Lack of irrigation.	..	..	..	66 (22·0)	64 (21·7)	..	..
7. Lack of labour.	..	..	..	..	..	2 (0·7)	..
8. Not needed.	28 (9·4)	..	..	23 (7·7)	57 (19·3)	43 (14·4)	129 (43·1)
9. Not convinced.	21 (7·0)	..	..	2 (0·7)	3 (1·0)	..	..
10. Not interested.	76 (25·4)	..	..	..	..	..	..
11. Experimenting	..	..	..	..	6 (2·0)	..	..
12. No knowledge.	134 (44·9)	..	..	50 (16·7)	11 (3·7)	..	..
Total	266 (89·0)	25 (8·4)	36 (12·1)	285 (95·3)	266 (90·2)	86 (28·5)	254 (84·95)

(Figures in brackets are percentages of relevant wheat growers

3-2·40 *Seed treatment*—Seeds were not treated by 89 per cent of the cultivators. The most important reason for not treating seed was no knowledge, reported by 45 per cent of the wheat growers. The second and the third reasons in order of imp rtance were not interested reported by 25·4 per cent and not needed by 9·4 per cent. 7 per cent gave lack of conviction as their reason.

3-2·41 The district-wise picture shows that none of the cultivators in Hissar did any seed treatment, 97 per cent of them reporting 'no knowledge' as the reason for it. In the other two districts also, the non-adoption of this practice was widespread, amounting to 94 per cent in Amritsar and 81 per cent in Ludhiana. 52 per cent in Amritsar were not interested in it and another 30 per cent had no knowledge of it. In Ludhiana too, these two reasons were important among the reasons given for non-adoption of seed treatment ; 28 per cent reported lack of knowledge and 23 per cent were not interested in it.

3-2·42 In both the block and the non-block areas the non-adoption of seed treatment was equally extensive, reported by about 88 per cent of the cultivators. The most important reason was lack of knowledge, reported by 42 per cent of the wheat growers in the blocks and 48 per cent in the non-block areas. The second reason in importance in the blocks was lack of interest reported by 38 per cent and 'not needed' in the non-block areas reported by 20 per cent.

3-2·43 In each of the three holding groups, the most important reason for non-adoption was 'no knowledge'. 33 per cent of the big cultivators, 45 per cent of the medium and 50 per cent of the small gave this reason. The second reason in importance among farmers in each of the three holding groups was that they were not interested in seed treatment, 29 per cent of the big cultivators, 26 per cent of the medium and 23 per cent of the small reported it.

3-2·44 *Improved seed*—92 per cent of the cultivators used improved seed. All the farmers who had not used improved seed were in Hissar and reported lack of supply as the reason for their action. A larger proportion of the small cultivators than the medium and the big gave this reason.

3-2·45 *Timely sowing*—Natural conditions were advanced as the only factor for failure to sow the seeds in time. Almost all the cultivators not adopting the practice were in the block and the non-block areas of Amritsar. They were more numerous among the medium cultivators than among the small and the big. 20% of the medium cultivators, 5% of the small and 9% of the big ones gave natural conditions as the reason for not sowing the seed in time.

3-2·46 *Basal application*—A total of 95% of the wheat cultivators in the three districts did not do basal application in the rabi season of 1958-59. They gave various reasons for their action, the most important reason (28%) being that it was very costly. The other reasons in order of importance were 'lack of irrigation' (22%) and 'no knowledge' (17%).

3-2·47 Coming to the individual districts, we find that total non-adoption of the practice was reported by 94% of the cultivators in Hissar, 91% in Amritsar and 78% in Ludhiana. 1·3% of the wheat growers in Hissar, 2·4% in Amritsar and 17·6% in Ludhiana adopted this practice on portions of their wheat areas. When total and partial non-adoption are put together in one category, it is

found that the most important reason for such action in Ludhiana was 'no knowledge' reported by 26%, followed by lack of time and lack of finance mentioned by 21% and 17% respectively. Other important reasons were 'too costly' and 'not needed' given by 15% and 14% respectively. In Amritsar, 78% gave only one reason, namely that basal application was too costly. Another 15% mentioned lack of irrigation facilities as the reason for non-adoption. In Hissar, this reason was advanced by 77% and 'no knowledge' by 16% of the growers.

3-2·48 In the blocks, total non-adoption of this practice was reported by 80% and in the non-block areas by 92%. 12% of the wheat growers in the blocks and 7% in the other areas gave basal application on part of the wheat area in their holdings. Taking both total and partial non-adoption into account, it is found that the foremost reason in the blocks was that basal application was very costly. This was reported by 28%. The second and the third reasons in importance were lack of irrigation and 'no knowledge' mentioned by 17% and 15% respectively. Another 10% stated that basal application was not needed and 7% mentioned difficulties of finance. In the non-block areas also, these reasons were important; 'too costly' was reported by 29%, 'lack of irrigation' by another 28%, 'no knowledge' by 18% and difficulties of finance by 10%.

3-2·49 The extent of total or partial non-adoption of basal application was almost equally widespread, around 95%, among farmers in the three holding groups. But those not adopting the practice at all were more numerous among the small cultivators than among the medium and the big ones. 'Too costly' was the common and the most important reason given by all. 22% of the big cutivators and 30% each of the medium and small gave this reason. The second reason among the big cultivators was 'no knowledge' reported by 22%. But lack of irrigation facilities was the second reason for both the medium and the small cultivators reported by 24% in each group. Lack of finance or supplies was not a very significant factor affecting adoption of basal application.

3-2·50 *Top dressing*—90 per cent of the wheat growers did not do any to dressing or did it only on parts of the wheat areas in their holdings. Various reasons were given for their action. 31 per cent stated that it was too costly 22 per cent considered that they could not give top dressing because they had no irrigation facilities and 19 per cent considered that it was not necessary. This practice was widely known and lack of knowledge was reported by only 4 per cent of the cultivators.

3-2·51 In Ludhiana, 37 per cent of the farmers gave top dressing to portion of wheat areas in their holdings; and 46 per cent did not do it at all. In Amritsar though the practice was known, none did it twice as was recommended by the Agriculture Department. In Hissar, 94 per cent did not adopt the practice either wholly or partially. Among the reasons given by the cultivators in Ludhiana, 37 per cent reported that it was not needed. Another 18 per cent and 15 per cent reported respectively that it was costly and that they had difficulties of finance. In Amritsar, as many as 81 per cent considered it very costly, another 16 per cent reported lack of irrigation. The latter reason was reported by 76 per cent of the cultivators in Hissar also, where another 16 per cent had no knowledge of the practice.

3-2·52 63 per cent of the cultivators in the blocks did not adopt top dressing at all, whereas this proportion was 79 per cent in the non-block areas. Another 24 per cent in the blocks and 14 per cent in the non-block areas had adopted the practice on portions of their wheat areas. In the blocks 55 per cent considered that the practice was very costly. Another 18 per cent reported that it was not needed and 16 per cent stated lack of irrigation as the reason. 7 per cent also had 'no knowledge' of the practice in the blocks. In the non-block areas the most important reason for its non-adoption was lack of irrigation reported by 28 per cent. The second reason in order of importance was 'too costly', reported by 27 per cent. Another 20 per cent did not do top dressing because they considered that it was not necessary. None reported lack of knowledge of the practice.

3-2·53 In the three holding groups, non-adoption of practice wholly or partially varied between 85 per cent and 92 per cent. The important reason in all the three groups was that the practice was too costly. It was reported by 24 per cent of the big cultivators, 37 per cent of the medium cultivators and 29 per cent of the small cultivators. An equal proportion of big cultivators also considered that the practice was not needed and 17 per cent could not adopt the practice because of the lack of irrigation. Among the medium cultivators, lack of irrigation was the second important reason for non-adoption and was reported by 22 per cent. 19 per cent considered that it was not needed. Among the small cultivators 24 per cent reported lack of irrigation and 18 per cent considered that it was not needed. Another 13 per cent had difficulties of finance and as a result they could not adopt the practice.

3-2·54 *Weeding*—Of the total cultivators in the three districts, 23 per cent did not weed their wheat area at all and another 6 per cent did it only on part of their area. The foremost reason for this position was that weeding was not considered necessary by 14 per cent of them. Another 12 per cent stated that the natural conditions prevented them from weeding their wheat areas.

3-2·55 All the 61 per cent of the cultivators who did not practise weeding in Hissar stated that it was not needed. In the other two districts, 'natural conditions' was advanced as the important factor; in Amritsar 26 per cent and in Ludhiana 9 per cent reported this reason.

3-2·56 In the block areas of the districts, 31 per cent of the cultivators did not do weeding whereas in the non-block areas 26 per cent were in this category. In the blocks, 17 per cent considered that weeding was not needed and another 12 per cent attributed their non-adoption to natural conditions. In the non-block areas also, these two were the important reasons reported by 12 per cent and 11 per cent respectively.

3-2·57 In the three holding groups where the non-adoption of weeding ranged between 26 per cent and 33 per cent, the important reasons were 'not needed' and 'natural conditions'.

3-2·58 *Plant protection measures*—85 per cent of the cultivators did not adopt plant protection measures and they ascribed their action almost equally to two reasons, *viz.*, 'not needed' and 'lack of supply'. Among the individual districts, non-adoption of the practice was more extensive in Hissar (reported by 99 per cent), followed by Amritsar (94 per cent) and Ludhiana (74 per cent).

All the non-adopting farmers in Hissar considered that it was not needed and all in Amritsar had difficulties of supply of plant protection material. In Ludhiana, 40 per cent considered that it was not needed and 33 per cent reported lack of supply for not adopting the measures.

3-2·59 In the blocks non-adoption of the practice was reported by 75 per cent of the cultivators, and in the non-block areas by 96 per cent. The main reason in the blocks, reported by 46 per cent was that it was not needed. Another 29 per cent had no supply of chemicals for the adoption of the measures. In the non-block areas, on the other hand, the most important reason for its non-adoption was lack of supply, reported by 56 per cent. Another 40 per cent considered that it was not necessary.

3-2·60 In the three holding groups, non-adoption of the practice ranged from 82 per cent to 90 per cent of the cultivators. The two reasons, *viz.*, that it was not needed and there were difficulties of supply, were more or less equally important for the big and the medium cultivators, while 48 per cent of the small cultivators considered it not necessary and another 41 per cent had difficulties of supply.

3-2·61 By and large, it appears that the difficulties of supply and finance were not important factors behind the non-adoption of basal application and top dressing, even though these were the reasons for the non-adoption of plant protection measures in all the areas and of improved seed in Hissar. Supply of irrigation water, however, was a factor determining the adoption of basal and top dressing. Lack of knowledge was extensive in the case of seed treatment and basal application. 'Not needed', 'not interested', 'too costly' were other reasons given by a fairly large proportion of culivators for their non-adoption of different practices. These reasons require detailed probing for an understanding of their significance and for an assessment of their implications for the agricultural extension programme. However, these broadly indicate deficiency of extension effort during the drive.

III

*Role of Gram Sahayaks in the Campaign**

3-2·62 The State Government decided to hold one-day camps, one in each VLW circle for briefing the village leaders, panchayat members, lambardars and patwaris. These persons were to conduct the campaign in the villages. As the number of cultivators in the sample who were also Gram Sahayaks was not adequate, 15 more Gram Sahayaks, 5 each from the 3 blocks, were selected.

3-2·63 Out of 36 Gram Sahayaks chosen in this manner, 16 were from Ludhiana, 6 from Amritsar and 14 from Hissar. As no training camps were organised in non-block areas, the 36 Gram Sahayaks came from the blocks only.

3-2·64 The role of village leaders is to give the lead to other farmers in adopting new practices and help spread them. They can do this job properly only if they are true leaders, trained and development-minded.

32·65 The sample Gram Sahayaks studied by us represent fairly well the farming community in the areas studied. Only the small farmers are somewhat under represented among them. And as is to be expected, a much higher proportion of the Gram-Sahayaks than of non-Gram Sahayaks are members of panchayats.

*Tables giving the relevant data are to be found in Appendix A.

But nearly comparable percentages in the two groups belonged to cooperative societies. There is again, among the Gram Sahayaks a slight preponderance of persons in the higher ages though quite a proportion of Gram Sahayaks are less than 30 years old. Again, 18 of the 36 Gram Sahayaks in the sample were selected by the VLWs. The remaining 18 said that they had attended the camps on their own. Evidently, no strict principle was followed in selecting the Gram Sahayaks though this does not seem to have affected seriously the quality of the group.

3-2·66 Proportionately more Gram-Sahayaks than non-Gram Sahayaks know about the campaign, but nearly half the Gram Sahayaks had no understanding of their special role. Confining ourselves to the wheat crop only, we find that all the Gram-Sahayaks and the non-Gram Sahayaks in our sample had knowledge of improved seeds, timely sowing, weeding and plant protection measures prior to the campaign. On the other hand, only about 60 per cent in both the groups had known about seed treatment. The position was somewhat better in respect of basal application, and distinctly so with regard to top dressing.

3-2·67 The campaign had practically no effect on the further extension of the practice of seed treatment among either Gram Sahayaks or non-Gram Sahayaks. On the other hand, the other two practices viz basal application and top dressing had become, as a result of the campaign, more popular among both the groups though the Gram Sahayaks made more progress than the non-Gram Sahayaks. It would seem, however, that in the matter of knowledge of the campaign the Gram Sahayaks did not have a decided superiority over the non-Gram Sahayaks. A high percentage of Gram Sahayaks and non-Gram Sahayaks used improved seeds and adopted timely sowing and basal application in the current year. There was, however, not much change among either group in respect of the first two practices, but basal application spread more rapidly among Gram Sahayaks than non-Gram Sahayaks. Both the groups are in the same position in respect of weeding and top-dressing but much higher percentage of Gram Sahayaks used plant protection measures as compared with non-Gram Sahayaks. On the whole, the Gram Sahayaks have a better but not a significantly better, record than the non-Gram Sahayaks in respect of the actual adoption of improved practices. But the specific impact of the campaign is distinctly greater upon the former.

3-2·68 Both the groups of farmers used the different improved practices, on different proportions of their wheat land in the current year. There is not however, much difference between them in respect of the use of improved seeds, timely sowing, weeding and plant protection measures. The non-Gram Sahayaks had applied top dressing on distinctly higher percentage of their land than the Gram Sahayaks. On the other hand, the latter had used basal application on proportionately larger areas than the former.

3-2·69 There was not much increase in the proportion of land under most improved practices between 1957-58 and 1958-59. This is true of Gram Sahayaks and non-Gram Sahayaks, except that the Gram Sahayaks had extended significantly the use of basal application, and in the overall comparison they come out slightly better. Generally speaking few Gram Sahayaks or non-Gram Sahayaks had adopted improved practices on only some part of their wheat land. Most of

them had either applied them over the whole of their wheat land or not used them at all. These statements are, however, not true of basal application and top dressing. These two practices are either too new or too costly to be used on all land. A very high proportion of both Gram Sahayaks and non-Gram Sahayaks did not adopt seed treatment. Again, fairly comparable proportions of Gram Sahayaks and non-Gram Sahayaks did not use basal application and top dressing. Finally, non-Gram Sahayaks appear to be less particular about plant protection measures than the Gram Sahayaks though even amongst these 50 per cent did not care for them.

3-2·70 Various reasons were advanced by the farmers belonging to the different groups for not adopting different practices. The relative importance of these reasons, of course varied between the two groups and the different practices. But generally speaking, the non-Gram Sahayaks were more handicapped than Gram Sahayaks by lack of finance for or the high cost of certain practices, e.g., basal application and top dressing which involve the use of costly fertilizers. If Gram Sahayaks are to influence non-Gram Sahayaks, they must belong more or less to the same strata of farmers economically. Again, while good proportions of non-Gram Sahayaks were unaware of the value of certain practices *e.g.*, seed treatment, high proportions of Gram Sahayaks did not consider them necessary. That there would be less knowledge of the campaign and of the various practices advocated among the general body of villagers than Gram Sahayaks who had received special training is to be expected. But the frequency of the cases in which Gram Sahayaks stated that certain practices recommended by the campaign were not needed seems to indicate either some flaw in the techniques advocated or in the extension training given to the Gram Sahayaks.

3-2·71 The Gram Sahayaks were expected not only to give a lead to other farmers, but also to carry on propaganda amongst them. Our enquiry shows that only in one district out of the three in the State studied by us the Gram Sahayaks approached other farmers with a view to extend to them the knowledge of the campaign. This happened in Ludhiana. But even here the Gram Sahayaks did not play their part adequately. Quite a proportion of the farmers in the sample had not been approached by any Gram Sahayak, though most of those who had been approached, had responded and adopted improved practices at the instance of the Gram Sahayaks.

IV

Output and yield rates of different crops

3-2·72 The information about the output of different crops was collected from the sample cultivators and not from crop cutting experiments and weighment of their crops. The area under wheat in their holdings in the three districts together was 1,249 acres in the rabi season of 1957-58 and 1,480 acres in 1958-59, showing an increase of 18·5 per cent. The total output of wheat was 17,159 mds. in 1957-58 and 20,559 mds. in 1958-59 an increase of 19·8 per cent. The yield per acre was 13·7 mds. in the 1957-58 season and 13·9 mds. in 1958-59, thus showing an increase of 1·5 per cent. Details regarding the number of wheat growers, wheat acreage, output and yield in the two years are given separately for the block and the non-block area in each district in Table 3-2·17.

TABLE No. 3-2·17

Cultivators, their area and output

District/Items	Block			Non-Block area		
	1957-58	1958-59	% increase or decrease over the previous season	1957-58	1958-59	% increase or decrease over the previous season
1	2	3	4	5	6	7
1. *Ludhiana*—						
(*a*) No. growig wheat	75	74	—1·3	71	74	+4·2
(*b*) Area (acres)	394·4	454·0	+15·1	310·8	359·3	+15·6
(*c*) Output (mds.)	7,160·8	7,801·5	+8·9	4,665·1	4,590·4	—1·6
(*d*) Yield per acre (mds.)	18·16	17·18	—5·4	15·01	12·78	—14·9
2. *Amritsar*—						
(*a*) No. growing wheat.	35	42	+20·0	29	39	+34·5
(*b*) Area (acres) ..	114·5	125·5	+9·6	73·0	104·5	+43·2
(*c*) Output (mds.) ..	1,274·0	1,409·6	+10·6	737·4	672·4	—8·8
(*d*) Yield per acre (mds.).	11·13	11·23	+0·9	10·10	6·43	—36·3
3. *Hissar*—						
(*a*) No. growing wheat.	23	40	+73·9	30	30	..
(*b*) Area (acres) ..	63·0	105·0	+66·7	293·0	331·7	+13·2
(*c*) Output (mds.)	399·0	849·0	+112·8	2,923·0	5,237·0	+79·2
(*d*) Yield per acre (mds.)	6·33	8·09	+27·8	9·98	15·79	+58·2
(*e*) No. growing gram	71	75	+5·6	60	68	+13·3
(*f*) Area (acres) ..	893·5	1,243·0	+39·1	622·0	900·5	+44·8
(*g*) Output (mds.) ..	5,404·0	10,154·0	+87·9	2,386·0	7,361·0	+208·5
(*h*) Yield per acre (mds.).	6·05	8·17	+35·0	3·84	8·17	+112·8

3-2·73 The wheat acreage both in the block and non-block areas in each district recorded an increase in 1958-59 over the level of 1957-58. The output was also greater in all the blocks and the non-block areas, the exceptions being the non-block areas in Ludhiana and Armitsar. The yield rates of wheat in the block and the non-block areas in Hissar and in the Naushera Panwan block in Amritsar had also been higher in 1958-59 than in the previous year. In the other areas *viz.*, the block and the non-block areas in Ludhiana and the non-block area in Amritsar, the yield per acre was, however lower than in the previous year. The highest yield in 1958-59 was recorded in the Ludhiana

block (17·18 mds.), which was less than that in the previous year by 5·4 per cent. The lowest yield among the six areas was found in the non-block area in Amritsar (6·43 mds.) and it was less than that in the previous year by 36 per cent. This was also the greatest decrease in yield among the selected areas. The increase in yield in Naushera Panwan block was only nominal, from 11·13 mds. in 1957-58 to 11·23 mds. in 1958-59 or by 0·9 per cent. The greatest improvement in yield was noted in the non-block area in Hissar where it increased by 58 per cent over 1957-58 to reach the figure of 15·79 mds. In Hissar block II also there was a significant increase in the yield rate, from 6·33 mds. per acre in 1957-58 to 8·09 mds. in 1958-59 or by 27·8 per cent. In the case of gram also, there was an increase in the area and yield rate in Hissar block and non-block area in 1958-59.

Impact of the campaign on wheat output–

3-2·74 The respondents who reported their output for the 1957-58 and 1958-59 seasons were also asked to comment on the reasons for the difference in yields in the two years. In particular, they were asked to state whether the difference was due to seasonal and natural factors or to improvement in practices effected as a result of the campaign.

3-2·75 Data to show the changes in output attributed to fluctuations in areas, to practices adopted by the cultivators influenced by the campaign and by others not so influenced are given below (the seasonal factor has been ignored in this table):

TABLE NO. 3-2-18

Increase or decrease in output in 1958-59 over that in 1957-58

District/Block/ Non-block area	Increase (+) or decrease (—) in the yield (mds.)	Changes in out-put attributed by							
		Cultivators influenced by the Campaign to				Cultivators not influenced by the Campaign to			
		Area*	%	Practices	%	Area*	%	Practices	%
1	2	3	4	5	6	7	8	9	10
1. Ludhiana—									
Block ..	640·7	923·6	144·2	—428·8	—66·9	140·1	21·9	5·8	0·9
Non-Block area	—74·7	467·3	625·6	—147·5	—197·5	239·7	320·9	—634·2	—849·0
2. Amritsar—									
Block ..	135·6	—49·2	—36·3	50·7	+37·4	154·9	114·2	—20·8	—15·3
Non-Block area	—65·0	15·2	23·4	—10·2	—15·7	296·8	456·6	—366·8	—564·3
3. Hissar—									
Block ..	450.0	25·4	5·6	43·6	9·7	240·5	53·5	140·5	31·2
Non-Block area	2,314·0	—20·0	—0·9	42·0	1·8	406·2	17·6	1,885·8	81·5

* Calculated at the yield rate in 1957-58.

3-2·76 In the earlier section on adoption of improved practices it was noted that the campaign had much better impact in the block and the non-block areas in Ludhiana than in the other areas. In Amritsar and Hissar samples taken together, only ten cultivators were influenced by the campaign. The above table however shows that the positive contribution of the campaign was only in the Amritsar block and in the block and the non-block areas in Hissar. In the other three areas viz., the block and non-block areas in Ludhiana and the non-block area in Amritsar, the cultivators adopting the practices because of the campaign had lower yields than in 1957-58.

3-2·77 The contribution of the change in acreage to the increase in output was by far the largest in all the areas except in the non-block area in Hissar.

3-2·78 The season was unfavourable in Ludhiana and Amritsar. The respondents did not indicate how much lower their output would have been if they had not adopted the practices advocated under the campaign. In the Ludhiana block where the impact of the campaign was maximum, the yield ranges of the cultivators influenced by it were fairly high, between 18 to 19 mds., whereas the rates of others who were not influenced by it were around 13 mds. The unfavourable season reduced the yield rates of those influenced by the campaign. But in the case of others who were also making some improvements themselves irrespective of the campaign, there was a slight increase in the yield rate. In the non-block area of the district, the unfavourable season reduced the yield rates of both the groups viz., those who were influenced by the campaign and those not so influenced. For the former group, the reduction was from 13·95 mds. to 13·14 mds. per acre and for the latter from 15·98 to 12·40 (see Appendix Table No. 1·10). This seems to suggest that low yield rates of the farmers in an area can be raised by improvements in their practices and that some adverse seasonal effects may even be absorbed by them. But the farmers whose yield rates are fairly high and who aspire to raise them by further improvements in practices may not succeed if the season is unfavourable.

3-2·79 The respondents in the sample were also asked to guess the effect of season on their current output. Taking the seasonal factor into account the yield rate in the block in Ludhiana would have been 22 mds. per acre instead of 17 mds. and in the non-block area 17 mds. per acre instead of 12 mds. In Amritsar the yield would have been 11·37 mds. in the block and 14 mds. in the non-block area. According to them the campaign effort would have had a share in this higher rate. In Hissar district, the increase in output excluding that due to increased acreage, was mainly attributed to the favourable season, to which they credited 91 per cent of the increase in the block and 99 per cent of that in the non-block areas.

CHAPTER V

CONCLUSIONS

Campaign plan—

4·1 Steps were taken in the month of September 1958 to organise the rabi production campaign. The second chapter gives a broad outline of the plan of the campaign and the third its execution in the district, block and non-block areas and the impact of it on sample cultivators.

4·2 The plan was very comprehensive. Special committees were organised, and fairly elaborate directives issued. But between what was planned and what was executed, there were very wide gaps. The mass of cultivators, voluntary organisations and representatives of the people were expected to participate in the campaign. Provision was made for their representation on the committees. At the State level the committee was to include three representatives of the Farmers' Forum. But the proceedings of the meetings do not show that they participated in them. A similar situation obtained in the district, block and the non-block area except in the Ludhiana block. In the villages, only the office bearers of the panchayats and the cooperative societies, took some interest in the campaign.

4·3 The directive of the campaign required joint touring of the officers of the Agriculture, Cooperation and Panchayat Departments. It was further suggested that targets of additional production—not less than 20% of the output in 1957-58—should be prepared. In his letter the Chief Minister instructed the officers of the various departments to take up intensive production drive in the selected villages. Except during the few days following the issue of the directives they were carried out in a half-hearted manner. In many areas there were hardly any campaign efforts after the sowing operations.

4·4 If the primary aim of a short period campaign is to stimulate, induce and help farmers to apply improved practices on wider scale, only those practices whose value has been established in some measure in the eye of the cultivator should be part of the campaign. Items about which the farmers have insufficient knowledge or to which they are positively opposed should be the concern of extension workers working on long term basis. It does not seem that these considerations were borne in mind by those who launched the campaign.

4·5 The progress of the campaign was not also reviewed and the directives were not followed up as the season advanced. Even the committee at the State level did not meet often enough, while others at lower levels seemed to give the impression that the campaign was over with the sowing of the crops.

4·6 In the districts or block or non-block areas, the success of the campaign depended upon the capacity of the field officers to interpret and the farmers to understand its comprehensive plan of action. In Ludhiana district which is favourably placed because of the Agricultural College and the Extension Wing attached to it, the impact of the campaign was good in spite of the

dislocation caused by floods. In Amritsar, heavy floods dislocated the economy and the whole Government staff was drafted for flood relief. The programme of the campaign could not be followed or given the attention it deserved. However, the flood relief work was itself a contribution to increased production; the draining out of flood water with the active participation of the people enabled farmers to sow on lands which would have otherwise remained unsown. In Hissar, there was practically no campaign. The favourable season did everything for the district, and if one were to stop at increased production as the index, the results were best there.

4·7 The rabi campaign literature did not reach the villages. The panchayats did not do more than pass or enter resolutions on their registers to the effect that everyone should play his part in the campaign. Some Sarpanches participated in the drive, but in their individual capacity. The Gram Sahayaks trained for the campaign had, of course, better knowledge of impoved practices and adopted them more than others. But in their case too, the number who did not adopt the campaign items was larger than of those who did so. They did not play the positive role they were expected to do; they did very little to educate and enthuse the people through discussions and demonstrations.

Impact of the campaign—

4·8 The real test of the campaign is the impact it produced on the agricultural practices of the cultivators. About 70% of the cultivators had simply heard of the campaign, the proportion who had the detailed knowledge of the improved agricultural practices recommended and still more, the proportion who actually adopted them were smaller.

4·9 The campaign was virtually directed to the wheat crop only. In Hissar, where the campaign was to cover gram and barley crops also no attention was given to them. There was no improvement in the practices reported by the cultivators in respect of these crops. The practices which were already adopted by a large number of wheat growers did not register any significant progress. Campaign or no campaign, increasing numbers of cultivators are taking to improved seeds. The campaign had also little or no effect in inducing timely sowing and weeding of wheat crop. Only those practices e.g., basal application, top dressing and plant protection measures which had been adopted by small proportion registered an increase. But in spite of sizable improvement, there is wide scope for further progress.

4·10 Again, the progress made in different districts and by different groups varied widely. In Ludhiana, it was much better than in the other areas; in fact, whatever the impact the campaign had, it was mostly in this area. For the three different classificatory groups,viz., block and non-block areas, big, medium and small cultivators and Gram-Sahayaks and non Gram Sahayaks for which comparative data are given in the report, there are not any significant conclusions except the obvious ones. It had more impact in the blocks than in the non-block areas; more on the big cultivators than on the medium and small and finally more on Gram-Sahayaks than on non-Gram Sahayaks. But in each group the level of adoption left a wide scope for further advance particularly in respect of practices which were already at lower level of adoption in the rabi season of 1957-58. This is where a consistent extension effort and not a campaign could perhaps achieve better results.

4·11 The impact of the campaign was limited chiefly to Ludhiana. Here a sizable proportion of the cultivators were induced by it to adopt improved practices. In other areas, the progress was much less than in Ludhiana and it was largely independent of the campaign.

4·12 Apart from the early decline in the general tempo of the campaign, different factors were responsible for slow or small progress of different items. Difficulties of supply and finance did not come in the way of adoption of basal and top dressing. They were however the most important reasons for the low level of adoption of plant protection measures. Again, the dissemination of seed treatment and basal application was hampered by lack of knowledge. A fairly large proportion of cultivators gave explanation such as 'not needed', 'not interested' and 'too costly' for the non-adoption of many practices. They indicate broadly the deficiency of extension effort during the drive.

4·13 If the campaign's impact is to be judged by the increase in production, alone, Hissar would emerge first though there was practically no campaign in that area. As the respondents reported more than 90% of the increase. in yield in Hissar was due to the favourable season in 1958-59. On the other hand, in Ludhiana block where the campaign had the maximum impact the unfavourable season seems to have reduced the yield rates of those who had adopted improved practices under the campaign, while the yield per acre of other farmers who had not taken to these practices in a comparable measure were hardly affected, though the former had still a higher output per acre. In the non-block area of the district on the other hand, the cultivators who had been influenced by the campaign suffered less than others though the general impact of the campaign was much less in the non-block area than in the block. These facts seem to suggest that in evolving and recommending improved agricultural practices, the seasonal factor should be carefully studied and taken into account. In future campaigns, a selective approach suited to the needs of different areas should be adopted. Though increase in yield is the final criterion of success of a campaign one should go behind this obvious yardstick and then judge to what extent the increased output is due to the campaign. Moreover, an allowance should be made for differences in the scope for increased output of different crops and in different areas.

PART III

RABI CAMPAIGN IN RAJASTHAN (1958-59)

CHAPTER V

Organisation of the Rabi Campaign in Rajasthan

5·1 The Government of Rajasthan decided to organize the rabi-production drive in respect of three crops, viz. wheat, barley and gram. These are important crops in the State; together they cover about 22% of the gross cropped area, 8·1% being under wheat, 9·4% under gram and 4·3% under barley. Again, of the 12% of the cropped area which is under irrigation, 31·7%, 9·2% and 24·2% are under wheat, gram and barley respectivley.

The plan of the campaign—

5·2 The State Government had already taken some steps to increase food production before it decided on the production drive during the rabi season of 1958-59. For instance, the allocations for agriculture and irrigation in the schematic budgets of the blocks had been increased. The rabi production drive offered an opportunity to intensify the efforts.

5·3 The first meeting for the rabi campaign which was held on 11th August decided on its broad outline of the campaign and proposed the formation of an ad hoc sub-committee of the Cabinet. The sub-committee of the Cabinet was formed during the month of November with the Chief Minister as the chairman. In the same month, detailed aspects of the campaign were further discussed and the following plan of the campaign emerged.

5·4 It was decided that the State should be divided into three zones according to the importance of rabi crops in them and the facilities for irrigation. The demand for seed, fertilizers, loans, implements etc., was to be met in full in zone I, and seeds of 95% purity were to be distributed there. In zones II and III, rabi campaign was to be taken up with the same intensity, but seeds of lesser purity were to be distributed, zone III being given the least pure seeds. Special attention was to be given to areas of low yields and the village level workers were to prepare, in consultation with panchayats, lists of farms with low yields.

5·5 The following items were to receive special attention during the drive:—

(*i*) Supply of improved seed;
(*ii*) Treatment of seed;
(*iii*) Use of organic and inorganic manure;
(*iv*) Introduction of improved agricultural practices, such as sowing in lines by use of seed drills, dibbling wherever possible and other culturable practices;
(*v*) Top dressing;
(*vi*) Introduction of improved irrigation practices and maximum utilization of existing water resources;
(*vii*) Control of insects, pests and other diseases;
(*viii*) Distribution of loans.

5·6 Rabi campaign committees at various levels were to select areas for operation and choose those of the above items which would yield good results in the local conditions.

5·7 It was expected that as a result of the drive, output would be raised by 10% above the highest level in the preceding three years. The target of additional food production for the year 1958-59 which had been originally fixed at 1·89 lakh tons was revised to 2·72 lakh tons.

Organization—

5·8 The director of Agriculture was made the Chief Executive Officer of the campaign. The planning of the campaign was to be done by the coordination committee which included the Heads of Departments and the officers concerned. A sub-committee of this Committee consisting of the Secretary for Agriculture, the Director of Agriculture, the Chief Engineer (Irrigation) and the Deputy Development Commissioners was formed to work out the details.

5·9 In order to secure the cooperation of the Irrigation Department, a special meeting was held on 14th August 1958 between the Chief Engineer and the officers of the Development Department. They considered the question of repair, extension and improvement of existing irrigation works and also the construction of new small irrigation works so that irrigation facilities could be available more fully in the 1958-59 rabi season.

5·10 The officers of the Development Departments were to adopt a village each for intensive work. Similarly the non-servicemen of the campaign committees were expected each to adopt a village.

5·11 A meeting of Informal Consultative Committee of the Members of Parliament and the Members of the Legislative Assembly was held in the month of August and the members were informed of the details of the campaign. This meeting also approved the idea of every member of the committee adopting a village.

5·12 Campaign committees were to be formed at the division, district, block, panchayat and village levels. At the divisional level the Commissioner was made the Chairman of the campaign committee with the Deputy Director, Agriculture, as Secretary. One representative of the Farmers' Forum was to be a member. At the district level a sub-committee of the District Development Committee with the Collector as the chairman and at least two progressive farmers as members was to be formed. In the blocks, the Block Development Committee were to function as the campaign committees with suitable sub-committees formed for distribution of supplies. In the panchayat areas, the committees would consist of the Sarpanch, a couple of progressive farmers, Patwari and the Village Level Worker. At the village level the Vikas Mandal was to form itself into a committee for the purpose. These committees were to prepare a campaign plan including arrangements of supply, etc. and to define the functions of officials and non-servicemen.

5·13 The officials were to be oriented and progressive farmers in the blocks were to be consulted for specific suggestions for action. Farm leaders' camps of three days' duration of about 50 trainees each were to be held at the

rate of five camps per block to impart the knowledge of new techniques of production and to enlist their cooperation in propagating the new ideas to the fellow cultivators.

5·14 A time table of action in respect of various items of the campaign was prepared. It was suggested that the District Agriculture Officer would constantly tour during the period in order to ensure that the programme was being carried out and bottlenecks were removed in consultation with the Collector.

5·15 In order to provide incentives it was decided to award prizes to the best block, and the best three villages in the State and also the best village in every block adopted by officials and non-servicemen. But subsequently in June 1959, the Government decided not to distribute the prizes. To evaluate the work done in various villages it was decided to fix targets for each village and each block according to their potentialities. It was also proposed that crop competitions would be arranged at State, district and block levels and in all panchayats through the panchayat agency. The scheme was inadequately publicized and was not carried through in many districts. Till July 1959 out of 21 districts in the State only 4 had sent the results of the competitions.

5·16 A small committee headed by a prominent non-serivceman was to evaluate the campaign.

Facilities and supplies:—

5·17 According to the Development Commissioner, supplies of seeds and fertilizers and improvement in irrigation facilities and 'Medhbundi' were to be given top priorities. Therefore, great emphasis was placed on making available to cultivators larger supplies and loans for the 1958-59 rabi than what had been originally planned for the season. The following statement indicates the normal provision and the additional provision made for the campaign and the achievement as reported by the end of the rabi season:

TABLE 5·1

Additional provision for the campaign

Items	Normal provision for the year	Additional provision for rabi campaign	Achievement
1	2	3	4
1. Loans for construction of wells (Lakhs Rs.)	15·00	40·00	40·00
2. Improved seed (lakh mds.)—			
Wheat	1·5	1·5	3·00
Barley	0·03	0·20	0·23
Gram	..	0·62	0·62
3. Manure and fertilizers (tons)—			
Nitrogenous fertilizers	9,000	5,284	11,000
Phosphatic fertilizers	1,200	1,450	1,380
Green manuring (acres)	..	40,000	12,335
4. Taccavi for seed and bullocks (lakh Rs.)	10·00	17·00	27·00
5. Plant protection measures Grant (Lakh Rs.)	1·80	2·00	2·59
6. Loans for implements (Lakh Rs.) ..	1·00	4·00	5·00

5·18 The Government decided that seeds and fertilizers would be made over to cooperative societies for speedy and proper distribution to members and non-members alike. Where the cooperative societies did not exist or were not ready to undertake the work, these were to be distributed by the agricultural stores, VLWs and the panchayats. It was proposed to open stores at the head quarters of each VLW, panchayat and cooperative society. As an inducement to cultivators to purchase implements it was provided that in the block areas one set of simple implements would be made available to each village panchayat which had two or more Gram Sahayaks. The Gram Sahayaks were expected to ensure that the implements were used by at least 10 families and that three such sets were purchased by other villagers within the year.

CHAPTER VI

EVALUATION OF THE CAMPAIGN

I

Evaluation of Organization and Administration

Selection of areas—

6–1·1 The evaluation of rabi campaign in Rajasthan was taken up in three districts, *viz.*, Bharatpur, Kota and Sri Ganganagar in consultation with the State Government. In each district one block and one non-block area were chosen for intensive study. The following areas were selected:—

TABLE NO. 6-1·1

Areas selected for study

District	Block	Non-block area
1	2	3
1. Bharatpur	Nagar	Bharatpur
2. Kota	Ladpura	Digod*
3. Sri Ganganagar	Raisinghnagar	Ganganagar

6–1·2 All the three crops, *viz.*, wheat, gram and barley were taken up in the selected areas. The area under wheat in the three districts is 35% of that under the crop in the State; the corresponding proportions for gram and barley are 46·6% and 23·8% respectively. The three crops together account for 50% of the gross cropped area in Sri Ganganagar, 41·9% in Kota and 33·6% in Bharatpur, and 28·1 %, 5·1% and 42·3% respectively of the irrigated areas.

6-1·3 Of the three zones in which the State was divided for the campaign, the districts of Bharatpur and Sri Ganganagar fell in zone I and Kota was divided between zones I and II, though the major portion was in zone II. Both the selected areas in Kota were in zone II.

Execution of the campaign—

6–1·4 According to instructions issued by the State Government, sub-committees of the District Development Committees were formed in all the three districts to plan and coordinate the campaign. These included a few progressive farmers. Till the sowing of Rabi crops, the sub-committee in Ganganagar met three times, in Bharatpur once and in Kota twice. Between the sowing of the crops and their maturing, the campaign appeared as an item on the agenda of the District Development Committee in Bharatpur and Sri Ganganagar, but not in Kota. Thereafter, the campaign did not figure at all in the agenda of any of the District Committees.

*In Digod, the campaign was reported to have been taken up in a part of its area and therefore the evaluation and selection of villages was confined to it.

6-1·5 *Block level committees*—The Block Development Committee functioned in the selected blocks as the rabi campaign committee with sub-committee to look after the distribution of supplies. In all the blocks, the committees were active till the sowing of the crops. They also functioned up to the maturing stage. In Bharatpur it met thrice between sowing and maturing and discussed crop competition and plant protection measures; in Raisinghnagar, all Sarpanchas attending the monthly meetings of the Block Development Committee were required to propagate as widely as possible the use of fertilizers for top dressing. In Kota, however, the Block Development Committee did not discuss the progress of the campaign at its monthly meetings. Between the end of February and the end of May when the crops were harvested, the block committees did not discuss the rabi campaign at all. Instead, they got busy with the next kharif campaign. In none of the non-block areas the regular campaign committees were formed.

6-1·6 *Village level committees*—The panchayats in all the three blocks formed rabi committees consisting of the Sarpanch, the Patwari, the VLW and progressive cultivators. These committees, however, met, generally speaking, once only to pass resolutions. Later, the Sarpanchas alone took interest in distributing seed and fertilizers. There is little evidence to show that panchayat committees or village committees were formed in the non-block areas.

6-1·7 *Village leaders' camps*—In compliance with the decisions of the State Government, village leaders' camps were held in all the three selected blocks; four in Ladpura block, Kota and three each in Raisinghnagar block, Sri Ganganagar and Nagar block, Bharatpur. The remaining camps were cancelled because of dislocation of communication by heavy rains in September. No camps were organized in the non-block areas. All the Gram-Sahayaks in the samples reported that they had approached other cultivators and explained to them the campaign practices. But only 50% stated that they were able to convince others about one or more practices.

6-1·8 *Other administrative arrangements for the campaign*—The decision of the State Government to divide the State into three zones with a view to distribute seeds of varying degrees of purity lost its significance as the seed was of the same degree of purity or impurity in all the zones.

6-1·9 The decision to pay greater attention to areas of low yields and to prepare lists of farms with low yields was not implemented.

6-1·10 The district officers adopted one village each for intensive work. Some non-servicemen also were reported to have adopted villages in this way. But none of the MLAs who attended the campaign meetings in Bharatpur and Sri Ganganagar adopted any village. Upto the sowing time, those who adopted villages in Sri Ganganagar visited their villages frequently, but there was no evidence of similar interest in the other two districts. In Kota, the officers of the Education Department did not even know the villages they had adopted. Moreover, the interest of the officials in the adopted villages declined as the season advanced, the higher officers losing their interest first, the infection spreading to the lower officials by stages.

6–1·11 The data collected from sample respondents during the study shows that 60 per cent of the cultivators came to know of the campaign during the rabi season, 46 per cent till the sowing of the crops and 14 per cent after it. 27 per cent reported that they received the message of the campaign from officials, 24 per cent from non-servicemen and 9 per cent from both. The VLWs, agricultural extension officers, BDOs and revenue personnel were the officials, and office-bearers of panchayats and cooperatives were the non-servicemen. The arrangement for distributing seeds and fertilizers through panchayats and cooperatives was the reason for the significant role of non-servicemen. In Sri Ganganagar in particular, while 11 per cent got the message of the campaign from officials, 47 per cent got it from non-servicemen and 23 per cent from both.

6–1·12 The supplies and facilities were increased significantly; the extension officers were allotted one VLW circle each for intensive work. Non-servicemen were brought into the picture more than normally. The crop campaign, however, suffered as another drive viz., to enroll people for life insurance was started before the former was over. Moreover, it is difficult to sustain the tempo of the campaign if it lasts several months. The State Government does not seem to have succeeded in this respect. For example, the working of campaign committees at various levels had flagged, and the interest of officers in adopted villages had begun to wane long before the campaign ended.

Supplies and facilities—

6–1·13 *Seeds*—The Development Commissioner gave top priority to the distribution of seeds and fertilizers in the campaign. As Appendix B Table No. 2·10 shows, the supply of seeds distributed in the three districts in the rabi season of 1958-59 increased by 123·3 per cent over that in the previous year. In Bharatpur and Sri Ganganagar the increases were 130 per cent and 134 per cent respectively, but in Kota only 42 per cent. The quantity of seeds distributed in the blocks was again more than in the non-block areas in 1957-58 and 1958-59. But the quantity distributed in the blocks in 1958-59 decreased by 16 per cent while that in the non-block areas increased by 142 per cent. It was reported that the blocks had made their own arrangements for procuring improved seeds in the earlier year.

6–1·14 *Fertilizers*—The quantity of fertilizers distributed in the three districts increased from 793 tons to 2,479 tons or by 213 per cent between the two years, the increase being 261 per cent in Sri Ganganagar, 199 per cent in Bharatpur and 9·5 per cent in Kota. Again the blocks got more than the non-block areas in both 1957-58 and 1958-59, though the supply to the non-block areas was raised greatly in the latter year.

6–1·15 *Distribution outlets*—The increased supply was made possible by increase in outlets in the block and non-block areas. Agricultural stores and registered dealers who had been the agents for distribution in earlier years were replaced by cooperative societies. And panchayats took up the work for the first time in villages where cooperative societies were not formed. But this happened mostly in Sri Ganganagar district; only one panchayat in Bharatpur block did this work. As a result, number of persons who got wheat seed from

cooperative seed stores increased in blocks and in non-block areas. (Appendix B Table No. 2·11). The position was similar for fertilizers. Practically all the respondents in our enquiry who got wheat seed from institutional agencies obtained their supply in time. But 16 per cent of those who got the seed from cooperative stores did not consider it to be of proper quality. Moreover 23 per cent of those who got their supply from the agricultural seed stores and 34 per cent of those who had them from cooperative stores and panchayats did not consider the supply adequate. The cultivators had got the impression that their entire demand for improved wheat seed would be met by the Government whereas in some areas the district officers had decided that only a limited quantity would be given to each cultivator. The cultivators also wanted to take the seed offered by the Government, because besides being available on loan, it was cheaper than the market supply. On the other hand, all cultivators who got fertilizers were satisfied with the quality, quantity, price and timelines of the supply.

6-1·16 *Implements*—Implements were distributed in Bharatpur in the 1958-59 season in block and non-block areas, but we had no report of this activity in Sri Ganganagar or in Kota. The number of meston ploughs distributed in Bharatpur block was, however, kept down as many had been distributed in the previous season.

6-1·17 *Loans*—More taccavi loans were distributed in the three districts than in the 1957-58 season. The loans for seeds and fertilizers were given in kind, but in areas where improved varieties of seeds were not distributed, cash loans were advanced. According to our reports, taccavi loans in cash for wheat seed were made available in some areas of Kota block only after the sowings had been over.

6-1·18 The cooperative societies also distributed more loans in 1958-59 than in 1957-58. This is shown by the following table—

TABLE No. 6-1·2

Distribution of Cooperative credit

Cultivator groups	No. of sample cultivators	1958-59		1957-58	
		No.	Amount (Rs.)	No.	Amount (Rs.)
1	2	3	4	5	6
Big	77	8	2,245	7	2,025
Medium	187	30	6,250	21	3,950
Small	186	25	4,300	10	1,300
Total ..	450	63	12,795	38	7,275

6-1·19 As compared with the 1957-58 rabi season, the number who took loans in 1958-59 increased from 38 to 63 and the total loan from Rs. 7,275 to Rs. 12,795 Thus as a result of the campaign, supplies and facilities increased appreciably. The increases were spread among big, medium and small cultivators.

II

Impact of the campaign on sample cultivators

Particulars of the sample—

6-2·1 For the purpose of this evaluation, facts were collected from a sample of cultivators in five villages selected at random in each block and non-block area of the three districts. In each village, 15 cultivators were selected from among the big, medium and small holding groups in proportion to their relative numbers. The following table gives the number of holdings in each group and the average area in it—

TABLE NO. 6-2·1

Big, medium and small cultivators in the sample

Districts	Big			Medium			Small		
	No.	%	Average holding (acres)	No.	%	Average holding (acres)	No.	%	Average holding (acres)
1	2	3	4	5	6	7	8	9	10
1. Bharatpur ..	22	14·7	38·6	75	50·0	13·4	53	35·3	6·1
2. Kota	27	18·0	46·1	55	36·7	18·2	68	45·3	6·0
3. Sri Ganganagar ..	28	18·7	73·9	57	38·0	33·7	65	43·3	14·7

6-2·2 The big holdings vary in size from 39 acres to 74 acres, the medium holdings from 13 acres to 34 acres and the small from 6 acres to 15 acres.

6-2·3 Out of the total 450 sample cultivators in the three districts 263 or 58 per cent had lands irrigated, wholly or partly, and 187 or 42 per cent had wholly unirrigated lands. Irrigation was reported to be most extensive in Sri Ganganagar, where about 95 per cent of the sample cultivators had irrigated land as against 57 per cent in Bharatpur and 24 per cent in Kota. Only in two villages of the block in Kota, cultivators had irrigation facilities while in the other villages including those in the non-block area, they depended on rainfall only.

6-2·4 Of the total area of cultivated holdings in Bharatpur, 71 per cent was reported under rabi crops including oil seeds and rabi pulses; the corresponding proportions in Kota and Sri Ganganagar were 63 per cent and 60 per cent. More cultivators grew wheat than gram, and gram more than barley*. The respective numbers in the sample are given below—

TABLE NO. 6-2·2

Number of cultivators growing wheat, gram and barley

Season	Wheat	Gram	Barley
1	2	3	4
1. 1958-59	355	320	91
2. 1957-58	356	316	80
3. % increase ..	..	1·3	13·7

**See* Appendix B Table No. 2·1 and 2·2 for details. In the report the areas under mixed crops are not taken into account.

6-2·5 Wheat and gram were grown in all the selected areas, but barley mainly in Bharatpur and Sri Ganganagar. The number of wheat growers did not change significantly. Gram growers increased by only 1·3 per cent and barley growers by 13·7 per cent, mostly in Sri Ganganagar.

6-2·6 Of the sample of 450 cultivators, only 18 had attended Gram Sahayak camps. All of them were in the selected blocks. Another 15 Gram Sahayaks, five from each of the three blocks, were selected with a view to get a sizeable number for comparing the performance of Gram Sahayaks with that of non-Gram Sahayaks. Two of the five additional Gram Sahayaks in Kota were not available for canvassing the schedule. The total number of Gram Sahayaks in the sample is, therefore, 31 and their performance has been compared with the non-Gram Sahayaks in the blocks, as there were no Gram Sahayaks in the non-block areas.

Campaign practices selected for evaluation—

6-2·7 The State Government had suggested a list of items for the campaign. Different areas were to select a few among them according to local conditions. The campaign items were to be in addition to general measures of improvement, such as medhbundi (field embankment), composting, construction of masonry wells, etc., which are required for all crops.

6-2·8 20 per cent of the respondents in the three districts reported that they were exhorted to bring more land under rabi food crops by diverting areas from oil-seeds, but the total area sown under campaign crops (including mixed crops) by them increased by 2 per cent though that under all rabi crops increased between 1957-58 and 1958-59 by 6 per cent.

6-2·9 In the month of January 1959 a crop competition fortnight was organized at panchayat, tehsil/block, district and State levels. When the directives about the competitions were first issued, the idea was to stimulate acceptance of improved agricultural practices by farmers under the direct guidance of the agricultural extension officers. This intention was not, however, fulfilled because of the late publicity; but quite a number of entries for crop competition were registered in Bharatpur and Sri Ganganagar. In Kota, however, the competitions were not held as the entries were less than the minimum prescribed. In Sri Ganganagar they were held at different levels but in Bharatpur at Panchayat level only.

6-2·10 To evaluate the campaign effort, the following improved practices for wheat, gram and barley were selected for study—

TABLE NO. 6-2·3

Improved practices selected for evaluation

Wheat	Gram	Barley
1	2	3
1. Preparation of soil.	1. Preparation of soil.	1. Preparation of soil.
2. Use of improved seed.	2. Use of improved seed.	2. Sowing in lines.

TABLE No. 6-2·3—*contd.*

Wheat	Gram	Barley
1	2	3
3. Seed treatment.	3. Sowing in lines.	3. Irrigation as many times as recommended.
4. Sowing in lines.	4. Irrigation as many times as recommended.	4. Basal application.
5. Basal application of fertilizers.	5. Weeding.	5. Weeding.
6. Irrigation as many times as recommended.		
7. Top dressing.		
8. Weeding and interculture.		

6–2·11 The first seven practices for wheat were sponsored in all the selected areas, in particular, in the irrigated areas. Weeding and interculture was not a sponsored item in Kota. Top dressing was not a sponsored item in unirrigated areas in any of the three districts. For gram, all the five items were sponsored in Sri Ganganagar but in Bharatpur and Kota only the preparation of soil and line sowing were sponsored. For barley crop, preparation of soil and line sowing were sponsored items in all the three districts, but weeding was recommended in Bharatpur and Sri Ganganagar and basal application in Bharatpur. Irrigation as recommended was a sponsored item for barley in Bharatpur and Kota.

6-2·12 It appears from the actual observation of the campaign and the data collected from respondents that the main emphasis in the drive was on wheat; little attention was paid to the other crops. For example, in the case of gram all the relevant growers in the 1958-59 season had already knowledge of the sponsored practices and there was little change in their adoption. A fairly high proportion of respondents had prepared the soil properly for gram in both the rabi seasons in Bharatpur and Kota. In Sri Ganganagar, however, only 47 per cent of the respondents had prepared the soil properly in the 1957-58 season. There was, therefore, large scope for progress. But the campaign had small impact as only 48 per cent of the respondents reported having adopted this practice in the 1958-59 season. The main reason was that the cultivators had no time to do it in the conditions of the season. Quite a few respondents also reported that it was not needed. Line sowing was widely known and adopted in all the three areas. There was practically no scope for its extension through the drive. In Sri Ganganagar, improved seed, irrigation as recommended and weeding were also sponsored practices for the gram crop. But the knowledge and adoption of improved seed and weeding were already quite extensive among cultivators in the district and there was not much scope for improvement through the drive. As regards irrigation, number of persons reporting its adoption increased from 21·4 per cent in the rabi season of 1957-58 to 50.7 per cent in 1958-59 and the irrigated area from 16 per cent to 40 per cent. But the development was probably due to the extension of irrigation facilities rather than the campaign.

6-2·13 In view of the meagre scope for improvement through campaign in the case of gram, no detailed analysis is given of the recommended practices and their adoption in the succeeding paragraphs. Table No. 2·6(*c*), in Appendix B, however, gives data for the practices which recorded an improvement in the rabi season of 1958-59.

6-2·14 Similarly in the case of barley, the impact of the campaign was not significant. The crop was raised by the sample cultivators in Bharatpur and Sri Ganganagar. There was no change in the 1958-59 season in respect of their knowledge and adoption of the three practices viz. preparation of soil, line sowing and weeding. No respondent had done basal application in the 1957-58 season in Bharatpur; in 1958-59 season, seven cultivators or 18 per cent growing barley in the block area had done it and all attributed their action to the campaign. Besides this, no significant conclusions emerge from the data collected from barley growers. Hence detailed analysis of the impact of the campaign in respect of barley has not been given in the report. Appendix B, Table No. 2·6(*d*) gives the results of the enquiry on some significant items.

General knowledge of the campaign—

6-2·15 The effect of a campaign depends, in the first place, on the extent to which improved practices are already known to the farmers and, secondly, on the proportion of ignorant cultivators whom the campaign enlightens. It will be seen that this knowledge varies between districts, blocks and non-block areas and in respect of different practices. These differences are significant in interpreting the scope for and measuring the improvement actually brought about by the campaign. Of the 450 cultivators in the sample, 270 or 60 per cent reported knowledge of the campaign. District-wise, the knowledge was highest in Sri Ganganagar where it was reported by 81 per cent of the respondents, followed by Bharatpur and Kotah in which 75 per cent and 24 per cent respectively reported it. Knowledge of the campaign was again better disseminated in blocks (69·3 per cent) than in the non-block areas (50·7 per cent). But the propaganda seems to have reached the big cultivators somewhat more than the medium or the small cultivators, 79 per cent, 61 per cent and 51 per cent of the cultivators in the three groups respectively reported knowledge.

6-2·16 The following table shows the number of cultivators who came to know of the campaign before and after the sowing of the crops—

TABLE NO. 6-2·4

Knowledge of the campaign

Districts	Block		Non-block area		Total	
	Till sowing	After sowing	Till sowing	After sowing	Till sowing	After sowing
1	2	3	4	5	6	7
1. Bharatpur ..	69(92·0)	1(1·3)	43(57·3)	..	112(74·7)	1(0·7)
2. Kotah	18(24·0)	6(8·0)	12(16·0)	..	30(20·0)	6(4·0)
3. Sri Ganganagar ..	35(46·7)	27(36·0)	32(42·7)	27(36·0)	67(44·7)	54(36·0)
All Districts ..	122(54·2)	34(15·1)	87(38·7)	27(12·0)	209(46·4)	61(13·6)

6-2·17 In Bharatpur as many as 75 per cent were informed of the campaign by the time the crops were sown; but thereafter the message of the campaign did not spread to other cultivators. In Sri Ganganagar, on the other hand, 45 per cent came to know of the campaign by the sowing of the crops and another 36 per cent afterwards. In Kota knowledge of the campaign reached only 24 per cent of the cultivators in the sample; 20 per cent got it before sowing and another 4 per cent after it. In all the blocks together 54 per cent of the respondents came to know of the campaign by sowing time and another 15 per cent after it. In the non-block areas, on the other hand, 39 per cent received it in the first part of the season and 12 per cent later.

6-2·18 *Wheat cultivators*—The following table shows the number of wheat cultivators and the areas they had under wheat in the three districts in the 1958-59 and the 1957-58 seasons—

TABLE NO. 6-2·5

Wheat cultivators and their area

Items	Bharatpur	Kota	Sri Ganganagar
1	2	3	4
1. No. having wheat—			
1957-58 ..	107	110	139
1958-59 ..	95	124	136
% increase ..	(—) 11·2	(+) 12·7	(—) 2·2
2. Area under wheat—			
1957-58 ..	396·3	1,003·9	1,300·0
1958-59 ..	355·3	1,024·2	1,380·5
% increase ..	(—) 10·3	(+) 2·0	(—) 6·2
3. No. having irrigated wheat—			
1957-58 ..	66	13	135
1958-59 ..	60	20	132
% increase ..	(—) 9·1	(+) 53·8	(—) 2·2
4. Area under irrigated wheat—			
1957-58 ..	146·8	21·9	1,184·1
1958-59 ..	114·5	32·8	1,211·7
% increase ..	(—) 22·0	(+) 49·8	(+) 23·3

6-2·19 Out of 355 wheat cultivators in the rabi season of 1958-59, 95 or 26·8 per cent came from Bharatpur, 124 or 34·9 per cent from Kota, 136 or 38·3 per cent from Sri Ganganagar. The number of wheat growers had increased only in Kota, from 110 in the 1957-58 season to 124 or 12·7 per cent in the 1958-59 season. In the other two districts the number had declined. Correspondingly, the area under wheat had also increased in Kota by 2·0 per cent and that in Bharatpur decreased by 10·3 per cent. In Sri Ganganagar, the area had increased from 1,300 acres to 1,380·5 or 6·2 per cent. 16 per cent of the wheat growers in Kota had irrigated wheat whereas in Bharatpur and Sri Ganganagar the proportions were 63 per cent and 97 per cent. The irrigated wheat area formed 3 per cent of the total area under wheat in Kota, 32 per cent in Bharatpur and 88 per cent in Sri Ganganagar.

6-2·20 These differences are relevant to the evaluation of the impact of the campaign. For example, some practices, viz., top dressing and irrigation were relevant for cultivators who had irrigated lands. Irrigated area in Kota formed an insignificant proportion of the total in the three districts.

Knowledge of improved practices—

6-2·21 All the wheat growers had knowledge of preparation of soil, line so wing, irrigation as many times as recommended by the agricultural department and weeding. There was, therefore, no scope for further dissemination of know ledge about them during the campaign. The following table shows the extent of knowledge about the other practices in the 1957-58 and the 1958-59 seasons—

TABLE NO. 6-2·6

Knowledge of the campaign practices

(Percentage of wheat growers reporting knowledge)

Campaign practices	Bharatpur		Kota		Sri Ganganagar	
	A	B	A	B	A	B
1	2	3	4	5	6	7
1. Use of improved seed—						
1958-59 ..	100·0	+50·6	91·1	+5·4	100·0	..
1957-58 ..	66·4	..	86·4	..	100·0	..
2. Seed treatment—						
1958-59 ..	54·7	+108·8	..	..	25·0	+316·5
1957-58 ..	26·2	..	..	..	7·9	..
3. Basal application—						
1958-59 ..	88·4	+329·1	91·1	+22·3	69·1	+1,091·4
1957-58 ..	20·6	..	74·5	..	5·8	..
4. Top dressing—						
1958-59 ..	71·7	+4,680·0	100·0	+44·5	99·2	+346·8
1957-58 ..	1·5	..	69·2	..	22·2	..

NOTE—A—% of wheat growers.
B—% increase or decrease.

TABLE No. 6-2·6—*contd.*

Campaign practices	All districts		All blocks		All non-block areas	
	A	B	A	B	A	B
1	8	9	10	11	12	13
1. Use of improved seed—						
1958-59 ..	96·9	+13·1	100·0	..	93·8	+32·1
1957-58 ..	85·7	..	100·0	..	71·0	..
2. Seed treatment—						
1958-59 ..	24·2	+120·0	28·8	+116·5	19·7	+131·8
1957-58 ..	11·0	..	13·3	..	8·5	..
3. Basal application—						
1958-59 ..	82·0	+160·3	94·9	+158·6	69·1	+164·8
1957-58 ..	31·5	..	36·7	..	26·1	..
4. Top dressing—						
1958-59 ..	91·5	+389·3	91·2	+332·2	91·9	+474·4
1957-58 ..	18·7	..	21·1	..	16·0	..

NOTE—A—% of wheat growers.
B—% increase or decrease.

6-2·22 Knowledge of improved seed had been already widely spread among cultivators in the three districts. Further progress was made in the 1958-59 season as a result of the campaign. On the other hand, there was considerable scope for disseminating the knowledge of seed treatment, basal application and top dressing as less than one third of the cultivators knew these practices. During the 1958-59 season, thanks to the campaign, great progress was achieved in respect of the last two but much less in that of the first item.

6-2·23 The progress differed from district to district, between blocks and non-block areas and in respect of different practices. Knowledge of improved seeds spread from 66% to 100% of the farmers in Bharatpur, and 86% to 91% in Kota. In Sri Ganganagar, it had already reached all farmers prior to the campaign.

6-2·24 None knew seed treatment in Kota and the proportion was pretty low in the two other districts. Some advance was made in the two districts but none at all in the first.

6-2·25 In Kota where a good percentage of farmers had had knowledge of basal application and top-dressing, as well as in the other two districts where the knowledge was shared by limited numbers, good progress was made during the 1958-59 season as a result of the campaign.

6-2·26 There was no scope for extending knowledge of improved seed in the blocks. But in the non-block areas knowledge of the practice increased from 71% to 94% of the farmers. Knowledge of seed treatment and basal application has been more widely spread in the blocks than the non-block areas. The campaign brought about further dissemination of the knowledge in brth the areas, but much more in the latter than the former. Top dressing had been better known in the blocks in the 1957-58 season than in the non-block areas but better progress was reported by cultivators in the latter.

6-2·27 As between the big, medium and small cultivators, the first who had been already more advanced than the last two recorded 100% knowledge of the use of improved seed during the campaign season. The small cultivators had taken to seed treatment, basal application and top dressing in proportionately larger numbers.*

Adoption of campaign items—

6-2·28 Acquisition of knowledge is the first step towards the adoption of a practice. The following table shows the progress made in respect of the adoption of sponsored practices between the rabi seasons of 1957-58 and 1958-59.

TABLE NO. 6-2·7

Adoption of campaign practices

(In percentage of relevant wheat growers)

Campaign practices	Years	Districts					
		Bharat-pur	Kota	Sri Ganga-nagar	All districts	All blocks	All non-block areas
1	2	3	4	5	6	7	8
1. Preparation of soil ..	1958-59	71·6	95·2	24·3	61·7	65·0	58·4
	1957-58	79·4	97·3	27·3	64·6	69·4	59·7
2. Use of improved seed	1958-59	61·1	8·1	81·6	50·4	53·1	47·8
	1957-58	28·0	..	65·5	34·0	33·9	34·1
3. Seed treatment ..	1958-59	53·7	..	8·8	17·7	24·9	10·7
	1957-58	22·4	..	..	6·7	10·6	2·8
4. Line sowing ..	1958-59	100·0	100·0	92·6	97·2	94·4	100·0
	1957-58	100·0	100·0	92·1	96·9	93·9	100·0
5. Basal application ..	1958-59	42·1	4·8	1·5	13·5	26·6	0·6
	1957-58	17·8	..	2·2	6·2	10·6	1·7
6. Irrigation as recommended.	1958-59	56·7	40·0	18·2	31·1	40·7	20·2
	1957-58	65·2	30·8	10·4	28·5	36·0	20·0
7. Top dressing ..	1958-59	3·3	..	41·7	26·9	15·0	40·4
	1957-58	1·5	..	16·3	10·7	9·6	12·0
8. Weeding	1958-59	75·8	..	90·4	84·4	86·7	82·0
	1957-58	70·0	..	89·2	80·9	85·6	75·4
No. of wheat growers ..	1958-59	95	124	136	355	177	178
	1957-58	107	110	139	356	180	176

*See Appendix B Table No. 2·3 (*b*) for statistics.

6-2·29 More than 60 per cent of the relevant cultivators had taken to preparation of soil, line sowing and weeding. There was practically no increase in their adoption in the 1958-59 season. The use of improved seed which had been adopted by 34 per cent of the cultivators in the 1957-58 season, was taken up by another 16 per cent in the 1958-59 season. The proportion irrigating their lands as many times as recommended remained more or less steady at 30 per cent. Seed treatment, basal application of fertilizers and top dressing which had been adopted by less than 10 per cent of the cultivators became more popular; but the levels of adoption were still pretty low.

6-2·30 In Bharatpur and Kota more than 70 per cent of the cultivators had ploughed their land as many times as recommended by the department in both the seasons. In Sri Ganganagar less than 30 per cent of the cultivators did this mainly because about 17 per cent had ploughed their lands with tractors and another 44 per cent had no time as their holdings were large. There was no significant increase in the districts in the proportion of farmers adopting preparation of soil, line sowing and weeding. There was good progress in respect of the remaining practices, *viz.* use of improved seed, seed treatment, basal application of fertilizers and top dressing, as compared with 1957-58. Progress was much better in Bharatpur than in Sri Ganganagar or Kota except in relation to top dressing.

6-2·31 All practices except line sowing and top dressing were more widely adopted in the blocks in the 1958-59 season than the non-block areas; this is true in particular of the use of improved seed, seed treatment and basal application. In top dressing, however, the non-block areas made more progress than the blocks between the two seasons.

6-2·32 Adoption of improved practices was much lower among the small cultivators than the medium and the big, except in respect of two practices, viz. line sowing and weeding. There was, however, little progress in these practices between the two seasons among all the three groups. The numbers in all the three groups reporting preparation of soil decreased slightly. Good progress was recorded in the use of improved seed by all the three groups, though a little more than 50 per cent of the big and the medium cultivators and 46 per cent of the small cultivators were using improved seed. In seed treatment and basal application there was some progress in 1958-59 but they were adopted by less than 20 per cent of the cultivators. In respect of irrigation there was no change in the proportion reporting it among big and medium cultivators but the small cultivators adopting the practice increased from 15 per cent to 25 per cent. In top dressing, progress was recorded by all the three holding groups, particularly by the small and medium cultivators. The big cultivators were however a little ahead of them.*

Adoption due to campaign—

6-2·33 Where a particular practice is already known to some cultivators, its extension among other cultivators becomes a part of the normal process of diffusion of knowledge. The particular effect of a campaign has therefore to be isolated. We have tried to do it by asking the respondents what part of the adoption they would ascribe to the campaign. The following table gives the number of cultivators who attributed the adoption of different practices to the campaign.

* *See* Appendix B, Table No. 2-6(*a*).

TABLE No. 6-2·8

Adoption of practices due to campaign

Campaign practices	Districts					
	Bharatpur	Kota	Sri Ganganagar	All districts	All blocks	All non-block areas
1	2	3	4	5	6	7
1. Preparation of soil	..	..	1 (0·7)	1 (0·3)	1 (0·6)	..
2. Use of improved seed	24 (25·3)	1 (0·8)	2 (1·5)	27 (7·6)	22 (12·4)	5 (2·8)
3. Seed treatment	24 (25·3)	..	7 (5·1)	31 (8·7)	27 (15·3)	4 (2·2)
4. Basal application	31 (32·6)	..	..	31 (8·7)	31 (17·5)	..
5. Irrigation as recommended ..	..	..	2 (1·5)	2 (0·9)	..	2 (2·0)
6. Top dressing	1 (1·7)	..	37 (28·0)	38 (18·0)	9 (7·9)	29 (29·2)
7. Weeding and interculture ..	..	..	3 (2·2)	3 (1·3)	..	3 (2·7)

N. B.—Figures in brackets show the percentages based on relevant wheat growers.

6-2·34 Some of those who said they had adopted a practice in the 1958-59 season on account of the campaign had followed it in the 1957-58 season. Their reason for attributing it to the campaign was that they repeated it in 1958-59 because of the facilities and assistance which the campaign made available. No one attributed to the campaign the adoption of line sowing which was widely used in both the seasons. The proportion of farmers who attributed their adoption of the other seven practices to the campaign, varies from 18 per cent in the case of top dressing to only 1 per cent for soil preparation, irrigation, weeding and interculture.

6-2·35 The contribution of the campaign appears to be significant in Bharatpur alone among the three districts. About 25 per cent of the cultivators reported that they adopted improved seed and seed treatment due to the campaign, and in the case of basal application 33 per cent did so. In Kota campaign had no particular effect on adoption. In Sri Ganganagar it contributed considerably but only to the adoption of top dressing.

6-2·36 The campaign's contribution in the block and non-block areas was reported only in Sri Ganganagar and Bharatpur. The use of top dressing which was attributed to the campaign in Sri Ganganagar district was reported mostly in the non-block area. In Bharatpur, on the other hand, the campaign had more

effect in the block. In Kota only one cultivator in the block reported adoption of improved seed due to campaign. The total adoption due to campaign is so small that it is hardly possible to analyse the impact of the campaign on the three groups of cultivators. However, it seems that while the proportions of the three groups who adopted top dressing due to the campaign are comparable, the adoption of improved seeds, seed treatment and basal application in Bharatpur was confined almost wholly to the small and the medium cultivators.

Area under improved practices—

6-2·37 We have upto now discussed the impact of the campaign in terms of the proportions of cultivators who were influenced by it. From the point of view of measuring its effect on production, it is interesting to estimate the changes in the areas brought under the various improved practices. Area of the wheat crop under different improved practices reported by those who adopted them are given below—

TABLE NO. 6-2·9

Wheat area under campaign practices

(In percentage of relevant wheat area)

Campaign practices	Seasons	All districts	All blocks	All non-block areas
1	2	3	4	5
1. Preparation of soil	1958-59	47·4	50·3	45·6
	1957-58	53·1	50·9	54·5
2. Improved seed	1958-59	48·1	51·5	46·0
	1957-58	38·8	37·9	39·4
3. Line sowing	1958-59	96·1	89·9	100·0
	1957-58	95·4	88·3	100·0
4. Basal application	1958-59	6·4	14·2	1·6
	1957-58	4·6	8·6	2·0
5. Weeding	1958-59	83·1	88·1	79·1
	1957-58	72·2	86·2	59·7
6. Irrigation as many times as recommended	1958-59	18·4	31·3	10·4
	1957-58	15·0	26·5	7·5
7. Top dressing	1958-59	41·3	21·5	53·7
	1957-58	27·3	14·9	35·3

6-2·38 Already high percentages of the wheat area had been sown in lines and weeded in the 1957-58 season. There was not much scope for bringing further areas under them in the 1958-59 season. Under preparation of soil and use of improved seed, the area in the 1957-58 season had been 53 per cent and 39 per cent respectively. In the 1958-59 season the proportion was about 48

per cent for both. The proportion of areas under the remaining practices viz. basal application, irrigation and top dressing had been quite low. In the 1958-59 season only the area covered by top dressing increased significantly.

6-2·39 The picture varies greatly from district to district in respect of 1958-59 season as well as the change since the 1957-58 season. For example, in Kota not a single acre had been under improved seed in the 1957-58 season and only 4 per cent of the area was reported under it in the 1958-59 season. The corresponding area increased from 45 per cent to 70 per cent in Bharatpur and from 67 per cent to 75 per cent in Sri Ganganagar. Significant progress of basal application was reported mainly in Bharatpur. Line sowing was done very widely in the three districts and weeding in Bharatpur and Sri Ganganagar. The area over which preparation of soil was done decreased in Bharatpur and Kota.

6-2·40 In the 1958-59 season proportionately more area was brought under preparation of soil, improved seed, basal application, weeding and irrigation in the blocks than the non-block areas. In line sowing and top dressing, however, the expansion was greater in the non-block areas. The areas under basal application and top dressing were still pretty low in the blocks. In the non-block areas top dressing was adopted over 50 per cent of the area, but basal application on only 2 per cent. Half the wheat land in both areas was still not sown with improved seeds.

6-2·41 The big cultivators used most of the improved practices over larger proportions of the total area sown with wheat than the medium or the small. These two groups, however, made better progress over 1957-58 in respect of some practices at least e.g., improved seeds.

Area due to campaign—

6-2·42 Since the impact of the campaign was mainly in Bharatpur and Sri Ganganagar the areas attributed to the campaign there only merit attention. 12 per cent of the area under wheat brought under improved seed in Bharatpur was attributed to the campaign. Similarly the use of basal application on the same proportion was ascribed to it. In Sri Ganganagar the campaign was credited with the extension of top dressing to 18 per cent of the wheat area.

6-2·43 The campaign had greater effect in extending certain practices over larger areas in the block in Bharatpur but in the non-block area in Sri Ganganagar.

6-2·44 In Bharatpur, the medium cultivators attributed to the campaign the use of improved seeds over larger areas than the small and the big. But the small cultivators reported that they owed the use of top-dressing over a high proportion of their wheat land to the campaign. In Sri Ganganagar the three groups were equally indebted to the campaign for the use of top-dressing.

Reasons for non-adoption—

6-2·45 In the preceding sections, adoption has been defined by reference to the whole or a part of the wheat area of the respondent. We may now deal with the reasons for non-adoption as well as partial adoption. The following table breaks down the total number of wheat cultivators in 1958-59 into three groups viz., those who adopted practices wholly, those who did so on only a part of their wheat area, and those who did not follow the practices at all.

TABLE No. 6-2·10

Adoption and non-adoption of campaign practices

(In per cent age of relevant wheat growers)

Campaign practices	Adopting		Not adopting
	Wholly	Partially	
1	2	3	4
1. Preparation of soil	59·7	2·0	38·3
2. Seed treatment	16·7	1·0	82·3
3. Use of improved seed	42·8	7·6	49·6
4. Line sowing	96·1	1·1	2·8
5. Basal application	11·0	2·5	86·5
6. Irrigation as recommended	30·7	0·5	68·8
7. Top dressing	13·2	13·7	73·1
8. Weeding and interculture	82·7	1·7	15·6

6-2·46 Except in respect of top-dressing, those who adopted improved practices partially are very small in comparison with other groups. That is, if the cultivator is convinced of the value of some practice, he uses it fully for the whole crop; if he is not so convinced, he does not use it at all.

6-2·47 The following table shows the main reasons for total and partial non-adoption of various practices—

TABLE No. 6-2·11

Reasons for total and partial non-adoption

(In per centage of relevant wheat growers)

Reasons	Campaign practices						
	Preparation of soil	Seed treatment	Improved seed	Basal application	Irrigation	Top dressing	Weeding
1	2	3	4	5	6	7	8
1. No time available ..	24·8	..	..	0·8	..	..	..
2. Not needed ..	1·7	0·8	..	16·1	17·0	23·1	14·3
3. No knowledge ..	..	75·8	3·1	18·0	..	8·5	..
4. Lack of water ..	..	..	21·1	13·8	48·1	11·3	..
5. Unfavourable season	2·5	..	..	..	4·2	..	..
6. Lack of supply ..	..	5·6	21·1	13·0	..	6·1	..
7. Not convinced ..	..	0·8	2·9	3·1	..	4·7	1·3
8. Not suitable ..	4·2	0·3	2·5	11·8	..	2·8	..
9. Lack of finance ..	..	..	0·6	6·5	..	28·8	..
10. Desi is better ..	..	..	5·6	..	..	..	..
11. Others*	7·1	..	0·3	5·9	..	2·4	1·7
12. Total	40·3	83·4	57·2	89·0	69·3	87·7	17·3

*Others includes 'reason not given' 'lack of resources', 'difficulty in repayment', 'farm yard manure is sufficient', 'compost and farm yard manure is better', 'experimenting' and 'used tractor.'

Preparation of Soil—

6-2·48 The reasons for non-adoption have been stated in broad terms which the farmers gave in answer to the investigators' question. Their classification is, therefore, very rough. 40 per cent of the wheat growers in the three districts did not plough their lands as many times as recommended by the Agriculture Department, chiefly for the reason that they did not have enough time. These growers belong mostly to Sri Ganganagar, where the rains intervened early in the season. The proportion of non-adopters was somewhat lower among the bigger cultivators, numbers of whom used tractors. A small fraction considered the practice unnecessary.

Improved Seed—

6-2·49 Half the respondents in the sample did not at all use improved wheat seeds and 8 per cent used them only on portions of their wheat lands. About one-fifth of the respondents could not do it because of lack of supply, another one fifth did not do it because they thought improved seeds did well on irrigated lands which they did not have. The proportion of non-users is very high in Kota where most farms are unirrigated too. The complaints about supply were much more frequent in the non-block areas than the blocks.

Seed treatment—

6-2·50 In the three districts together 83 per cent of the wheat cultivators, had not treated their seed, mainly on account of lack of knowledge. This ignorance was 100 per cent in Kota, and 75 per cent in Sri Ganganagar. It was fairly common even among Gram sahayaks.

Basal application of fertilizers—

6-2·51 As we have already seen, only a small percentage of the cultivators adopted basal application of fertilizers. This is true of all three groups of cultivators. The very large fraction who did not do so either did not know about it (as in Bharatpur) or considered it unsuitable for their wheat lands (as in Kota) or did not need it. About one in seven had difficulty in getting fertilizers. There was some but not a great difference between wheat farmers in the block and non-block areas, but many cultivators considered it unsuitable in the former area and did not know about it at all in the latter.

Irrigation as recommended—

6-2·52 A high percentage of the relevant wheat growers especially in Shri Ganganagar did not irrigate their lands as recommended by the Agriculture Department chiefly because of lack of irrigation water. A good proportion did not consider it necessary. The situation was similar among the three groups of cultivators but better in the blocks than in the non-block areas.

Top dressing—

6-2·53 The wheat growers of Rajasthan, except in Sri Ganganagar, seem to have as yet responded little to the propaganda for top dressing. Only a small proportion are ignorant of the practice, most of those who have not used it give lack of finance or not needed as the reason. Non-block areas had a better record than blocks.

Weeding—

6-2·54 The practice was not sponsored in Kota. In the other two districts about 16 per cent of wheat growers had not weeded their farms, the non-adoption being higher in Bharatpur than in Sri Ganganagar. The single important reason reported by almost all the cultivators was that it was not necessary to weed wheat land.

6-2·55 To sum up, the important improved agricultural practices which were not extensively adopted by cultivators were basal application, seed treatment, top dressing, and irrigation in this order. Inadequate supply was given as the important reason in the case of improved seed, lack of supply and finance in that of basal application and top dressing. Knowledge of seed treatment has not yet reached the large majority of the cultivators, a fair proportion of whom do not know what it is. But even among those who have the relevant knowledge about basal application, irrigation as many times as recommended, top dressing and weeding a good percentage did not consider them necessary. This attitude required probing, for it suggests either that the extension effort during the campaign was not adequate or that local conditions or conditions of individual farms were not sufficiently taken into account in recommending certain practices.

III

*Role of Gram Sahayaks**

6-2·56 The State Government decided to hold during the campaign 5 camps in each block of the State to train village leaders. 50 Gram-Sahayaks were, on an average, to be trained at each camp, which was to be held for three days. They were to be so selected as to cover all block villages.

6-2·57 The number of cultivators who were also Gram-Sahayaks in our sample was not adequate. Therefore, 15 more Gram-Sahayaks, 5 each from the three blocks were added. Out of the total of 31 Gram-Sahayaks, 11 came from Bharatpur, 12 from Kota and 8 from Sri Ganganagar. As no training camps were organised in non-block areas, all the Gram-Sahayaks came from the blocks.

6-2·58 Proportionately to the numbers in the farming community, the big cultivators were over-represented in our sample of Gram-Sahayaks while the small cultivators were under represented. Again, there were among the Gram-Sahayaks proportionately more persons who were members of cooperatives and Panchayats than among the non-Gram-Sahayaks. While nearly 40 per cent of the Gram-Sahayaks were represented on the village Panchayats, only 5 per cent of the non-Gram-Sahayaks held this position. The Gram-Sahayaks had thus by and large higher positions, economically and socially than the general body of cultivators. They were also proportionately more associated with village institutions. A very large majority of them were aged 35 years and above, which indicates the importance of age as a factor in the social status of a person in the village.

6-2·59 About half the Gram-Sahayaks were selected for camp training by the V.L.Ws, the others mostly by village institutions. A very small proportion had joined the camps on their own initiative.

* Relevant Tables are in Appendix B.

6-2·60 Practically all the Gram-Sahayaks reported knowledge of the campaign and its purpose. But nearly one-fourth had no idea of their special role. The knowledge of the campaign was still less spread among the general body of villagers. Confining ourselves to the wheat crop only, we found from our sample that all the members of the two groups had knowledge of seed treatment, improved seed, line sowing and weeding. But a higher proportion of Gram-Sahayaks than non-Gram-Sahayaks knew about seed treatment. Knowledge of basal application and top dressing had reached nearly all persons in both the groups. Between the two years, however, the non-Gram Sahayaks made better progress than the Gram-Sahayaks, largely because of the low level from which the former had started. On the other hand, the campaign had greater effect in respect of all improved practices on Gram-Sahayaks than non-Gram Sahayaks; more of the former adopted them as a result of the campaign. The specific impact of the campaign on either group, however, does not seem to have been large except in the case of seed treatment and top dressing among Gram-Sahayaks.

6-2·61 The Gram-Sahayaks had larger proportions of their wheat land under all improved practices except top dressing than non-Gram-Sahayaks in both the seasons. Non-Gram-Sahayaks also seem to have applied the recommended technique of irrigation over much larger proportions of their wheat land than Gram-Sahayaks. As between the two seasons, the proportion of wheat land under improved practices belonging to Gram-Sahayaks increased more than that of the non-Gram-Sahayaks. But, the specific impact of the campaign was very small on both the groups.

6-2·62 Only very small percentages of both Gram-Sahayaks and non-Gram-Sahayaks had taken to the practices partially. Quite large proportions in both groups had not at all adopted certain practices e.g. seed treatment, basal application, top dressing and recommended technique of irrigation. Surprisingly enough, about half the non-Gram-Sahayaks and a third of the Gram Sahayaks were not using improved seed. Most of those who did not use improved seed, complained of lack of water and lack of supply. The non-adoption of seed treatment on the other hand was due mainly to lack of knowledge or lack of conviction specially amongst the non-Gram-Sahayaks. In both groups, again, the unwillingness to adopt basal application and top dressing was due primarily to reported lack of supply and easy credit. Some also complained of insufficient supply of water. Again most of those who did not follow the recommendations of the campaign regarding irrigation, gave lack of adequate water as the chief reason.

6-2·63 On an overall review, it seems that as far as the reasons for non-adoption are concerned there is not much difference between the Gram-Sahayaks and non-Gram-Sahayaks. Of course, the Gram-Sahayaks were less handicapped by lack of knowledge than non-Gram-Sahayaks.

6-2·64 In order to find out to what extent the Gram-Sahayaks had also played their role as agents for the dissemination of improved practices, they were asked to give the names of at least two cultivators whom they had approached with a view to convince them of the value of such practices. Only 60 per cent of the Gram-Sahayaks had done so. The cultivators who according, to the Gram-

Sahayaks were contacted by them were asked to what extent they had adopted improved practices as a result of the efforts of gram Sahayaks. The answers given by those cultivators seem to indicate that only small proportions of them were actually influenced and that too in respect of one or two practices, specially top dressing and weeding.

IV

Output and yield rate of wheat crop

6-2·65 This section deals with data collected in the third round regarding the output and the area on which it was raised. The area given by the respondents in Kota in the third round was slightly different from that given in the earlier rounds. According to the replies of respondents, the yield per acre of wheat in the three districts taken together did not increase between the two years. There was however a small increase in the total area under the crop and this accounts for a slight rise in the total output. The details for the six selected areas in the three districts are given below.

TABLE No. 6-2·12

Wheat cultivators, their area and output

District/Items	Block			Non-block areas		
	1957-58	1958-59	% increase or decrease over the previous season	1957-58	1958-59	% increase or decrease over the previous season
1	2	3	4	5	6	7
1. *Bharatpur*—						
(*a*) No. growing wheat.	65	58	—10·8	42	37	—11·9
(*b*) Area (acres) ..	245·5	207·7	—15·4	150·8	147·8	—2·0
(*c*) Out put (mds.)	3913·5	3031·0	—22·6	1236·5	741·8	—40·0
(*d*) Output per acre (mds.)	15·9	14·6	—8·2	8·2	5·0	—39·0
2. *Kota*—						
(*a*) No. growing wheat.	48	57	+18·8	62	67	+8·1
(*b*) Area (acres) ..	270·8	284·9	+5·2	742·7	752·3	+1·3
(*c*) Output (mds.)	1129·0	1510·5	+33·8	3516·0	3236·0	—8·0
(*d*) Output per acre (mds.)	4·2	5·3	+26·2	4·7	4·3	—8·5
3. *Sri Ganganagar*—						
(*a*) No. growing wheat.	67	62	—7·5	72	74	+2·8
(*b*) Area (acres) ..	553·4	566·9	+2·4	746·7	813·5	+8·9
(*c*) Output (mds.)	5024·0	5706·0	+13·6	10013·0	11203·0	+1·2
(*d*) Output per acre (mds.)	9·1	10·1	+11·0	13·4	13·8	+3·0

The average yield per acre was 9·2 mds. both in the 1958-59 and 1957-58 seasons. There were wide differences among the three districts in the yield per acre. It ranged from 5 mds. in Kota to 15 to 16 mds. in Bharatpur with Sri Ganganagar half way between the two.

6-2·66 Increase in yield per acre of the order of 26 per cent and 11 per cent were recorded by cultivators in the blocks in Kota and Sri Ganganagar respectively. But in Bharatpur, especially, in the non-block area, the yield went down heavily.

Impact of campaign on wheat output—

6-2·67 The respondents who reported their output in the two seasons were also asked to give reasons for the difference if any in the yields. In particular, they were required to comment on the effect of seasonal and natural factors on the one hand and of the campaign on the other.

6-2·68 The following table gives change in total output shared by two groups viz. cultivators influenced and those not influenced by the campaign. The change in output has been given separately for that due to change in area and due to practices. The influence of the seasonal factor has been ignored.

TABLE No. 6-2·13

Increase or decrease in output in 1958-59 over that in 1957-58

District/ Block/Non-block area	Increase (+) or decrease (—) in output (mds.)	Changes in output attributed by							
		Cultivators influenced by the Campaign to				Cultivators not influenced by the Campaign to			
		Area*	%	Practices	%	Area*	%	Practices	%
1	2	3	4	5	6	7	8	9	10
1. *Bharatpur*—									
Block ..	—882·5	86·4	9·8	206·6	23·4	—802·7	—91·0	—372·8	—42·2
Non-block area.	—494·7	31·3	6·3	—35·3	—7·1	—65·8	—13·3	—424·9	—85·9
2. *Kota*—									
Block ..	381·5	11·9	3·1	—9·9	—2·6	50·1	13·1	329·4	86·4
Non-block area.	—280·0	..	..	..	..	45·4	16·2	—325·4	—116·2
3. *Sri Ganganagar*—									
Block ..	682·0	123·6	18·1	22·9	3·4	33·6	4·9	501·9	73·6
Non-block area.	1190·0	515·2	43·3	674·3	56·6	384·8	32·3	—385·3	—32·4

* Calculated at the yield rate in 1957-58.

62·69 None in the non-block area in Kota and only 1 in Kota block were influenced by the campaign. In the remaining block and non-block areas, the cultivators influenced by the campaign had increased their area under wheat

as compared with that in 1957-58. On the other hand, the cultivators not influenced by the campaign in Bharatpur block and non-block area had less area under wheat than that in 1957-58. Similarly in Sri Ganganagar block and non-block areas, those not influenced by the campaign had more area under wheat in the 1958-59 season than in the previous.

6-2·70 It appears that the positive contribution of the campaign was in Bharatpur block and in Sri Ganganagar both in its block and non-block areas. Those who were not influenced by the campaign had not recorded any increase in output except in the blocks in Sri Ganganagar and Kota. In these two areas the contributions to additional output made by those not influenced by the campaign had been significant. And in spite of improved practices adopted due to campaign in the non-block area in Bharatpur, there had been no addition to output; on the other hand, the output had actually declined.

6-2·71 Except in Sri Ganganagar block, the respondents in other selected areas reported that season was extremely unfavourable in the 1958-59 season. The respondents did not indicate how much lower their output would have been if they had not adopted practices due to campaign. In Bharatpur block where the campaign made a positive impact on the yield, the yield rates of the respondents concerned increased from 13·50 mds. to 15·18 mds. per acre*. In the same block those who were not influenced by the campaign had a very high yield in the 1957-58 season, viz. 18·16 mds. per acre. But in the 1958-59 season it had declined mainly because of the seasonal factor to 13·74 mds. per acre. These respondents had reported that season was particularly unfavourable for them. In Sri Ganganagar non-block area where the campaign impact was also significant, the yield rates of the respondents who were influenced by it increased from 12·88 mds. per acre in the 1957-58 season to 14·18 mds. per acre in 1958-59. But the yield rate in the same non-block area of those who were not influenced by the campaign declined from 14·36 mds. per acre in 1957-58 to 13·06 mds. per acre in 1958-59. This was because of the unfavourable season. In both these cases yield rates in the 1957-58 season of those who were not influenced by the campaign were higher than of those who were influenced by it, and in the same seasonal conditions the rates of the former had decreased while those of the latter had increased. The rates of those influenced by the campaign were higher in1958-59 than of those who were not influenced by the campaign. On the other hand, in Sri Ganganagar block the rates of those who were influenced by the campaign were already higher in the 1957-58 season viz. 13·29 mds. per acre and recorded a slight increase to 13·48 mds. But the rates of those who were not influenced by the campaign recorded a much higher increase than them, viz. from 8·01 mds. per acre in the 1957-58 season to 9·14 mds. in 1958-59. Seasonal factor was favourable for both. It appears from this that the yield rate of the cultivators who were influenced by the campaign recorded a slight increase in spite of unfavourable season. But this was partly possible because their yield rates were already low as compared with those not influenced by it. But where the seasonal factor was favourable, and the yield rates of those influenced by the campaign were already higher, increase was not as substantial as that recorded by those who were not influenced by it.

See Appendix B, Table No. 2·9·

CHAPTER VII

CONCLUSIONS

Plan for the campaign—

7·1 The plan for the campaign was drawn up in the month of August. It provided for variations in the campaign items and its intensity according to local conditions. Some of the significant features of the campaign organization were the formation of a committee of the Cabinet for the campaign, the demarcation of the State into different zones, the decision to concentrate on areas of low yields and farmers with comparatively low yield, the adoption of villages by officials and non-servicemen including the members of the Informal Consultative Committee, and preparation of schedule for action. The plan of the campaign also provided for the award of prizes and the holding of crop competitions by the panchayats.

7·2 This plan was however actually carried out in parts as proved later during its execution; it did not turn out to be a practical proposition to work it in all its details. For example, the seed supplied to all the zones was of the same degree of purity or impurity. Again, the areas of low yields did not receive greater attention nor did the VLWs prepare lists of farms with low yields in consultation with the panchayats. In Kota though the campaign was restricted to a part of the district, it had practically no impact, and this is an area of low yields and a low level of agricultural practices. Again, targets were not drawn for evaluating the campaign as was required by the directives. The officials were very active till the sowing of the crops; all adopted villages for intensive work and visited them. But later their enthusiasm flagged or they were caught in the routine of administration. The MPs and the MLAs and other non-servicemen did not play an active role. Some progressive farmers were invited to the district campaign committees in the hope that they would make specific recommendations for the campaign. But this does not seem to have happened in the selected areas. For the first time cooperatives and panchayats were drawn on a large scale into the arrangements for the supply of seeds, fertilizers, etc. to the cultivators. This had a very good effect and the office bearers of these institutions played an important part in spreading the knowledge of the campaign.

7·3 The State Government laid great emphasis on making seeds, fertilizers, implements and loans easily available to the cultivators. Unfortunately, the plans for the supplies were drawn up in the month of August, which was rather late. As a result, in some places they did not reach the cultivators in time. Again, the agricultural officers were sometimes too busy making arrangements for supply to spare time to supervise the operation of the campaign. The officers who adopted the villages in the beginning created the impression that the Government was all out to help cultivators. But the resources of the organization proved unequal to the response provoked; there was an indiscriminate rush of cultivators to get seeds on loan especially as these could be had at lower rates than in the market.

7·4 As a result of the decision to distribute seeds and fertilizers through co-operatives and panchayats, the outlets for distribution increased in the rabi season 1958-59. But the blocks had smaller quantities of seeds for distribution than in 1957-58, while officers had promised cultivators that their entire demand will be met. In some areas seeds were distributed after due treatment. But the respondents in Kota showed complete ignorance of this fact; they had little understanding of the need for treating seeds.

7·5 Camps were organized for Gram Sahayaks to make them the spearheads of the campaign among cultivators. All of them who were contacted during the inquiry reported that they had approached other cultivators with the request to take up the campaign programme. But according to their own report, only a few succeeded. The level of adoption of improved practices was better among them than non-Gram Sahayaks, but it was not distinctly better; about 50 per cent of them had not adopted most of the sponsored practices. In the Panchayat areas, the rabi campaign committees consisted of the Sarpanch, a couple of progressive farmers, the Patwari and the village level worker; but beyond distributing seeds, they did not do much to popularize the drive and sustain its tempo.

Impact of the campaign—

7·6 The campaign had impact in two areas, in Bharatpur block and in Sri Ganganagar non-block area; Bharatpur non-block area and Ganganagar block were also influenced by it but to a smaller degree while in Kota the campaign had no impact at all. Among the crops sponsored for the campaign, the emphasis was mainly on wheat. Barley and gram crops received little special attention. One or two practices sponsored for gram and barley in Bharatpur or Sri Ganganagar were reported to have been adopted to some extent as a result of the campaign. Some cultivators in all the districts reported that the campaign was intended among other things to bring more area under rabi food crops. But the proportion of their area under rabi crops devoted to campaign crops actually declined in 1958-59 as compared with 1957-58.

7·7 A few items of the campaign had been already known and adopted on a wide scale every-where. Their inclusion in the drive did not make much difference. Some of the practices which had been much less popular spread somewhat during the campaign season. But there was still a very wide scope for further dissemination. Relatively to the number of persons who were approached during the campaign, the improvement in the number of those actually adopting various practices and still more those attributing their adoption to the campaign were very meagre. Some of these items are probably not suitable for the campaign effort; they should rather be the concern of long-term extension activity.

7·8 The comparisons made in the report between the different districts, the block and the non-block areas, the three broad holding groups and the Gram-Sahayaks and the non-Gram-Sahayaks do not bring out significant conclusions, except, that in Bharatpur, where the campaign had an appreciable impact, it was more on the small cultivators than the medium or the big.

7·9 The reasons why the cultivators could not adopt sponsored practices for different items were: inadequate supply in the case of improved seed, lack of finance in that of top dressing, and a variety of factors for other practices reflecting in some part, the special problems of individual cultivators or areas. The reasons, 'not needed', 'not suitable', 'unfavourable season', 'time not available', 'not convinced', indicate broadly a lower level of conviction about the sponsored practices. A drive conducted contemporaneously with the progress of the agricultural season has hardly the margin of time in which to influence the farmers' knowledge or conviction.

7·10 Accurate assessment of the impact of the campaign on the yield of wheat is not possible. The information collected from sample cultivators indicates that the campaign had a good impact in Bharatpur. But in both the block and the non-block areas of the district the yield per acre declined in the campaign year. Evidently other factors were more important. The next best impact was in the non-block area of Sri Ganganagar; but there too the yield per acre did not increase significantly. The cultivators in all the areas except Sri Ganganagar block reported that the season was unfavourable for rabi crops.

7·11 The ultimate object of production campaign can be to increase the yield per acre and/or extend the area. Then the plans will have to take into account the yield rates in different areas and the level of adoption of different improved agricultural practices. Probably, the campaign would result in greater yield in areas which have got lower yield rates. The level of yield rates in different areas and the seasonal factor during the period of the drive would decide the relative success or failure of different areas in the campaign and not the absolute increase in output.

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PART IV

RABI CAMPAIGN IN UTTAR PRADESH (1958-59)

CHAPTER VIII

Organisation of the Rabi Campaign in U. P.

Introduction—

8·1 The State of Uttar Pradesh decided to take up the rabi production drive mainly for wheat, gram, barley and pea. These four constitute the most important food crops in the State and cover about 45 per cent of the gross cropped area. Wheat accounts for 18·5 per cent of the area, gram 12·9 per cent, barley 9·6 per cent, and pea 3·8 per cent. Again the areas under the first three crops in U. P. form 31·2 per cent, 27·1 per cent and 57·3 per cent respectively of the cropped areas under them in the country as a whole. The output of wheat in U. P. forms 33·7 per cent of that in the country and corresponding proportions for gram and barley are 26·2 per cent and 55·8 per cent respectivley. For pea, data for the cropped area in the country is not available.

The campaign: crops and practices—

8·2 The State Government had taken up Kharif Campaign in 1958-59, and as the experience was encouraging, it decided to organize on the basis of selected agricultural practices, a campaign every season during the remaining period of the Second Five-Year Plan. It drew up plans for the campaign in June 1958. Though it was confined mainly to wheat, gram, barley and pea, rabi oil seeds were also included in Bundelkhand and Tarai. The Government suggested a long list of campaign items for these crops and different areas were to pick out those which they considered suitable. The campaign items were, however, to be regarded as in addition to the general measures of improvement such as medh bundi (water channels), preservation and utilization of cattle urine, composting of weeds, construction of guls (field bunding) through shramdan, construction of masonry wells etc., which are relevant for all crops.

8·3 For the wheat crop the government recommended, among other agricultural practices, the U. P. method of wheat cultivation. The method is, however, not a single agricultural practice; it combines three main practices plus some ten or so minor practices. The three main practices are the use of improved seed, line sowing and application of chemical fertilizers. Broadly speaking, the improved practices in the drive were proper preparation of the soil before sowing, use of improved seed, line sowing, basal application and top dressing of fertilizers, adequate irrigation, weeding and interculture and rogueing.

8·4 Most of the improved practices are relevant to the first phase of cultivation including sowing. The post-sowing operations are irrigation after the seedlings grow up, top dressing, weeding and interculture and rogueing. Plant protection including deratting, seed selection and proper storage after preliminary treatment, though very important practices, were sponsored items of the campaign in only a few areas.

Organisation of the campaign—

8·5 The Government decided to utilize the existing resources in personnel and supplies as fully as possible for the campaign. With this object in view, it decided to build up organizations at different levels and to train officers, village level workers and Gram-Sahayaks. The Chief Minister issued a letter on the 25th September, 1958 to the members of the Legislative Assembly asking them to take active part in the campaign and help mobilize voluntary organizations.

8·6 The State Coordination Committee which considers subjects relating to the development programme of the State worked as the Campaign Action Committee. Similar committees were formed at the divisional, district, block, non-block and village levels. These consisted mainly of officers of various departments including the Irrigation, Panchayat and Cane Development Departments. The Committees were to formulate targets, arrange supplies, ensure timely irrigation and convey to higher officers the difficulties they might meet with in carrying out the programme. The members of the committees were also to make surprise checks, review the progress and generally evaluate the campaign and study its impact on the farmers. The representatives of the Irrigation Department in the committees were to solve local difficulties of irrigation. The committees were to meet at least once a fortnight, but the officers of the Agriculture, Planning and Irrigation Departments were to meet as often as necessary in order to remain in constant touch with the drive.

8·7 In all these action committees, however, non-servicemen to whom a special appeal was made by the Chief Minister were not the leaders. In the districts and blocks, the development committees which included non-servicemen discussed and approved rabi campaign targets. In the non-block areas there were no development committees and their action committees included two representatives of Farmers' Forum. In the villages, action committees consisted of Gram Pradhan, Sarpanch of the cooperative society, 3 or 4 progressive farmers, Thokdar of the Irrigation Department and/or the tubewell operator.

Supplies and finance—

8·8 The various committees drew up their targets and decided to increase supply and distribution outlets to achieve them. Villages were allotted to the stores of the Agriculture Department, cooperative unions and the cane development unions. These were to cater for the needs of the villagers. Where the number was inadequate, new stores were opened. The cane development unions were given seeds and fertilizers for the rabi crops and instructed to distribute them among their members. The cooperative unions were required to sell all types of fertilizers and not only Ammonium Sulphate as before. It was suggested that B.D.Os. could on their personal responsibility advance a few bags of fertilizers on credit to the Sabhapatis of the villages for distribution among cultivators. Taccavi for fertilizers was restricted to Rs. 40 only for each cultivator, so that a larger number could be covered by the fund available for allotment. The procedure for advancing taccavi was also simplified; village level workers collected applications and B.D.Os got them verified by Tehsildars. Permits for the purchase of fertilizers were issued in the villages.

8·9 According to information that became available towards the end of the season, the distribution of chemical fertilizers for rabi crops alone in the State increased from 36,269 tons in 1957-58 to 52,466 tons or by 44·7 per cent in 1958-59. Ammonium Sulphate formed 70 per cent of the total, whereas it was 84 per cent in the previous year. Consumption of Ammonium Sulphate Nitrate and Superphosphate increased considerably. The increased consumption of fertilizers was facilitated by liberal distribution of taccavi loans. The amount of money distributed as taccavi loans increased from Rs. 46·1 lakhs in 1957-58 to 150 lakhs or 225·4 per cent more in 1958-59.

8·10 Although there was a general scarcity of pedigree seeds in the State, the amount distributed increased from 28 lakh tons in the rabi season of 1957-58 to 39 lakh tons or 39 per cent more in 1958-59. The distribution outlets belonging to Agriculture and Cooperative Departments were also increased from 1,696 in 1957-58 to 2,137 in 1958-59 or by 26 per cent.

CHAPTER IX

Evaluation of the Campaign

I

Evaluation of Organization and Administration

Selection of areas—

9-1·1 The three districts selected for study in U. P. were Muzaffarnagar, Rae-Bareli and Deoria. The particulars of the sample are given in the table below—

Table No. 9-1·1

Particulars of the sample

District	Block	No. of villages	No. of respondents	Non-block area	No. of villages	No. of respondents
1	2	3	4	5	6	7
Muzaffarnagar ..	Kairana ..	5	75	Muzaffarnagar ..	5	75
Rae-Bareli ..	Harchandpur	5	75	Rahi ..	5	75
Deoria ..	Hata ..	5	75	Pather-Deva ..	5	75

Total No. of villages—30
Total No. of respondents—450

Selection of items—

9-1·2 The crops and the improved practices recommended for them and selected for evaluation in the three districts are given below—

Table No. 9-1·2

Improved practices selected for evaluation

Crop	Practices
1. Wheat	1. Preparation of soil.
	2. Use of improved seed
	3. Line sowing
	4. Dibbler sowing
	5. Basal application
	6. Irrigation as recommended
	7. Top dressing
	8. Weeding and interculture
	9. Rogueing

TABLE No. 9-1·2—*contd.*

Crop	Practices
2. Barley	1. Preparation of soil
	2. Use of improved seed
	3. Line sowing
	4. Basal application
	5. Irrigation as recommended
	6. Top dressing
	7. Weeding and interculture
	8. Rogueing
3. Pea	1. Preparation of soil
	2. Use of improved seed
	3. Line sowing
	4. Basal application*
	5. Irrigation as recommended‡
	6. Weeding†
4. Gram	1. Preparation of soil
	2. Use of improved seed
	3. Line sowing
	4. Basal application*
	5. Weeding†
	6. Irrigation§

*Basal application was an item in Deoria district only.

†Weeding was an item in the non-block area of Deoria district only.

‡Irrigation as recommended was not an item in Muzaffarnagar.

§Irrigation was recommended for gram in Deoria only.

9-1·3 There were no differences between the practices recommended in the three districts for wheat and barley except that dibbler sowing was recommended for wheat only. The practices were different for pea and gram. In Muzaffarnagar, the district agriculture office had not recommended irrigation for pea as in Rae-Bareli and Deoria. In Deoria, basal application was recommended for both the crops and weeding also in its non-block area only. Irrigation was recommended for gram in Deoria only.

Organization in the selected areas—

9-1·4 In the selected districts, action committees were set up as directed by the State Government. The committees at district, block and non-block levels comprised mainly of officials. The committees met formally at the beginning of the

rabi campaign but as the season advanced, the meetings became more and more informal and less and less frequent. In all the districts, the committees met twice during the first phase of the drive when the targets were drawn up. But while in Deoria the committee met once during the maturing stage of the crop to discuss irrigation problems, there were no meetings in the other two districts. No meeting was held during the third phase in any of the selected districts. One meeting which was held in Rae-Bareli discussed the kharif campaign of 1959-60.

9-1·5 The action committees of selected blocks met quite frequently during the first phase of the campaign. Meetings were less frequent later. Three meetings were held in Harchandpur after the sowing period and two each in Kairana and Hata. In the non-block areas, the committees did not function as efficiently as in the blocks. The sub-divisional officers who were to supervise the campaign there could not take active interest. The Panchayat Inspectors were Chairmen of the Action Committees in Rahi and Pather Deva and the Agriculture Inspector in Muzaffarnagar non-block area. After the sowing of the crops, the action committees in the non-block areas became moribund, as the officers had to look after their departmental activities.

9-1·6 Action committees were formed in only 10 villages selected in Muzaffarnagar and Deoria blocks, but not in the remaining 20 selected villages. Even in these 10 villages the committees discussed the campaign items during the sowing and maturing stages of the crops but held no meetings thereafter.

9-1·7 The programme of the campaign was, however, discussed by the Gram Sabhas in all the 15 selected villages of the blocks and by 10 in the non-block areas. In these 25 villages the Sabhas passed resolutions accepting the campaign items and exhorting the cultivators to adopt them. Only in the block villages the VLWs and the Gram-sahayaks took the pledge from the cultivators that they would adopt the items. In all 91 cultivators out of 225 in the blocks or 40 per cent took such pledges. In Muzaffarnagar block 63 per cent of the respondents gave the pledge. In Rae-Bareli and Deoria, corresponding percentages were 33·3 and 25·3 respectively. Among the big cultivators, 74 per cent took the pledge, whereas 41 per cent of medium cultivators and 29 per cent of small cultivators did so.

9-1·8 The Gram Sabhas and Gram-Sahayaks in the villages were active in the campaign till the crops were sown. Thereafter the activities of both the officials and the people lost their campaign character. The effect of this fluctuation in the tempo of the campaign is seen in the fact that while 71·8 per cent knew about agricultural practices of the first phase including sowing operations, only 58·7 per cent and 44·9 per cent knew the practices relating to the maturing and harvesting operations of the campaign respectively. In all 77·6 per cent of the cultivators knew the campaign and one or more of its items.

9-1·9 As between blocks and non-block areas, the campaign was on the whole well organized in the former but weak in the latter. Steps to form action committees, brief Gram-Sahayaks to follow up their activities in the villages, to secure pledges from the cultivators and finally to check these arrangements by surprise

visits were successfully taken in the blocks. But in the non-block areas, the sub-divisional officers and other personnel could not manage this elaborate organizational programme. As a result, while hundred per cent of the respondents in the blocks knew one or more of the campaign items, only 55 per cent knew them in the non-block areas. In the blocks, 95 per cent of the sample cultivators were contacted by servicemen for the campaign; in the non-block areas the proportion was 32 per cent.

9-1·10 Among those who knew about the campaign, 85·1 per cent reported servicemen as the agency for its propaganda and initiative, 8 per cent reported that non-servicemen informed them of the campaign and 6·9 per cent reported that both servicemen and non-servicemen were responsible for their knowledge of the campaign. In the blocks, 90·2 per cent knew it from servicemen, 1·3 per cent from non-servicemen and 8·4 per cent from both servicemen and non-servicemen. In the non-block areas, the corresponding proportions were 75·8 per cent, 20·2 per cent and 4 per cent respectively. Whereas the servicemen included mainly the Gram Sevaks, B.D.Os. and their staff in the blocks and Panchayat Inspectors and Panchayat Secretaries in the non-block areas, the non-servicemen were only Sabhapaties and Gram-Sahayaks. Among those who had knowledge of the campaign from non-servicemen, none had it from an M.P., M.L.A. or the member of Bharat Sevak Samaj.

Organisation of supplies and finance—

9-1·11 Distribution outlets in Muzaffarnagar and Deoria districts were increased in the rabi season of 1958-59. In Deoria there were already as many as 58 seed stores and 70 fertilizer distribution outlets in the previous season. In Muzaffarnagar only 10 stores looked after the distribution of both the seeds and fertilizers. In the current season 1958-59, distribution outlets were increased to 23 in Muzaffarnagar and 84 for seeds and 118 for fertilizers in Deoria. Similar data was not available for Rae-Bareli. Fuller details are given in the Appendix C, Table No. 3·26(*c*).

9-1·12 The distribution of seeds in the three districts taken together increased from 1,20,623 mds. in 1957-58 to 1,90,046 mds. in 1958-59 or by 57·5 per cent and that of fertilizers from 77,712 mds. in 1957-58 to 1,28,677 mds. in 1958-59 or by 65·6 per cent. In the previous season larger quantities of seeds and fertilizers were distributed in Muzaffarnagar district than in Deoria or Rae-Bareli. The largest increase over the previous season in respect of both seeds and fertilizers was however, recorded in Deoria district. In the blocks of these districts in both the years, more seed was distributed in Kairana in Muzaffarnagar but more fertilizers in Hata in Deoria than the two remaining blocks. The progress over the previous year in respect of both seeds and fertilizers was recorded best by Kairana. All the blocks together showed an increase of 33·1 per cent in the quantity of seeds distributed and 58·4 per cent in that of fertilizers. In the non-block areas quantity of seed distributed in the 1958-59 season was 21·8 per cent more than in the previous year, but there was a decrease of 40·5 per cent in the quantity of fertilizers distributed.*

* Details are given in Appendix C, Table No. 3·26.

9-1·13 Though the amount of seeds and fertilizers distributed in the 1958-59 and 1957-58 seasons in Muzaffarnagar non-block area exceeded the quantity in the other two non-block areas, significant increases over the previous year were reported in the non-block areas of Deoria & Rae-Bareli. Fertilizers were not used at all in the non-block area of Deoria as there was no distribution outlet in 1957-58; in 1958-59 as a result of one store newly started 1,093 mds. of fertilizers were distributed. In Muzaffarnagar non-block area, there was a decrease to the extent of 67 per cent in the distribution of fertilizers in 1958-59 as compared with 1957-58.

9-1·14 In the three districts together, whereas only Rs. 2·36 lakhs were distributed as taccavi loans in 1957-58, in 1958-59 about Rs. 11 lakhs were given as taccavi loan. The amount increased by about six times in Deoria and five times in Muzaffarnagar, but only by 60 per cent in Rae-Bareli district.

9-1·15 The cultivators required seeds for wheat, gram, barley and pea. Taking all these crops together and counting the respondents in block and non-block areas for each crop separately, 41·4 per cent had used improved seeds in 1957-58 and 53·4 per cent in 1958-59. In 1957-58, 18·2 per cent of the respondents had obtained their requirements through institutional agencies like the agricultural seed stores and the cooperative society. In 1958-59, the corresponding proportion was 35 per cent.

9-1·16 Improved seeds were more extensively used in 1957-58 and 1958-59 in the blocks than in the non-block areas. In the blocks 51·7 per cent and 68·3 per cent of the respondents, counting them for each crop separately, had used improved seeds in 1957-58 and 1958-59 respectively. The corresponding figures for non-block areas were 29·5 per cent and 37·3 per cent in 1957-58 and 1958-59 respectively. In the blocks, in 1957-58, 27·4 per cent of the respondents had obtained their seed requirements from the stores; in 1958-59 the corresponding proportion was 50·1 per cent. In the non-block areas, in 1958-59, 19·0 per cent of the respondents took advantage of the institutional agencies as against 8·6 per cent in the previous season.

9-1·17 Almost all those who obtained seeds from institutional agencies reported that these were adequate, and of good quality and were received in time. But 47 per cent of the respondents in the three districts, counting them for each crop separately, did not use improved seeds in 1958-59. And 28 per cent complained that the supplies were not available. This would seem to suggest that further improvement of arrangements for supply alone would push up the use of improved seed by 28 per cent at least.

9-1·18 As between the block and non-block areas, 20·3 per cent of the respondents complained of the lack of supplies in the blocks while the proportion in the non-block areas was 36·3 per cent. The arrangements for supplies made during the campaign undoubtedly helped more cultivators to obtain improved seeds in 1958-59 than in 1957-58. However, the use of improved seed could have been extended further by 20·3 per cent in the blocks and 36·3 per cent in the non-block areas, if the arrangements of supplies alone had been more adequate.

9-1·19 Fertilizers are required for basal application and top dressing. Counting each use for different crops separately and with reference to relevant conditions, 6·5 per cent of the cultivators in 1957-58 applied chemical fertilizers as compared with 27 per cent in 1958-59. In 1957-58, 4·4 per cent of the respondents had obtained fertilizers through institutional agencies like the agriculture seed store, cooperative society and cane union seed stores. In 1958-59, the corresponding proportion was 26·1 per cent.

9-1·20 In the blocks, counting them for each crop and each use separately, 6·3 per cent and 36·8 per cent of the cultivators used chemical fertilizers in 1957-58 and 1958-59 respectively. In the non-block areas, the corresponding proportions were 6·7 per cent and 16·5 per cent. In the blocks, 4·0 per cent of the trespondents had obtained fertilizers from institutional agencies in 1957-58 and 36 per cent did so in 1958-59. The corresponding proportions in the non-block areas were 5·9 per cent and 15·2 per cent in 1957-58 and 1958-59 respectively.

9-1·21 Almost all those who got fertilizers from institutional agencies reported that supply was adequate and timely. In 1958-59, 72·9 per cent of the sample respondents in the three districts, counting them for each crop and each use separately, had not used chemical fertilizers. 19·7 per cent did not use because they had no knowledge, 11·8 per cent reported that fertilizers were not available and the remaining reported other reasons. This shows that adequate supply would have ensured about 12 per cent increase in the use of fertilizers. However, unlike improved seeds, greater improvement in the use of fertilizers in future would depend more on extension education and other conditions than on the arrangements for their supplies alone.

9-1·22 As between blocks and non-block areas, 8·6 per cent of the respondents complained of the lack of supplies of fertilizers in the blocks while the corresponding proportion in the non-block areas was 15·3 per cent. In the non-block areas, arrangements for supplies were weaker than in the blocks. Improvement in the supplies alone would have increased the use of chemical fertilizers twice as much in the non-block areas as in the blocks.

II

Impact of the Campaign on Sample Cultivators

'A'—Wheat

9·2·1 The items selected for the evaluation of the campaign for the wheat crop were : (1) preparation of soil, (2) use of improved seed, (3) sowing in lines, (4) sowing by dibbler method, (5) basal application of fertilizers, (6) irrigation as many times as recommended, (7) top dressing, (8) weeding and interculture, and (9) rogueing.

9-2·2 All these items, however, were not, or could not be applied extensively. The dibbler method was suggested primarily for seed multiplication and seed self-sufficiency. Generally speaking, top dressing was not recommended for unirrigated areas. The rains in October, 1958 and subsequent water-logging of the lands modified the content of the campaign in certain areas where, as a consequence, line sowing and dibbler sowing were not insisted upon. Finally, there was not enough improved seed for unrestricted distribution.

Wheat cultivators in the sample—

9-2·3 The following table shows the wheat cultivators in the sample and their area under wheat:—

TABLE NO. 9-2·1

Wheat cultivators and their area

Growers Area	1957-58	1958-59	Percentage increase or decrease
1	2	3	4
1. No. of cultivators growing wheat ..	425	420	— 1·2
2. Area under wheat (in acres)	774	874	+12·9
3. No. having irrigated wheat	406	407	+ 0·2
4. Area under irrigated wheat (in acres)	644	705	+ 9·5

9-2·4 In a sample of 450 cultivators, there were 420 wheat growers in 1958-59 as against 425 in 1957-58. They grew wheat over an aggregate of 874 acres of which 705 acres or 80·7 per cent were irrigated. The total area devoted to wheat in 1957-58 was 774 acres out of which 644 acres or 83·2 per cent were irrigated.

Knowledge of improved practices—

9-2·5 In 1957-58, almost all wheat cultivators had knowledge of preparation of soil, use of improved seed, irrigation as many times as recommended and weeding. In the case of other practices, however, there was varying scope for disseminating knowledge in 1958-59. The following table shows the extent of knowledge about these practices in 1957-58 and 1958-59.

TABLE NO. 9-2·2

Knowledge of campaign practices

(In percentage of wheat growers)

Campaign practices	1957-58	1958-59
1	2	3
1. Sowing by dibbler method	*Nil*	56·4
2. Line sowing	90·1	100·0
3. Basal application of fertilizers	70·4	86·7
4. Top dressing	59·4	88·9
5. Rogueing	12·7	40·5

9-2·6 Sowing by dibbler method afforded the largest scope for disseminating knowledge among the cultivators as none reported its knowledge in 1957-58. The progress made also was the greatest. Second in order of scope and progress was rogueing; it had been known to only 12·7% of the cultivators in 1957-58 and its knowledge reached 40·5% of the cultivators in 1958-59. The progress in knowledge of the improved practices, though varying in extent, was mainly due to the campaign.

Knowledge of practices by areas and groups—

9-2·7 The Appendix C, Table No. 3·3 gives the statistics regarding the extent of knowledge in the individual districts, in the block and non-block areas, and separately for the three broad holding groups. The knowledge of

different practices in 1957-58 and 1958-59 had been better on the whole in Rae-Bareli than in the other two districts. Deoria where the farmers have rather a lower level of knowledge in 1957-58 than the other two districts recorded a significant improvement in 1958-59.

9-2·8 In the blocks, the position at the beginning of the campaign was not much different from that in the non-block areas. In both the areas, there was considerable scope for disseminating knowledge about top dressing and rogueing. During the campaign, however, more cultivators in the blocks received knowledge of improved practices than in the non-block areas. For example, about 78% of the cultivators in the blocks obtained knowledge of dibbler sowing as against 33% in the non-block areas. 65% of the cultivators in the blocks reported knowledge of rogueing in 1958-59 whereas the proportion in the non-block areas was 13%.

9-2·9 Among the big, medium and small cultivators in all the areas together, there had not been very significant difference in the knowledge about these five improved practices. The big cultivators in general, however, were slightly better than the medium cultivators in respect of some practices, and similarly the medium were better than the small. In the rabi season of 1958-59 also, small cultivators were not far behind the medium or the big cultivators in their knowledge about improved practices. The knowledge of basal application in the rabi season of 1957-58 was more wide spread among the small cultivators than the medium and the big farmers. In 1958-59, the knowledge of this practice was only slightly better among the small cultivators than the other two groups.

Adoption of campaign practices—

9-2·10 The central objective of the campaign was, of course, to induce the cultivator to adopt improved practices. The following table shows the extent to which this goal was achieved.

TABLE NO. 9-2·3

Adoptoin of campaign practices

(In percentage of relevant wheat growers)

Campaign practices	1957-58	1958-59
1	2	3
1. Preparation of soil	45·9	52·9
2. Improved seed	69·4	81·7
3. Line sowing	67·8	81·9
4. Dibbler sowing	Nil	13·8
5. Basal application of fertilizers	4·0	38·6
6. Irrigation as recommended	69·0	24·6
7. Top dressing	14·5	34·8
8. Weeding and interculture	22·1	34·8
9. Rogueing	6·1	8·1

9-2·11 The figures in column (2) indicate broadly the varying scope for progress in relation to the different practices recommended by the campaign. Improved seed, line sowing and irrigation as recommended had been adopted by about 70% of the cultivators in 1957-58. On the other hand, cultivators reporting adoption of preparation of soil, weeding and interculture and top dressing were respectively 46%, 22% and 15% in 1957-58. Dibbler sowing had not been reported by any cultivator in the sample in 1957-58, basal application by only 4% and rogueing by 6%; these practices particularly offered greatest scope for extension in 1958-59.

9-2·12 About 82% of the wheat cultivators had used improved seed in 1958-59 and sown it in lines. About 53% had prepared their soil by ploughing it as many times as recommended by the Agriculture Department. But only 30 to 40% of the cultivators followed the instructions regarding basal application of fertilizers, top dressing and weeding and interculture. In basal application the progress made in the year 1958-59 was considerable, from 4% in 1957-58 to 39% in 1958-59. The department had recommended 2 to 3 irrigations for the wheat crop. But heavy rains in 1958-59 had reduced the need for artificial irrigation of fields. However, 25% of the cultivators irrigated their lands under wheat the recommended number of times. In dibbler sowing and rogueing the cultivators had just made a beginning; 14% and 8% of the cultivators adopted these practices respectively in 1958-59.

9-2·13 As compared with the 1957-58 rabi season, all improved practices were more widely adopted in 1958-59. But the progress made varied widely from practice to practice. In basal application of fertilizers, dibbler sowing, top dressing and weeding and interculture the scope for extension was considerable and the progress made encouraging. But 60 to 85% of the cultivators still did not use them. In rogueing the scope for extension was equally large but the progress made was poor and 92% remained unaffected. These five practices, viz. basal application of fertilizers, dibbler sowing, top dressing, weeding and interculture, and rogueing promise greater scope for extension in future campaigns.

9-2·14 In the use of improved seed and line sowing though the scope for extension was limited, good progress was made in 1958-59 season which inspires confidence that these practices would be followed by all cultivators in the near future.

9-2·15 In the preparation of soil by ploughing it as many times as recommended by the department, it is rather difficult to indicate the scope for extension and hence the progress made, as this depends on the season, resources of the cultivators and the soil conditions of each field. Similarly in irrigation, the season chiefly determines its need and scope for extension of the practice as recommended by the department.

*Adoption of practices by areas and holding groups**—

9-2·16 In the rabi season of 1958-59, adoption of all the practices improved in each of the three districts. Preparation of soil as recommended was reported in Rae-Bareli by 3% in 1957-58 season and 8% in the year 1958-59. Dibbler

*For details see Appendix C, Table No. 3·4.

sowing and rogueing continued to be followed by less than 10% in Rae-Bareli and Deoria. Weeding and interculture was another practice in Rae-Bareli, which was not followed by more than 20%. In the case of improved seed and line sowing between 63% to 83% of the cultivators in Rae-Bareli and Deoria and above 95% in Muzaffarnagar reported their adoption in the rabi season of 1958-59.

9-2·17 For most of the practices the level of adoption in the blocks was higher than in the non-block areas. All the progress in the adoption of dibbler sowing and rogueing was concentrated in the blocks.

9-2·18 The big cultivators continued to be better in the adoption of improved practices than the medium and the medium better than the small cultivators. The progress made by the small cultivators was particularly significant in the case of line sowing, basal application and top dressing.

Impact of the campaign on adoption of improved practices—

9-2·19 These changes in the adoption of improved practices were not, however, due to the present campaign alone; other factors too were in part responsible. In order to assess, as far as possible, the impact of the campaign, the cultivators who adopted improved practices in 1958-59 were asked whether they would attribute their action to the campaign or not. Their answers are tabulated below—

TABLE NO. 9-2·4

Adoption of practices due to campaign

Campaign practices	Total adoption during 1958-59		Adoption ascribed to the campaign	
	No.	% of growers	No.	% of growers
1	2	3	4	5
1. Preparation of soil	222	52·9	..	..
2. Improved seed	343	81·7	38	9·0
3. Line sowing	344	81·9	50	11·9
4. Dibbler sowing	58	13·8	58	13·8
5. Basal application	162	38·6	144	34·3
6. Irrigation	100	24·6	..	..
7. Top dressing	142	34·8	80	19·7
8. Weeding and interculture	146	34·8	47	11·9
9. Rogueing	34	8·1	8	1·9

9-2·20 The above table shows that there was no adoption due to campaign for preparation of soil and irrigation but nearly all the adoption of dibbler sowing and basal application and about 60% of that of top dressing was attributed to the campaign. Similarly, about 12% of the wheat growers attributed adoption of line sowing and weeding to campaign and 9% used improved seed also due to campaign. The adoption of rogueing due to campaign was only in Muzaffarnagar block and that of improved seed in Rae-Bareli and Deoria only. The adoption of line sowing and basal application due to campaign was reported by a higher proportion of wheat growers in Deoria than in the other districts and that of dibbler sowing and top dressing better in Muzaffarnagar. The adoption due to campaign was by and large the best in Deoria and the lowest in Rae-Bareli. It was on the whole reported by a higher proportion of wheat growers in the blocks than in the non-block areas.*

9-2·21 Line sowing alone was adopted due to campaign by a larger proportion of small cultivators (17%) than the medium (9%) and big (7%) cultivators. Almost all other practices viz. dibbler sowing, basal application, top dressing, weeding and r gueing were adopted by a higher proportion of big cultivators than the medium and the small.

Area under improved practices—

9-2·22 There is a further yard-stick by which the impact of the campaign can be measured. We have gauged it by reference to the proportion of cultivators influenced by it; its effect can also be judged in terms of the area covered by the improved practices recommended. In 1958-59 season 874 acres or 13 per cent more area had been sown under wheat as against 774 acres in 1957-58. It is not possible, however, to attribute this increase in area to the campaign; it was largely due to seasonal factors. The campaign had, however, considerable influence on the proportions of the total area to which improved practices were applied. The areas covered by some items, details about which could be collected, are given below—

TABLE No. 9-2·5

Wheat area under some campaign practices

(In percentage of relevant wheat area)

Campaign practices	1957-58	1958-59
1	2	3
1. Use of improved seed	78·5	88·5
2. Line sowing	78·2	88·8
3. Basal application of fertilizers	4·9	31·1
4. Top dressing	17·2	37·6
5. Weeding and interculture	25·4	27·2

* *See* Appendix C, Table No 3·5 for adoption due to campaign in different districts, blocks and non-block areas and in the three broad holding groups.

9-2·23 Nearly 89% of the area under wheat had the benefit of improved seeds and line sowing as compared with 78% in 1957-58. Much greater progress was made in respect of basal application of fertilizers and top dressing though these practices were applied to only 31% and 38% respectively of the area under the crop in the 1958-59 season.

*Adoption of practices by areas and holding groups**—

9-2·24 Broadly the changes in areas under improved practices in two years correspond to the changes in the number of cultivators reporting the practices. There were few exceptions to this here and there. The proportion of the wheat area under weeding declined in the 1958-59 season in Muzaffarnagar though the proportion adopting the practice had increased. In basal application, the small cultivators registered a marked increase in area from 2% in the 1957-58 season to 58% in 1958-59. On the other hand though quite a larger proportion of big cultivators adopted the practice in the 1958-59 season than that in 1957-58, the area under the practice had not increased as significantly.

Area under practices attributed to the campaign—

9-2·25 Whether the increase in area under improved practices was due to campaign or not, is given in the table below :—

TABLE NO. 9-2·6

Wheat area under practices attributed to the campaign

(In acres)

* Campaign practices	Area in Rabi 1958-59	% of relevant wheat area	Area attributed to campaign	% of relevant wheat area
1	2	3	4	5
1. Improved seed	773·3	88·5	30·5	3·5
2. Line sowing	776·0	88·8	66·5	7·6
3. Basal application	271·9	31·1	236·1	27·0
4. Top dressing	264·9	37·6	153·7	21·8
5. Weeding and interculture	237·6	27·2	65·0	7·4

9-2·26 The area under improved seed, line sowing and weeding attributed to the campaign was not significant. It appears from table 9-2·4 that though some cultivators adopted the practices due to campaign they brought small areas of their wheat holdings under them. On the other hand almost all the area reported under basal application and a large proportion under top dressing were attributed to the campaign.

* For details *see* Appendix C, Table No. 3·6.

9-2·27 Areas under improved practices attributed to campaign in different districts, blocks, non-block areas and in the three broad holding groups have been given in Appendix 'C', Table No. 3·7. Among the three districts, a larger proportion of area under top dressing was attributed to the campaign in Muzaffarnagar than in the other districts. The impact of the campaign on the area under improved seed was best in Rae-Bareli. For other practices, except top dressing, areas under them attributed to the campaign were proportionately more in Deoria than in other districts. Much higher percentage of wheat area in the blocks was reported under improved practices due to campaign than in the non-block areas. A higher proportion of area under top-dressing was reported under it due to campaign by the big cultivators than the medium and by the medium than the small ones. For line-sowing and weeding, the small cultivators reported higher proportion due to campaign than the other two groups.

Reasons for non-adoption of practices—

9-2·28 The account given so far has been confined to the adoption of practices. An attempt will now be made to show the extent of partial adoption of practices and to discuss the reasons for partial adoption and total non-adoption.

TABLE NO. 9-2·7

Adoption and non-adoption of campaign practices

(In percentage of relevant wheat growers)

Campaign practices	Adopting		Not adopting
	Wholly	Partially	
1	2	3	4
1. Preparation of soil	52·9	..	47·1
2. Improved seed	74·5	7·2	18·3
3. Line sowing	74·5	7·4	18·1
4. Basal application	27·4	11·2	61·4
5. Irrigation	24·6	..	75·4
6. Top dressing	26·0	8·8	65·1
7. Weeding and interculture	21·4	13·4	65·2

9-2·29 None reported preparation of soil and irrigation as recommended on part of his wheat area. Cultivators had either adopted these practices wholly or not at all. For other practices, the proportion of cultivators reporting partial adoption varied from 7% to 13%.

9-2·30 The reasons for partial adoption have been considered along with complete non-adoption in the following table :—

TABLE No. 9-2·8

Reasons for total and partial non-adoption

(In percentage of relevant wheat growers)

Reasons	Campaign practices						
	Preparation of soil	Improved seed	Line sowing	Basal application	Irrigation	Top dressing	Weeding & interculture
1	2	3	4	5	6	7	8
1. Lack of equipment ..	5·7	..	..	..	..	..	..
2. Lack of time ..	37·4	..	5·2	..	0·5	..	9·5
3. Heavy rains ..	1·9	..	0·2	..	74·9	0·5	16·0
4. Not needed	2·1	1·7	..	12·1	..	9·3	35·5
5. Not known	..	..	..	13·3	..	11·1	..
6. Lack of supply ..	..	17·4	..	17·9	..	7·9	..
7. Lack of labour supply	..	..	1·0	..	..	..	2·1
8. Domestic supply ..	..	5·5	..	..	..	..	..
9. Not convinced of use	..	0·5	5·5	3·6	..	9·6	4·0
10. Experimenting ..	..	0·2	0·5	1·7	..	..	..
11. Lack of finance ..	..	..	..	7·6	..	9·1	0·7
12. Costly	..	0·2	..	14·0	..	24·8	4·0
13. Soil not suitable ..	..	..	5·7	..	..	..	..
14. Takes too much time	..	..	7·4	..	..	..	..
15. Lack of water ..	..	..	..	2·4	..	1·7	..
16. Not interested ..	..	..	..	..	..	..	2·1
17. Involves more labour and time.	..	..	..	..	..	..	4·5
Total ..	47·1	25·5	25·5	72·6	75·4	73·9	78·6

9-2·31 47% of the wheat growers did not adopt preparation of soil. Almost all the non-adoption was due to lack of time. 25% of the growers did not use improved seed, 17% due to lack of supplies and 5% were content with their own desi seed. Line sowing was also not adopted by 25% of the wheat growers; 7% reported that they did not adopt it as it took too much time and

5% each reported lack of time, lack of conviction and unsuitability of soil for this practice. 73% of the wheat growers reported non-adoption of basal application of fertilizers, 18% due to lack of supply, 14% considered it too costly, about 12% each reported lack of knowledge and that it was not necessary to adopt it and 8% reported lack of finance. Irrigation was not adopted by 75% of the wheat growers entirely due to heavy rains. Top dressing was not adopted by 74%; 11% reported lack of knowledge, 10% were not convinced of its benefits, 25% considered it too costly and about 9% each reported lack of finance, lack of supplies and 'not needed'. Weeding was not done by as many as 79% of the growers; 35% reported that they did not need it, 16% stated that they could not do it due to heavy rains and 9% reported that they did not have time to do this.

9-2·32 Of the practices mentioned here, improved seed, basal application and top dressing depend for their adoption on supplies and finance also. The general pattern of reasons given for practices other than preparation of soil and irrigation suggests the need for intensive extension effort.

Reasons for non-adoption by different areas and groups—

9-2·33 (*a*) *Preparation of soil*—Among the individual districts, non-adoption of preparation of soil was reported by as many as 92% of the cultivators in Rae-Bareli. In the other two districts, not more than 27% reported its non-adoption. In the blocks and the non-block areas and between the three broad holding groups there were no significant differences in the proportion of cultivators reporting non-adoption of the practice. The single important reason in different areas and groups had been lack of time. But about 10% in Rai-Bareli reported that they could not prepare the soil by ploughing it as many times as required because of lack of equipment. This reason for the non-adoption of the practice was given by 7% of the cultivators in the non-block areas and 8% of the big cultivators also.

9-2·34 (*b*) *Improved seed*—In all the areas and groups, lack of supply was the major reason for not using improved seeds. The other reason in order of importance was 'domestic supply' reported by about 8% each in Rae-Bareli and Deoria. This was the reason of some importance in the non-block areas (8·5%); some medium cultivators also (7·4%) did not use improved seeds because they had their own supply.

9-2·35 (*c*) *Line sowing*—In Rae-Bareli where 26% of the respondents growing wheat did not adopt the practice, 16% considered that soil was not suitable for it. In Deoria where the non-adoption of the practice was greater still i.e. 50%, 16% had no time to sow in lines. In the blocks also where 25% of the cultivators had not adopted the practice, 10% mentioned soil not suitable as the reason for their action. In the three holding groups quite a sizeable proportion of big cultivators (8·5%) considered that soil was not suitable for the operation; not convinced, soil not suitable and takes too much time were equally important reasons reported by about 8% each among the small cultivators.

9-2·36 (*d*) *Basal application*—No knowledge appears to be the important reason in Muzaffarnagar district. The practice was considered costly and unnecessary by about 25% each in Rae-Bareli. Lack of supply was the major reason for non-adoption of practice in Deoria. In the blocks together

lack of supply and costly were more or less equally important reasons for the non-adoption of basal application; these were reported by 15% and 12% of the cultivators respectively. In the non-block areas, on the other hand, no knowledge and lack of supply were more important reasons than others. Lack of supply was again given as the important reason by the big cultivators (21%); medium cultivators gave three reasons which were more or less equally important viz., lack of supply, no knowledge and not needed. Costly (18·3%) was the important reason given by small cultivators; but lack of supply (17%), lack of finance (12%) and not needed (11%) were other reasons.

9-2·37 (*e*) *Top dressing*—'No knowledge' was reported by 27% in Muzaffarnagar but the practice was considered costly by 68% in Rae-Bareli. Lack of finance was the first important reason (24%) in Deoria. The cultivators in each of the three holding groups considered the practice costly.

9-2·38 (*f*) *Weeding and interculture*—In the blocks and the non-block areas and among the three holding groups, not needed was an important reason for non-adoption of weeding and interculture. In the individual districts, however, the most important reason was heavy rains in Muzaffarnagar (47%), not needed (74%) in Rae-Bareli and lack of time (25)% in Deoria.

'B'—Pea

9-2·39 The items selected for the evaluation were (1) preparation of soil, (2) use of improved seed, (3) line sowing, (4) basal application, (5) irrigation and (6) weeding. There were some variations in the items selected in different districts. Irrigation was not recommended in Muzaffarnagar. Basal application was recommended only in Deoria district, while weeding only in its non-block area. Comments on improved practices in this section relate to relevant areas where these were sponsored for the campaign.

Pea cultivators in the sample—

9·2·40 Following table shows the number of pea growers and their area under pea. (see Appendix C, Table No. 3·9 for details)*

TABLE NO. 9-2·9

Pea growers and their area

Rabi season	No. of pea growers	Pea area (acres)	No. of irrigated pea growers	Irrigated pea area (acres)
1	2	3	4	5
1. 1958-59	271	291·5	260	277·1
2. 1957-58	272	243·3	259	229·7
%increase or decrease ..	—0·4	+19·8	+0·4	+20·6

9·2·41 The number of cultivators growing pea remained at about 272 in both the 1958-59 and 1957-58 seasons. The area under pea increased from 243 acres to 291 acres i.e. by 20%. Similarly the number of cultivators having irrigated pea remained at about 260 but the irrigated area under pea increased by 21%. 85% of the growers were in Deoria and Muzaffarnagar.

*Pea is also grown with other crops (mixed crops) in the same plot. The data in the report, however, relate to un-mixed pea-crop.

Knowledge of campaign items—

9-2·42 All cultivators had knowledge about preparation of soil and improved seed in the 1957-58 season. Basal application of fertilizer was a new practice as none reported its knowledge in 1957-58. Other campaign practices had been known to or adopted by some growers. Some practices had been known or adopted more widely than others. There was an overall improvement in the dissemination of knowledge in the 1958-59 season over that in the previous season.

9-2·43 Excluding the items known more or less universally, knowledge of other practices is given below:—

TABLE No. 9-2·10

Knowledge of campaign practices

(In percentage of relavant pea growers)

Campaign practices	1957-58	1958-59
1	2	3
1. Line sowing	79·0	84·9
2. Basal application	..	59·7
3. Weeding	14·3	60·3

9-2·44 Except line sowing the other two practices afforded wide scope for disseminating knowledge and about 60% reported knowledge of them in the 1958-59 season.

9-2·45 The Appendix 'C', Table No. 3·10 gives data about knowledge in different areas and among various holding groups. Knowledge of line-sowing was 100% in all the districts except in Deoria. It was better in blocks than non-block areas, and among big cultivators than the other two groups. Progress in the dissemination of knowledge of basal application was better in the blocks and among big cultivators.

Adoption of improved practices—

9-2·46 The table below gives the respondents' adoption of improved practices.

TABLE No. 9-2·11

Adoption of campaign practices

(In percentage of relevant pea growers)

Campaign practices	1957-58	1958-59	Due to campaign
1	2	3	4
1. Preparation of soil	59·2	66·4	..
2. Use of improved seed	28·7	46·9	8·5
3. Line sowing	13·2	18·1	4·4
4. Basal application	..	10·9	10·9
5. Irrigation as recommended	82·4	72·5	..
6. Weeding	14·3	41·4	27·6

9-2·47 The adoption of all the practices registered an improvement in the 1958-59 season; this was credited to the campaign only in the case of improved seed, line sowing, basal application and weeding. In the adoption of basal application in Deoria district and weeding in Deoria non-block area where only the practices were sponsored, the campaign's contribution was really significant.

9-2·48 Basal application was taken up only in the block in Deoria (20%) and the entire adoption was credited to the campaign. In the three broad holding groups, adoption of some practices was better among the small cultivators than the big and medium. But this was not as a result of any special effort to propagate the practices among them. The big, medium and small cultivators were more or less equally influenced by the campaign as revealed by their adoption attributed to it.

9-2·49 Appendix C, Table No. 3·12 (*a*) gives the pea area reported under different improved practices.

9-2·50 Appendix C, Table No. 3·13 gives the reasons as reported for the non-adoption or partial adoption of different campaign practices. For the purpose of analysis in this sub-section non-adoption also includes partial adoption.

9-2·51 Preparation of soil was not adopted almost entirely because the cultivators had no time for it. Nearly 30% did not use improved seed of pea as they reported inadequacy of supply and another 25% were satisfied with their domestic supply of desi seed. 5% were not convinced of its benefits and all of them were in Rae-Bareli. In the district, as many as 32% were not convinced of the use of improved seed. A larger proportion of cultivators in Rae-Bareli and Deoria could not use improved seed as the problem of its supply was more serious there than in Muzaffarnagar where about an equal proportion (42%) had, however, stated that they had their domestic supply of seed and therefore did not use improved variety. In the non-block areas, supply of seed was a far greater problem than that in the blocks. It also appears that the small cultivators did not use improved seed because it was rather difficult for them to get it.

9-2·52 As many as 86% had not sown their seeds in lines and the important reason given by the cultivators was that the soil was not suitable for the practice. The big and the medium cultivators in particular held this view. Other reasons in order of importance were that the practice required more time and labour and that they were not convinced of its benefits.

9-2·53 Basal application was a sponsored item only in Deoria district and was adopted by some cultivators in its block area. The cultivators had no knowledge of it in the non-block area and it was not needed in the block. Similarly for weeding which was a sponsored item in the non-block area in Deoria, the important reason for its non-adoption was that the cultivators had no knowledge of it.

'C'—Gram

9-2·54 The items selected for the evaluation were (1) preparation of soil, (2) use of improved seed, (3) line sowing, (4) basal application, (5) irrigation, and (6) weeding. There were variations in the items selected in the different districts. Basal application and irrigation were recommended only in Deoria district, while weeding only in its non-block area. Comments on improved practices in this section relate to relevant areas where these were sponsored for the campaign.

Gram cultivators in the sample—

9-2·55 Following table shows the number of gram growers and their area under it. (See Appendix C Table No. 3·14 for details) Gram is also grown as a mixed crop. The data, however, relate to unmixed gram crop.

TABLE NO. 9-2·12

Gram growers and their area

Growers/Area	1957-58	1958-59	% increase
1	2	3	4
1. No. of gram growers	212	228	+7·5
2. Gram area (acres)	175·6	213·8	+21·8
3. No. of irrigated gram growers ..	166	173	+4·2
4. Irrigated gram area (acres)	139·8	167·5	+19·8

9-2·56 In the sample of 450 cultivators, 212 in the 1957-58 season and 228 in the 1958-59 season (7·5% more) reported that they grew gram. The area under it increased from 176 acres to 214 acres i.e. by 22%. The number of growers of irrigated gram increased from 166 to 173 *i. e.* by 4% and the area under irrigation from 140 to 167 acres *i.e.* by 20%. The growers were more in Rae-Bareli than in the other two districts but the gram area was more in Muzaffarnagar.

Knowledge of campaign practices—

9-2·57 All the growers of the crop had knowledge of preparation of soil, use of improved seed and irrigation. Knowledge about line sowing was also fairly extensive among the cultivators. In Deoria, mainly because of the campaign, knowledge of basal application was disseminated to 72% of the cultivators whereas none had it in the 1957-58 season; knowledge of weeding also showed an improvement. In the other two districts, the compaign had no particular role in disseminating the knowledge of improved practices.

9-2·58 Appendix C, Table No. 3·15 gives data about knowledge in different areas and among the three broad holding groups.

9-2·59 In the 1958-59 season, there were no significant changes in the adoption of different practices, and the campaign's impact was reported mainly in the adoption of improved seed and basal application, improved seed in Rae-Bareli and Deoria and basal application in Deoria block only. Basal application was undertaken entirely as a result of the campaign. It appears, on the whole, that the campaign was very weak for this crop.

9-2·60 The reasons given for non-adoption of different practices were also typical; no time for the preparation of soil, 'not convinced' and 'lack of supply' for use of improved seed, 'not suitable' and 'not convinced' for line sowing, 'not needed' and 'no knowledge' for basal application and 'no knowledge' and 'not convinced' for weeding. They indicate nothing more than poor extension effort. The Appendix C, Table No. 3·18 gives the various reasons mentioned by the cultivators for the non-adoption of improved practices.

'D'—Barley

9-2·61 The items selected for the evaluation were (1) preparation of soil, (2) use of improved seed, (3) line sowing, (4) basal application, (5) irrigation, (6) top-dressing, (7) weeding and interculture and (8) rogueing. The crop was grown by a few cultivators in Muzaffarnagar. The data were, therefore, collected only in Rae-Bareli and Deoria.

Barley cultivators in the sample—

9-2·62 Following table shows the number of barley growers and their area under barley (see Appendix C, Table No. 3·19 for details). Barley is also grown as a mixed crop. The data, however, relate to unmixed barley crop.

TABLE NO. 9-2·13

Barley growers and their area

Growers and area	1957-58	1958-59	%increase (+) or decrease (—)
1	2	3	4
1. No. of barley growers	114	119	+4·4
2. Barley area (acres)	64·9	63·6	—2·2
3. No. of irrigated barley growers ..	110	116	+5·5
4. Irrigated barley area (acres)	62·9	61·3	—2·5

9-2·63 In the 1958-59 season, 119 cultivators had sown barely as against 114 in the 1957-58 season. The area did not change materially in the 1958-59 season, which was around 64 acres and nearly 97% of it was irrigated.

Knowledge of campaign practices—

9-2·64 All the growers of barley crop in the sample had knowledge of preparation of soil, improved seed, and irrigation as many times as recommended. The knowledge of other practices viz. basal application, top dressing, weeding and rogueing was reported by less than 40% of the barley growers in the 1957-58 season. These practices provided scope for dissemination of knowledge about them. In the 1958-59 season, more than 65% reported knowledge of basal application, top dressing and weeding but that for rogueing was reported by only 37%. In the two districts, Rae-Bareli and Deoria, the cultivators in the former had a better understanding of improved agricultural practices than those in Deoria, but the progress in the 1958-59 season was mainly reported in Deoria.

9-2·65 Appendix C, Table 3·20 gives the data regarding the knowledge of improved practices in different areas and among the three broad holding groups.

Adoption of improved practices—

9-2·66 As compared with the knowledge, the adoption of various improved practices was generally at a very low level. For example, the knowledge of improved seed was reported by 100% of the cultivators but only 9% had adopted the practice in the 1957-58 season and 22% in 1958-59. This gap between the knowledge of a particular practice and its adoption was very wide in Rae-Bareli. Similarly line sowing was adopted by only 22% of the cultivators in the 1957-58 season and 29% in 1958-59.

9-2·67 Quite a significant proportion of adoption of improved seed, weeding and top dressing in the 1958-59 season was credited to the campaign. As far as improved seed was concerned, the impact of the campaign was better in Deoria than in Rae-Bareli. But for top dressing a larger proportion of cultivators in Rae-Bareli attributed their adoption to the campaign than in Deoria. The impact of the campaign was better in the blocks than in the non-block areas. Among the three broad holding groups quite a large proportion of big cultivators took to line sowing in 1958-59 because of the campaign. Similarly, most of them who had done top dressing attributed their action to the campaign. It appears that it was mainly because of the campaign that the small cultivators showed a better adoption of weeding in the 1958-59 season than the other two groups.

9-2·68 Appendix C, Tables 3·21 and 3·22 give the data about the adoption of improved practices, the area under them and the campaign contribution.

9-2·69 More than 70% of the cultivators had not adopted different practices. The reasons given for non-adoption were mostly those mentioned earlier for wheat, pea and gram. The land was not ploughed as many times as recommended mainly because the cultivators had no time to do so. Lack of supply of improved seed was the main reason for its non-adoption. Quite a good proportion of cultivators had no knowledge of line sowing, basal application, top dressing and weeding. But, for top dressing lack of finance was also a significant factor deterring its adoption.

9-2·70 The reasons given for non-adoption of different practices vary in different areas and among the three broad holding groups. For example, 80% of the cultivators reported knowledge of top dressing. But only 14% adopted it. The main reasons given for this were lack of finance (31%), no knowledge (20%) and lack of supply (11%). Between the two districts, lack of finance was the important reason in Rae-Bareli and lack of knowledge in Deoria. In the blocks, lack of finance (50%) was the important reason, whereas lack of knowledge (29%) in the non-block areas. In the three holding groups lack of finance was the important reason given by the big and the small cultivators, but the medium cultivators gave a number of reasons such as not convinced, costly, lack of knowledge, lack of supply, etc. which were more or less equally important.

III

*The Role of Gram-Sahayaks in the Campaign**

9-2·71 The State Government decided to hold village leaders' camps in each VLW circle to train Pradhans, Sarpanches, members of cooperatives, Farmers' Forums and other progressive cultivators, for the campaign. The camps were to last for three days. One special feature of the U.P. programme was that they were to be held in both block and non-block areas.

9-2·72 An attempt is made in the following paragraphs to assess the actual performance of the Gram-Sahayaks as cultivators and leaders in the campaign. Their performance as wheat growers has been compared with that of other cultivators in the sample.

9-2·73 The Gram-Sahayaks are mostly big or medium cultivators, whereas about half of all sample cultivators have small holdings. In the existing circumstance, leadership in the rural area comes mostly from the more prosperous sections of the farming community. Most of the Gram-Sahayaks are aged forty years and above, though there is a fair proportion of younger men too. One would, therefore, expect them to be more experienced than the general body of farmers. Again proportionately more Gram-Sahayaks are associated with cooperatives, panchayats and other village institutions than villagers in general. About half of them are members of cooperatives and one-fifth are panchas. The government had recommended that all the Gram Sahayaks should be selected by the Gram Sabhas. In fact, about half of them were nominees of the VLWs.

9-2·74 All the Gram-Sahayaks reported knowledge of the campaign and almost all knew their special role in it. The proportion of knowledgeable persons among the sample cultivators was less, about 80%. Prior to the Campaign both Gram Sahayaks and others had been conversant with the following practices; preparation of soil, use of improved seed, irrigation as recommended, weeding and inter-culture. Very high proportions in both categories also knew line sowing. On the other hand, no one knew about dibbler-sowing and few about rogueing. The position was better in respect of basal application and top-dressing among both groups.

9-2·75 Between the two seasons, knowledge of the practices spread among both the groups of farmers, especially in respect to dibbler-sowing and rogueing, though Gram Sahayaks made greater progress than others.

9-2·76 The increased knowledge of improved practices was accompanied by further extension of their use. The greatest progress was made in respect of basal application. Again, the Gram-Sahayaks did better than others. Finally, the impact of the campaign was much greater on the former than the latter.

9-2·77 These differences between the Gram-Sahayaks and others are reflected in the proportions of their wheat lands they had put under different improved practices. In the 1958-59 season, the former had proportionately more land under every practice than the latter and had also made greater progress since the earlier season, except in respect of basal application and top-dressing.

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*See Appendix 'C', Table No. 3·24 for statistical data.

Again the specific influence of the campaign, as shown by changes in the area under improved practices, was greater on the Gram-Sahayaks, though it varies from practice to practice.

9-2·78 The proportion of farmers who did not adopt various improved practices was smaller among the Gram-Sahayaks than non-Gram-Sahayaks. But the reasons they advanced for non-adoption were more or less similar. Only more of the non-Gram-Sahayaks complained of the high cost of certain practices, e.g. top-dressing and of lack of finance. There were, of course, more among them who were unaware of different practices.

9-2·79 It would seem from the previous analysis that the Gram-Sahayaks did better than others under the campaign. This may be due to their relatively better economic position, greater association with public activities and of course to the training they had received at the camps. The Gram-Sahayaks thus set an example as progressive cultivators to others. They were, however, expected to play another role, viz. to approach other cultivators and win them over to the practices recommended in the campaign.

9-2·80 The Gram-Sahayaks were accordingly asked if they had approached other cultivators and tried to convince them of the value of improved practices recommended by the campaign. Forty-two out of the fifty-six Gram-Sahayaks in our sample stated that they had done so. Of these 42 Gram-Sahayaks, 4 said that they could not convince any of the cultivators whom they had approached. The Gram-Sahayaks were further asked to suggest the names of at least 2 cultivators each whom they had approached. Three Gram-Sahayaks could not give the names. Altogether the names of 70 cultivators were given by 35 Gram-Sahayaks.

9-2·81 These 70 cultivators were then contacted by Investigators and asked what practices, if any, they had adopted as a result of the propaganda done by the Gram-Sahayaks. All the 70 farmers said that they adopted some practice or other at the instance of the Gram-Sahayaks. However, the proportion of farmers, who had done so varied considerably from practice to practice. By and large, the Gram-Sahayaks proved to be effective instruments for propagating improved practices amongst other cultivators.

IV

Yield Rates of Different Crops

9-2·82 The section deals with data collected in the third round regarding the output and the area on which it was raised. The information about the output of different crops was collected from the sample cultivators and not from crop cutting and weighment of their crops. The area given by the respondents in Rae Bareli in this round was slightly different from that given in earlier rounds. According to the replies of the respondents yield rates in all the areas and for all crops had been more in the season of 1958-59 than in the previous year except in the case of Harchandpur block in Rae-Bareli and Pathar Deva non-block area in Deoria district. The following table gives the average yield per acre in the different areas in the rabi seasons of 1957-58 and 1958-59.

TABLE NO. 9-2-14

Output per acre of various rabi crops in the Selected areas

Districts/Crops	Blocks			Non-block areas		
	1957-58 (In mds.)	1958-59 (In mds.)	Percentage increase (+) or decrease (—) over the previous season	1957-58 (In mds.)	1958-59 (In mds.)	increase (+) or decrease (—) over the previous season
1	2	3	4	5	6	7
1. *Muzaffarnagar*—						
(*a*) Wheat ..	9·81	10·29	+4·9	8·05	9·92	+23·2
(*b*) Pea ..	8·75	11·45	+30·9	5·10	10·01	+96·3
(*c*) Gram ..	5·00	6·65	+33·0	8·85	9·54	7·8
(*d*) Barley ..	..	..	..	..	..	..
2. *Rae-Bareli*—						
(*a*) Wheat ..	7·33	8·46	+15·4	8·72	10·18	+16·7
(*b*) Pea ..	6·91	3·61	—47·8	7·07	12·32	+74·3
(*c*) Gram ..	10·66	8·75	—17·9	6·77	11·75	+73·6
d) Barley ..	1·75	1·96	+12·0	5·83	8·47	+45·3
Deoria—						
a) Wheat ..	9·64	11·62	+20·5	7·42	5·02	—28·5
b) Pea ..	7·15	8·70	+21·7	6·82	5·12	—24·9
(*c*) Gram ..	7·82	8·25	+5·5	6·19	5·03	—18·7
(*d*) Barley ..	6·70	7·02	+4·8	7·81	5·90	—24·5

9-2·83 The yield rates ranged between 10 to 12 mds. per acre in Muzaffarnagar, Rae-Bareli non-block area and in Deoria block. They were lower in the other two remaining areas. The yield of pea was better in Kairana block and in Rahi non-block area in Rae-Bareli than in the other areas. The gram yield rate was better in Harchandpur block in Rae-Bareli and in Muzaffarnagar non-block area than in the other areas. The yield of barley crop was better in Rahi non-block area in Rae-Bareli and in Hata block, Deoria.

Impact of the campaign on wheat output—

9-2·84 The area under wheat in the holdings of the sample cultivators in the three selected districts was 771 acres in 1957-58 and 870 acres in 1958-59 showing an increase of 12·8 per cent. The total output of wheat was 6,700·9 mds. in 1957-58 and 8,454·9 mds. in 1958-59, *i.e.* an increase

of 26·17 per cent. The average yield per acre was 8·7 mds. in 1957-58 and 9·6 mds. in 1958-59 or more by 10·3 per cent. These details for the six selected areas in the three districts are given below—

TABLE NO. 9-2·14(*a*)

Wheat cultivators, their area and output

District/Items	Block			Non-block area		
	1957-58	1958-59	Percentage increase (+) or decrease (—)	1957-58	1958-59	Percentage increase (+) or decrease (—)
1	2	3	4	5	6	7
1. *Muzaffarnagar*—						
(*a*) No. growing wheat	72	72	..	71	71	..
(*b*) Area (acres) ..	224·9	283·7	+26·1	276·7	306·7	+10·8
(*c*) Output (mds.) ..	2,205·8	2,919·0	+32·3	2,226·5	3,024·2	+36·6
(*d*) Output per acre (mds.)	9·81	10·29	+4·9	8·05	9·92	+23·2
2. *Rae-Bareli*—						
(*a*) No. growing wheat.	73	74	+1·4	72	70	—2·8
(*b*) Area (acres) ..	57·9	57·9	..	47·6	54·0	+13·4
(*c*) Output (mds.) ..	424·3	489·9	+15·5	415·2	549·5	+32·3
(*d*) Output per acre (mds.)	7·33	8·46	+15·4	8·72	10·18	+16·7
3. *Deoria*—						
(*a*) No. growing wheat.	74	74	..	63	59	—6·3
(*b*) Area (acres) ..	96·3	95·9	—0·4	67·5	71·2	+5·5
(*c*) Output (mds.) ..	928·5	1,114·3	+20·0	500·3	357·7	—28·5
(*d*) Output per acre (mds).	9·64	11·62	+20·5	7·42	5·02	—32·4

9-2·85 In all the selected areas the area under wheat was more in 1958-59 than in the previous year except in the case of Hata and Harchandpur blocks in Deoria and Rae-Bareli respectively. The output on the area in maunds was also more in all the areas except in Pathar Deva non-block area in Deoria.

9-2·86 In their replies the cultivators in Kairana block in Muzaffarnagar stated that the yield in 1958-59 had suffered to the extent of nearly 10 per cent due to the unfavourable season. In Muzaffarnagar non-block area, however, they reported that the increase in yield was mainly due to favourable season and to it alone could be attributed nearly 50 per cent of the increase in 1958-59 over that in the previous year. In Harchandpur block in Rae-Bareli the respondents reported that the season was extremely unfavourable and though there

was some increase in yield in 1958-59 as compared to the 1957-58 year, this increase would have been about 150 per cent more if the season had been as favourable as in 1957-58. In Rahi non-block area in Rae-Bareli on the other hand, the season was favourable and about 60 per cent of the increase in 1958-59 was due to this factor. In Hata block in Deoria also season was extremely favourable and the increase per acre in yield over that in 1957-58 was due to this factor to the extent of about 80 per cent. In Pather Deva non-block area on the other hand, the respondents reported that the season was very much unfavourable. In this area as observed earlier the cultivators had adopted basal application, top dressing and line sowing on a considerable scale due to campaign. According to them damage to the crop cultivated under improved practices was more than the damage done to crops cultivated without these practices. In their replies during the enquiry they stated that the loss in yield in 1958-59 was entirely due to season and could not say whether the yield would have been better if the season had been as favourable as in 1957-58. They could not do so because most of them had no experiences of what the improved practices could add to the yield of wheat crop.

9-2·87 If we ignore the seasonal factor the changes in output may be attributed to the changes in area brought under wheat, the improved practices due to campaign and those which respondents adopted independently of the campaign. The following table gives the contribution of these factors in the six areas of the three districts.

TABLE No. 9-2·15

Increase or decrease in output in 1958-59 over that in 1957-58

District/Block/Non-block	Increase (+) or decrease (—) in the yield (mds.)	Changes in output attributed by							
		Cultivators influenced by the Campaign to				Cultivators not influenced by the Campaign to			
		Area *	%	Practices	%	Area *	%	Practices	%
1	2	3	4	5	6	7	8	9	10
1. *Muzaffarnagar*—									
Block	713·2	358·0	50·2	167·5	23·5	212·4	29·8	—24·7	—3·5
Non-block	797·7	130·2	16·3	113·8	14·3	116·4	14·6	437·1	54·8
2. *Rae-Bareli*—									
Block	65·6	34·9	53·2	24·3	37·0	—27·4	—41·8	33·8	51·5
Non-block	134·3	6·4	4·8	42·3	31·5	51·8	38·6	33·8	25·2
3. *Deoria*—									
Block	185·8	—9·3	—5·0	145·8	78·5	6·5	3·5	42·8	23·0
Non-block	—142·6	29·8	20·9	—171·1	—120·0	3·0	2·1	—4·3	—3·0

*Calculated at the yield rate of 1957-58.

9-2·88 In Muzaffarnagar block the largest contribution to the increase in output came from the extension of area under wheat. The direct contribution of the campaign through extended adoption of improved practices varied from 14 per cent in non-block area, in Muzaffarnagar to 78 per cent in Hata block in Deoria. But in Harchandpur block in Rae-Bareli and non-block area in Muzaffarnagar, the extended adoption followed independently of the campaign contributed proportionately more in the former and 55 per cent in the latter.

9-2·89 The conditions in the non-block area in Deoria were rather different. The area of wheat increased in 1958-59 but there was a net decrease in output. According to the respondents the westerly winds caused a great damage to the wheat crop, and it was greater for the crops cultivated under improved practices.

9-2·90 According to the respondents, the season was unfavourable as compared with that in 1957-58, in Kairana and Harchandpur blocks in Muzaffarnagar and Rae-Bareli districts respectively. On the other hand in Muzaffarnagar and Rae-Bareli non-block areas, the season was favourable. In Deoria it was favourable in the block but unfavourable in the non-block area. Most of the cultivators in Deoria non-block area had adopted practices due to campaign for the first time, and unluckily because of the westerly winds they had suffered more than others who did not adopt the practices. They attributed their entire loss to the season and indirectly to the campaign practices.

सत्यमेव जयते

CHAPTER X

Conclusions

10·1 The State Government prepared the plan of the rabi campaign in the month of June 1958 and soon after started the training of officers, VLWs and Gram Sahayaks. The organisation was perfected in good time. The significant features of the organization of the campaign were: formation of Action Committees at different levels, rationalization of arrangements for the distribution of seeds and fertilizers, and surprise checks to be made by higher officers and members of Action Committees at different levels. These arrangements worked well in the blocks, but were inoperative in the non-block areas. In particular, the formation of Action Committees, briefing of Gram Sahayaks, following up their activities in the villages, taking pledges from cultivators that they would adopt some campaign items and finally, checking the arrangements by surprise visits were successfully done in the block areas. In the non-block areas, the Sub Divisional Officers and other personnel could not manage this elaborate organizational effort.

10·2 The Chief Minister issued a letter on the 25 September 1958 to the members of the Legislative Assembly requesting them to take active part in the campaign and help mobilize voluntary organizations. In fact, however, the non-servicemen including MPs and MLAs did not take the leadership of the campaign. The Action Committees which were formed for the campaign consisted of officials only. In the districts and the blocks, the development committees consisting of officials and non-servicemen were, however, associated with the preparation of targets. But the active role was played everywhere by the officials. This is evident from the sample data of the three districts selected for this study. Among the 77 per cent of the cultivators in the sample who knew the campaign, 66 per cent attributed their knowledge to officials, 6 per cent to non-servicemen and 5 per cent to both officials and non-servicemen.

10·3 As a result of increase in the supply of seeds and fertilizers and of arrangements made for their distribution, their use increased in the 1958-59 season over the 1957-58 year and a larger number of cultivators obtained their requirements from institutional agencies. However, 28 per cent of the growers still complained of lack of supply, which seems to suggest that further improvement in supply could have pushed up the use of improved seed considerably. The scope for further extension of the use of improved seed and fertilizers is of course greater in the non-block areas where a larger proportion of the cultivators complained about inadequate supply. By contrast, as many as 73 per cent of growers had not used fertilizers at all and only 12 per cent complained about lack of supply. Hence the extended use of fertilizers in future would depend as much on extension education and other factors as on arrangements for supply.

10·4 It was decided by the State Governments that the campaign should be concentrated on a few selected practices. However, quite a number of items apart from subsidiary ones were listed. There was no discriminating selection by reference to the needs of different areas. In the result, there were at least 9 items for wheat, 8 for barley, 6 for pea and 6 for gram. This amounts to the campaign taking over the entire agricultural improvement programme, and not concentrating on the relatively more important items only.

10·5 Quite significant proportions of the cultivators in both block and non-block areas were influenced by the campaign. But the impact was particularly significant in Deoria block. In all the blocks adoption of improved practices registered good advance, the progress recorded against dibbler sowing, rogueing basal application and top dressing being largely attributed to the drive. The advance was made not only in respect of wheat but that of pea, gram and barley crops. The campaign was, however, not as effective for the last three crops as for wheat. And our enquiry shows that the campaign howsoever efficiently carried out can not induce cultivators to adopt many new practices in one season. Quite a number of the practices were new to them, *e.g.*, dibbler sowing, basal application and top dressing; and though significant progress was made in regard to them, less than 39 per cent of the wheat cultivators were reached. In the case of pea, gram and barley, the scope for further improvement is much greater.

10·6 It is significant that the progress made by small cultivators was particularly noticeable in respect of line sowing, basal application and top dressing. Again a larger proportion of medium and small cultivators than of big cultivators gave the campaign the credit for their adoption of improved seed and line sowing.

10·7 As between Gram Sahayaks and non-Gram Sahayaks, the former had adopted various improved practices except rogueing more than the latter. But both groups registered a significant increase in the 1958-59 season over the previous. The Gram Sahayaks did considerably better than the non-Gram Sahayaks in adopting advanced practices. This was mainly due to the campaign. The former did play well their special role as agents for the propagation of improved practices among farmers in general. About 75 per cent of the Gram Sahayaks in our sample said that they had approached different cultivators and explained them the campaign practices. And 68 per cent reported that they succeeded in convincing the farmers.

10·8 Among the reasons given by farmers for not adopting various practices difficulty of supply was the chief one in the case of improved seeds. This difficulty was mentioned particularly by the growers of gram, pea and barley. Lack of knowledge was not a very important reason except in the case of rogueing and dibbler sowing which are new techniques. The cultivators gave a variety of other reasons too for not adopting, in particular, basal application, top dressing, weeding and interculture. Obviously, how quickly a new practice is likely to be accepted by the farmers depends on a variety of factors. There are some practices which can be propagated only by the extension agency trying consistently for a number of years. In these instances individual approach may be necessary.

10·9 It is not possible to assess accurately the impact of the campaign on the yield of the selected crops. Our data show that the campaign had a very good impact in the blocks. In the blocks, the average yield of farms belonging to those who were influenced by the campaign was better in the 1958-59 season than the previous. This is not true of those who were not influenced by the campaign. In the non-block areas though the yield on farms of those who were influenced by the campaign increased, the increase was much less than in the blocks. In Deoria non-block area, inspite of the good impact of the compaign, the yield per acre fell. The yield on farms which were not influenced by the campaign did not decline as much. The cultivators attributed all this partly to the season and partly to the adoption of practices under the campaign. The improved varieties of wheat crop, according to the farmers could not stand the unfavourable weather as well as the desi or unimproved varieties. These facts suggest first, one cannot draw inferences about the efficiency of a crop campaign simply from changes in the yield per acre of the crops included. One should be in a position to eliminate the influence of the seasonal factor. Secondly, in suggesting certain improved practices for adoption in an area, the season f ctor should be taken fully into account.

APPENDIX A
PUNJAB TABLES
TABLE No. A 1·1
Particulars of the sample cultivators

Items	Block				Non-block area			
	Cultivator groups			Total	Cultivator groups			Total
	Big	Medium	Small		Big	Medium	Small	
1	2	3	4	5	6	7	8	9
			1. LUDHIANA					
1. Sample cultivators.	16	32	27	75	13	23	39	75
2. (*a*) Members of the Cooperatives.	10	21	17	48	5	9	14	28
(*b*) Members of the Panchayats	2	4	1	7	2	2	2	6
(*c*) Gram Sahayaks*.	2	7	2	11	..	..	..	..
3. Total cultivated area (in acres).	497·4	603·4	253·5	1,354·3	446·5	431·3	370·2	1,248·0
4. Irrigated area (in acres).	333·9	432·9	191·8	958·6	287·8	259·9	293·6	841·3
5. Area under Rabi crops (in acres).	352·7	470·1	205·7	1,028·5	254·5	284·7	261·4	800·6
6. Average area per cultivator (in acres).	31·1	18·9	9·4	18·1	34·4	18·8	·5	16·6
			2. AMRITSAR					
1. Sample cultivators.	6	37	32	75	8	35	32	75
2. (*a*) Members of the Cooperatives	2	17	10	29	5	22	22	49
(*b*) Members of the Panchayats	1	5	1	7	..	2	2	4
(*c*) Gram Sahayaks*	..	1	..	1	..	..	..	..
3. Total cultivated area (in acres).	152·0	418·0	177·8	747·8	184·5	398·5	148·5	731·5
4. Irrigated area (in acres).	106·0	341·0	132·8	579·8	165·0	365·5	123·5	654·0
5. Area under Rabi crops (in acres).	119·5	330·5	149·4	599·4	118·5	277·0	104·5	500·0
6. Average area per cultivator (in acres) ..	25·3	11·3	5·6	10·0	23·1	11·4	4·6	9·8

*15 more gram sahayaks were selected in the three blocks of the district to obtain a sizable number of total gram sahayaks. The distribution of additional gram sahayaks is given below—

District (Block)	No. of additional gram Sahayaks
1. Ludhiana (Ludhiana)	5
2. Amritsar (Naushera Panwan)	5
3. Hissar (Block II)	5

TABLE No. A 1·1—*contd.*

Items	Block				Non-block area			
	Cultivator groups			Total	Cultivator groups			Total
	Big	Medium	Small		Big	Medium	Small	
1	2	3	4	5	6	7	8	9
	3. HISSAR							
1. Sample cultivators.	17	30	28	75	10	29	36	75
2. (*a*) Members of the Co-operatives.	4	7	8	19	3	9	4	16
(*b*) Members of the Panchayats.	3	3	..	6	1	3	1	5
(*c*) Gram Sahayaks*	3	2	4	9	..	..	..	..
3. Total cultivated area (in acres).	1,210·0	995·5	355·0	2,560·5	1,381·5	967·0	551·0	2,899·5
4. Irrigated area (in acres).	314·0	329·0	122·5	765·5	1,154·0	287·5	267·0	1,708·5
5. Area under Rabi crops (in acres).	720·0	696·0	241·5	1,657·5	1,001·5	644·0	373·5	2,019·0
6. Average area per cultivator (in acres)	71·2	33·2	12·7	34·1	138·2	33·3	15·3	38·7

TABLE No. A 1·2

No. of wheat growers and their area

Items	Block				Non-block area			
	Cultivator Groups			Total	Cultivator Groups			Total
	Big	Medium	Small		Big	Medium	Small	
1	2	3	4	5	6	7	8	9
			1. LUDHIANA					
1. No. of wheat growers—								
1958-59 ..	16	32	26	74	13	22	39	74
1957-58 ..	16	32	27	75	13	21	37	71
2. Wheat area—								
1958-59 ..	127·5	226·5	100·0	454·0	115·3	133·8	110·2	359·3
1957-58 ..	117·2	187·7	89·5	394·4	108·0	89·2	113·6	310·8
3. No. having irrigated wheat—								
1958-59 ..	16	32	26	74	13	22	39	74
1957-58 ..	16	32	27	75	13	21	37	71
4. Area under irrigated wheat								
1958-59 ..	127·5	218·1	89·3	434·9	113·3	125·6	110·2	349·1
1957-58 ..	117·2	186·5	88·0	391·7	108·0	84·7	113·6	306·3
			2. AMRITSAR					
1. No. of wheat growers—								
1958-59 ..	5	22	15	42	8	19	12	39
1957-58 ..	3	19	13	35	5	15	9	29
2. Wheat area—								
1958-59 ..	27·0	71·5	27·0	125·5	36·0	51·5	17·0	104·5
1957-58 ..	21·0	69·5	24·0	114·5	10·5	48·5	14·0	73·0
3. No. having irrigated wheat—								
1958-59 ..	5	21	15	41	8	19	12	39
1957-58 ..	2	18	13	33	5	15	9	29
4. Area under irrigated wheat								
1958-59 ..	23·5	58·0	25·5	107·0	36·0	50·5	17·0	103·5
1957-58 ..	13·5	66·0	24·0	103·5	10·5	46·0	14·0	70·5

TABLE No. A 1·2—*contd.*

Items	Block				Non-block area			
	Cultivator groups				Cultivator groups			
	Big	Medium	Small	Total	Big	Medium	Small	Total
1	2	3	4	5	6	7	8	9
				3. HISSAR				
1. No. of wheat growers—								
1958-59 ..	8	23	9	40	5	8	17	30
1957-58 ..	5	13	5	23	5	8	17	30
2. Wheat area—								
1958-59 ..	27·0	64·0	14·0	105·0	237·0	30·5	64·2	331·7
1957-58 ..	12·5	45·0	5·5	63·0	208·0	32·5	52·5	293·0
3. No. having irrigated wheat-								
1958-59 ..	7	21	9	37	5	8	17	30
1957-58 ..	4	12	5	21	5	8	17	30
4. Area under irrigated wheat-								
1958-59 ..	26·0	55·0	14·0	95·0	237·0	30·5	64·2	331·7
1957-58 ..	9·5	42·5	5·5	57·5	208·0	32·5	52·5	293·0

TABLE No. A 1·3

No. of wheat growers reporting knowledge of campaign practices

Campaign practices	Block		Non-block area	
	1957-58	1958-59	1957-58	1958-59
1	2	3	4	5
		1. LUDHIANA		
1. Seed treatment	57	62	35	44
2. Basal application	33	61	29	48
3. Top dressing	75	74	71	74
		2. AMRITSAR		
1. Seed treatment	21	28	23	29
2. Basal application	35	42	29	39
3. Top dressing	33	41	29	39
		3. HISSAR		
1. Seed treatment	..	..	2	2
2. Basal application	21	29	30	30
3. Top dressing	19	29	30	30

NOTE—Knowledge for other practices viz., improved seed, timely sowing, weeding and plant protection measures was 100 per cent in 1958-59 as also in 1957-58.

TABLE NO. A 1·4

Knowledge of improved practices by broad cultivator groups

Campaign practices	1957-58				1958-59			
	Cultivator groups			Total	Cultivator groups			Total
	Big	Medium	Small		Big	Medium	Small	
1	2	3	4	5	6	7	8	9
1. Seed treatment.	29 (61·7)	59 (54·6)	50 (46·3)	138 (52·5)	37 (67·3) (+9·1)	69 (54·8) (+0·4)	59 (50·0) (+8·0)	165 (55·2) (+5·1)
2. Basal application.	33 (70·2)	78 (72·2)	66 (61·1)	177 (67·3)	43 (78·2) (+11·4)	107 (84·9) (+17·6)	99 (83·9) (+37·3)	249 (83·3) (+23·8)
3. Top dressing	44 (97·8)	105 (99·1)	108 (100·0)	257 (99·2)	50 (92·6) (—5·3)	120 (97·6) (—1·5)	117 (99·2) (—0·8)	287 (97·3) (—2·0)

NOTE—

(1) For seed treatment and basal application, figures in brackets are percentages of total wheat growers in respective groups; for top dressing, however, the figures in brackets are percentages of those wheat growers who have got irrigated land.

(2) Figures with (+) and (—) signs give percentage increase or decrease relative to the wheat growers.

(3) Knowledge for other practices viz., improved seed, timely sowing, weeding and plant protection measures was 100 per cent both during the 1957-58 and 1958-59 seasons.

TABLE NO. A 1·5

No. of wheat growers adopting improved practices

Campaign practices	Block			Non-block area		
	1957-58	1958-59	Due to campaign	1957-58	1958-59	Due to campaign
1	2	3	4	5	6	7
			1. LUDHIANA			
1. Seed treatment ..	13	13	6	11	15	6
2. Improved seed ..	75	74	..	71	74	..
3. Timely sowing	75	72	..	71	74	..
4. Basal application	9	22	14	..	10	6
5. Top dressing ..	35	51	39	17	28	19
6. Weeding ..	75	72	..	71	71	..
7. Plant protection measures.	17	40	38	5	5	5
			2. AMRITSAR			
1. Seed treatment ..	4	3	..	1	2	..
2. Improved seed ..	35	42	..	29	39	..
3. Timely sowing ..	18	23	..	21	24	..
4. Basal application ..	6	5	2	4	2	2
5. Top dressing ..	..	..	..	..	..	..
6. Weeding ..	28	28	..	26	32	..
7. Plant protection measures.	1	3	3	..	2	1
			3. HISSAR			
1. Seed treatment ..	..	..	..	..	..	..
2. Improved seed ..	16	34	2	9	11	..
3. Timely sowing ..	23	40	..	30	30	..
4. Basal application	..	4	2	..	..	..
5. Top dressing ..	2	5	1	..	2	1
6. Weeding ..	9	14	..	7	13	..
7. Plant protection measures.	9	1	..	..	..	..

TABLE No. A 1·6

Adoption of improved practices by broad cultivator groups

Campaign practices	1957-58				1958-59				Due to campaign			
	Cultivator groups				Cultivator groups				Cultivator groups			
	B	M	S	Total	B	M	S	Total	B	M	S	Total
1	2	3	4	5	6	7	8	9	10	11	12	13
1. Seed treatment	5	13	11	29	9	15	9	33	3	6	3	12
2. Improved seed	41	100	94	235	52	119	103	274	1	1	..	2
3. Timely sowing	47	91	100	238	50	101	112	263	..	..	..	..
4. Basal application	4	10	5	19	9	20	14	43	6	12	8	26
5. Top dressing ..	15	18	21	54	23	30	33	86	16	22	22	60
6. Weeding ..	38	91	87	216	43	92	95	230	..	..	..	..
7. Plant protection measures.	4	21	7	32	12	26	13	51	11	24	12	47

B—Big cultivators. M—Medium cultivators. S—Small cultivators.

TABLE No. A 1·7

Area under improved practices

(In acres)

Campaign practices	Block			Non-block area		
	1957-58	1958-59	Due to campaign	1957-58	1958-59	Due to campaign
1	2	3	4	5	6	7
			1. LUDHIANA			
1. Improved seed ..	394·4	454·0	..	310·8	359·3	..
2. Timely sowing ..	394·4	427·6	..	310·8	359·3	..
3. Basal application	25·3	51·8	38·9	..	16·5	8·5
4. Top dressing ..	123·5	188·7	149·4	50·9	90·3	66·8
5. Weeding ..	386·4	437·0	..	310·6	336·6	..
6. Plant protection measures.	86·9	230·0	214·7	18·5	22·0	22·0
			2. AMRITSAR			
1. Improved seed ..	114·5	125·5	..	73·0	104·5	..
2. Timely sowing ..	55·5	71·0	..	53·5	55·5	..
3. Basal application	10·0	17·5	7·0	5·0	3·0	3·0
4. Top dressing ..	..	..	..	..	..	..
5. Weeding ..	90·5	94·0	..	56·0	78·8	..
6. Plant protection measures.	10·0	9·0	9·0	..	5·0	4·0
			3.HISSAR			
1. Improved seed ..	46·5	96·0	13·0	203·5	242·5	..
2. Timely sowing ..	63·0	105·0	..	293·0	331·7	..
3. Basal application	..	16·5	10·5	..	..	..
4. Top dressing ..	7·0	11·5	0·5	..	28·5	0·5
5. Weeding ..	25·5	45·5	..	22·0	55·2	..
6. Plant protection measures.	30·0	4·0	..	..	..	..

TABLE NO. A 1·8

Area under improved practices by broad cultivator groups

(In acres)

Campaign practices	1957-58				1958-59			
	Cultivator groups			Total	Cultivator groups			Total
	B	M	S		B	M	S	
1	2	3	4	5	6	7	8	9
1. Improved seed ..	440·2	440·9	261·6	1,142·7	542·8	557·3	281·7	1,381·8
2. Timely sowing ..	477·2	410·4	282·6	1,170·2	541·3	492·4	316·4	1,350·1
3. Basal application	8·5	22·1	9·7	40·3	39·6	43·6	22·1	105·3
4. Top dressing ..	86·9	50·5	44·0	181·4	134·9	114·5	72·6	319·0
5. Weeding ..	262·7	387·7	240·6	891·0	306·0	472·6	268·5	1,047·1
6. Plant protection measures.	32·8	93·7	18·9	145·4	98·0	129·9	42·1	270·0

Campaign practices	Due to campaign			
	Cultivator groups			Total
	B	M	S	
	10	11	12	13
. Improved seed ..	10·0	3·0	..	13·0
. Timely sowing ..	..	..	..	..
. Basal application ..	26·6	30·5	10·8	67·9
. Top dressing ..	72·0	91·2	54·0	217·2
. Weeding ..	..	..	..	..
. Plant protection measures. ..	97·6	114·5	37·6	249·7

B—Big cultivators.
M—Medium cultivators.
S—Small cultivators.

TABLE NO. A 1·9

Reasons for non-adoption of campaign practices

(Figures outside the brackets relate to no. of cultivators and those inside them are percentages of relevant wheat growers)

(a) Seed treatment

Area/groups	Reasons					Total non-adoption
	Natural conditions	Not needed	Not convinced	Not interested	No knowledge	
1	2	3	4	5	6	7
Ludhiana	7 (4·7)	17 (11·5)	20 (13·5)	34 (23·0)	42 (28·4)	120 (81·1)
Amritsar	..	9 (11·1)	1 (1·2)	42 (51·8)	24 (29·6)	76 (93·7)
Hissar	..	2 (2·8)	..	..	68 97·2	70 (100·0)
All blocks	7 (4·5)	..	8 (5·1)	59 (37·8)	66 (42·3)	140 (89·7)
All non-block areas ..	..	28 (19·6)	13 (9·1)	17 (11·9)	68 (47·6)	126 (88·2)
Big cultivators ..	1 (1·8)	5 (9·1)	6 (10·9)	16 (29·1)	18 (32·7)	46 (83·6)
Medium cultivators ..	3 (2·4)	9 (7·1)	9 (7·1)	33 (26·2)	57 (45·2)	111 (88·0)
Small cultivators ..	3 (2·5)	14 (11·9)	6 (5·1)	27 (22·9)	59 (50·0)	109 (92·4)

(b) Basal application

Areas/group	Reasons							
	Natural conditions	Difficulties of finance	Too costly	Lack of time	Lack of irrigation	Not needed	Not convinced	No knowledge
1	2	3	4	5	6	7	8	9
Ludhiana ..	3 (2·0)	25 (16·9)	22 (14·9)	31 (20·9)	..	21 (14·2)	1 (0·7)	3 (26·4
Amritsar ..	..	..	63 (77·8)	..	12 (14·8)	..	1 (1·2)	..
Hissar ..	..	..	..	..	54 (77·1)	2 (2·8)	..	1 (15·8
All blocks ..	2 (1·3)	11 (7·1)	44 (28·2)	19 (12·2)	26 (16·6)	16 (10·3)	2 (1·3)	2 (15·3
All non-block areas.	1 (0·7)	14 (9·7)	41 (28·7)	12 (8·4)	40 (28·0)	7 (4·9)	..	2 (18·3
Big cultivators..	..	2 (3·6)	12 (21·8)	10 (18·2)	8 (14·5)	9 (16·4)	..	1 (21·8
Medium cultivators.	3 (2·4)	10 (7·9)	38 (30·2)	10 (7·9)	30 (23·8)	8 (6·3)	1 (0·8)	1 (15·
Small cultivators	..	13 (11·0)	35 (29·7)	11 (9·3)	28 (23·7)	6 (5·1)	1 (0·8)	1 (16·

TABLE NO. A 1·9—*contd.*

(*b*) *Basal application*—contd.

Area/groups	Non-adoption		
	Partial	Total	Grand Total
	10	11	12
Ludhiana	26 (17·6)	116 (78·4)	142 (96·0)
Amritsar	2 (2·4)	74 (91·4)	76 (93·8)
Hissar	1 (1·4)	66 (94·3)	67 (95·7)
All blocks	19 (12·2)	125 (80·1)	144 (92·3)
All non-block areas	10 (7·0)	131 (91·6)	141 (98·6)
Big cultivators	6 (10·9)	47 (85·4)	53 (96·3)
Medium cultivators	15 (11·9)	104 (82·5)	119 (94·4)
Small cultivators	8 (6·8)	105 (88·9)	113 (95·7)

(*c*) *Top dressing.*

Area/groups	Reasons					
	Natural conditions	Lack of supply	Difficulties of finance	Too costly	Lack of time	Lack of irrigation
1	2	3	4	5	6	7
Ludhiana	2 (1·4)	2 (1·4)	22 (14·9)	27 (18·2)	7 (4·7)	..
Amritsar	..	..	..	65 (81·3)	..	13 (16·3)
Hissar	..	..	..	..	..	51 (76·1)
All blocks	1 (0·7)	..	9 (5·9)	54 (35·5)	2 (1·3)	24 (15·8)
All non-block areas	1 (0·7)	2 (1·4)	13 (9·1)	38 (26·6)	5 (3·5)	40 (28·0)
Big cultivators ..	..	..	3 (5·5)	13 (24·1)	3 (5·5)	9 (16·7)
Medium cultivators ..	1 (0·8)	1 (0·8)	4 (3·3)	45 (36·6)	2 (1·6)	27 (21·9)
Small cultivators ..	1 (0·8)	1 (0·8)	15 (12·7)	34 (28·8)	2 (1·7)	28 (23.8)

TABLE NO. A 1·9—*contd.*

(*c*) *Top dressing*—contd.

Area/groups	Reasons				Non-adoption		
	Not needed	Not convinced	Experimenting	No knowledge	Partial	Total	Grand Total
	8	9	10	11	12	13	14
Ludhiana	55 (37·2)	2 (1·4)	6 (4·1)	..	54 (36·5)	69 (46·7)	123 (83·2)
Amritsar	1 (1·2)	1 (1·2)	..	..	..	80 (100·0)	80 (100·0)
Hissar	1 (1·5)	..	..	11 (16·4)	3 (4·5)	60 (89·5)	63 (94·0)
All blocks	28 (18·4)	1 (0·7)	3 (2·0)	11 (7·2)	37 (24·3)	96 (63·2)	133 (87·5)
All non-block areas ..	29 (20·3)	2 (1·4)	3 (2·1)	..	20 (14·0)	113 (79·1)	133 (93·1)
Big cultivators ..	13 (24·1)	..	..	5 (9·3)	13 (24·1)	33 (61·1)	46 (85·2)
Medium cultivators ..	23 (18·7)	1 (0·8)	4 (3·2)	5 (4·1)	20 (16·3)	93 (75·5)	113 (91·8)
Small cultivators ..	21 (17·8)	2 (1·7)	2 (1·7)	1 (0·8)	24 (20·3)	83 (70·3)	107 (90·6)

(*d*) *Weeding*

Area/groups	Reasons				Non-adoption		
	Natural conditions	Lack of time	Lack of labour	Not needed	Partial	Total	Grand Total
1	2	3	4	5	6	7	8
Ludhiana	14 (9·5)	3 (2·0)	..	..	12 (8·1)	5 (3·4)	17 (11·5)
Amritsar	21 (25·9)	3 (3·7)	2 (2·5)	..	5 (6·2)	21 (25·9)	26 (32·1)
Hissar	..	..	..	43 (61·4)	..	43 (61·4)	43 (61·4)
All blocks	19 (12·2)	2 (1·3)	2 (1·3)	26 (16·7)	7 (4·6)	42 (26·9)	49 (31·5)
All non-block areas ..	16 (11·2)	4 (2·8)	..	17 (11·9)	10 (7·0)	27 (18·9)	37 (25·9)
Big cultivators ..	8 (14·5)	..	..	10 (18·2)	6 (10·9)	12 (21·8)	18 (32·7)
Medium cultivators ..	14 (11·1)	3 (2·4)	1 (0·8)	19 (15·1)	6 (4·8)	31 (24·6)	37 (29·4)
Small cultivators ..	13 (11·0)	3 (2·5)	1 (0·8)	14 (11·9)	5 (4·2)	26 (22·0)	31 (26·2)

TABLE NO. A 1·9—*contd.*

(e) Plant protection measures

Area/groups	Reasons		Non-adoption		
	Lack of supply	Not needed	Partial	Total	Grand Total
1	2	3	4	5	6
Ludhiana	49 (33·1)	60 (40·5)	6 (4·0)	103 (69·6)	109 (73·6)
Amritsar	76 (93·8)	..	..	76 (93·8)	76 (93·8)
Hissar	..	69 (98·6)	..	69 (98·6)	69 (98·6)
All blocks	45 (28·8)	72 (46·2)	5 (3·2)	112 (71·8)	117 (75·0)
All non-block areas	80 (56·0)	57 (39·9)	1 (0·7)	136 (95·2)	137 (95·9)
Big cultivators	22 (40 0)	23 (41·8)	2 (3·6)	43 (78·2)	45 (81·8)
Medium cultivators	54 (42·9)	49 (38·8)	4 (3·2)	99 (78·5)	103 (81·7)
Small cultivators	49 (41·5)	57 (48·3)	..	106 (89·8)	106 (89·8)

TABLE NO. A 1·10

Gram Sahayaks and non-Gram Sahayaks

(a) Knowledge of campaign practices among Gram Sahayaks and non-Gram Sahayaks

Campaign practices	Gram Sahayaks			Non-Gram Sahayaks		
	1957-58	1958-59	% increase or decrease	1957-58	1958-59	% increase or decrease
1	2	3	4	5	6	7
1. Seed treatment ..	18 (60·0)	21 (65·6)	+9·3	68 (59·1)	78 (57·0)	—3·6
2. Basal application	21 (70·0)	32 (100·0)	+42·9	73 (63·5)	113 (82·5)	+30·0
3. Top dressing ..	27 (90·0)	32 (100·0)	+11·1	109 (98·2)	125 (94·0)	—4

NOTE 1—Wheat growers

	Gram Sahayaks	Non-Gram Sahayaks	Relevant No. for top dressing	
			Gram Sahayaks	Non-Gram Sahayaks
1957-58	30	115	30	111
1958-59	32	137	32	133

NOTE 2—Figures in brackets indicate percentages based on relevant wheat growers.

TABLE NO. A 1·10—*contd.*

(b) Adoption of campaign practices by Gram Sahayaks and non-Gram Sahayaks

Compaign practices	Gram Sahayaks			Non-Gram Sahayaks		
	1957-58	1958-59	Percentage increase or decrease	1957-58	1958-59	Percentage increase or decrease
1	2	3	4	5	6	7
1. Seed Treatment ..	9 (30·0)	6 (18·8)	—37·3	9 (7·8)	13 (9·5)	+21·8
2. Improved seed ..	24 (80·0)	26 (81·3)	+1·6	111 (96·5)	133 (97·1)	+0·6
3. Timely sowing ..	30 (100·0)	31 (96·9)	—3·1	98 (85·2)	177 (85·4)	+0·2
4. Basal application ..	3 (10·0)	10 (31·3)	+213·0	13 (11·3)	23 (16·8)	+48·7
5. Top dressing ..	7 (23·3)	12 (37·5)	+60·9	32 (28·8)	48 (36·1)	+25·3
6. Weeding ..	22 (73·3)	21 (65·6)	—10·5	99 (86·1)	102 (74·5)	—13·5
7. Plant protection measures. ..	13 (43·3)	16 (50·0)	+15·5	20 (17·4)	33 (24·1)	+38·6

(c) Influence of the Campaign on the adoption of practices by Gram Sahayaks and non-Gram Sahayaks

Campaign practices	Adoption due to campaign			
	Gram Sahayaks		Non-Gram Sahayaks	
	No.	% of growers	No.	% of growers
1	2	3	4	5
1. Seed treatment	4	12·5	4	2·9
2. Improved seed	1	3·1	1	0·7
3. Basal application	10	31·3	10	7·3
4. Top dressing	11	34·4	33	24·1
5. Plant protection measures	15	46·9	31	22·6

TABLE No. A 1·10—*contd.*

(d) Area under improved practices reported by Gram Sahayaks and non-Gram Sahayaks

Campaign practices	Gram Sahayaks			Non-Gram Sahayaks		
	1957-58	1958-59	Percentage increase or decrease	1957-58	1958-59	Percentage increase or decrease
1	2	3	4	5	6	7
1. Timely sowing ..	126·5 (100·0)	165·1 (96·5)	30·5 (—3·5)	442·0 (88·2)	522·9 (88·9)	18·3 (0·8)
2. Basal application	9·9 (7·8)	33·0 (19·3)	233·3 (147·4)	29·9 (6·0)	56·8 (9·6)	90·0 (60·0)
3. Top dressing ..	14·2 (11·2)	18·3 (10·7)	28·9 (—4·5)	116·3 (23·2)	181·9 (30·9)	56·4 (33·2)
4. Weeding ..	102·5 (81·0)	127·1 (74·3)	24·0 (—8·3)	449·5 (89·7)	504·8 (85·8)	12·3 (—4·3)
5. Plant protection measures.	41·5 (32·8)	72·9 (42·6)	75·7 (29·9)	96·8 (19·3)	188·9 (32·1)	95·1 (66·3)

NOTE—1. Figures in brackets in columns 2, 3, 5 and 6 are percentages of total wheat area. Figures in brackets in col. 4 and 7 indicate percentage increase relative to wheat areas in two seasons.

2. Area under wheat (in acres)—

	Gram Sahayaks	Non-Gram Sahayaks
1957-58	126·5	501·0
1958-59	171·1	587·8
Percentage increase	35·3	17·3

3. For top dressing, relevant area is that under irrigated wheat.

(e) Area brought under improved practices due to the campaign

Campaign practices	Gram Sahayaks	Non-Gram Sahayaks
1	2	3
1. Improved seed	10·0 (5·8)	3·1 (0·5)
2. Basal application	33·0 (19·3)	27·4 (4·6)
3. Top dressing	18·3 (10·7)	131·6 (22·4)
4. Plant protection measures	67·4 (39·4)	177·6 (30·2)

NOTE—1. Figures in brackets are percentages of wheat area.
2. The relevant area for top dressing is that under irrigated wheat.

TABLE NO. A 1·10—*contd.*

(f) Reasons for non-adoption of campaign practices reported by Gram Sahayaks

Serial No.	Reasons	Campaign practices				
		Seed treatment	Basal application	Top dressing	Weeding	Plant protection measures
1	2	3	4	5	6	7
1	Natural conditions ..	5 (15·6)	..	..	..	..
2	Not needed	8 (25·0)	5 (15·7)	8 (25·0)	10 (31·3)	18 (56·3)
3	Not convinced	1 (3·1)	1 (3·1)	..	..	..
4	Not interested	1 (3·1)	..	..	..	..
5	No knowledge	11 (34·4)	..	..	..	..
6	Difficulties of finance ..	..	11 (34·4)	7 (21·9)	..	..
7	Too costly	..	..	2 (6·2)	..	..
8	Lack of time	..	1 (3·1)	..	2 (6·2)	..
9	Lack of irrigation ..	..	10 (31·2)	12 (37·5)	..	..
10	Lack of supply	..	..	..	..	..
11	Experimenting	..	..	..	..	..
12	Lack of labour	..	..	..	..	..
	All reasons	26 (81·2)	28 (87·5)	29 (90·6)	12 (37·5)	18 (56·3)
	Partial non-adoption ..	26 (81·2)	6 (18·8)	9 (28·1)	1 (3·1)	2 (6·3)
	Complete non-adoption ..	26 (81·2)	22 (68·7)	20 (62·5)	11 (34·4)	16 (50·0)

Note—Figures in brackets are percentages to relevant wheat growers. For top dressing percentages are to irrigated wheat growers.

TABLE NO. A 1·10—*contd.*

(g) Reasons for non-adoption of campaign practices reported by non-Gram Sahayaks

Serial No.	Reasons	Campaign practices				
		Seed treatment	Basal application	Top dressing	Weeding	Plant protection measures
1	2	3	4	5	6	7
1	Natural conditions ..	4 (2·9)	2 (1·5)	1 (0·7)	19 (13·9)	..
2	Not needed	..	11 (8·0)	20 (15·0)	20 (14·6)	64 (46·7)
3	Not convinced	7 (5·1)	1 (0·7)	1 (0·7)	.. ..	.. ..
4	Not interested	54 (39·4)	..	..	..	..
5	No knowledge	59 (43·1)	24 (17·5)	11 (8·3)	.. ..	.. ..
6	Difficulties of finance ..	..	9 (6·6)	9 (6·8)	.. ..	.. ..
7	Too costly	..	44 (32·1)	52 (39·1)	..	..
8	Lack of time	..	18 (13·1)	2 (1·5)	..	..
9	Lack of irrigation ..	..	20 (14·6)	17 (12·8)	..	..
10	Lack of supply	..	..	..	..	45 (32·8)
11	Experimenting	..	..	3 (2·3)	..	..
12	Lack of labour	..	..	..	2 (1·5)	..
All reasons		124 (90·5)	129 (94·1)	116 (87·2)	41 (30·0)	109 (79·5)
Partial non-adoption		..	15 (10·9)	31 (23·3)	6 (4·4)	5 (3·6)
Complete non-adoption ..		124 (90·5)	114 (83·2)	85 (63·9)	35 (25·6)	104 (75·9)

NOTE—Figures in brackets are percentages to relevant wheat growers. For top dressin percentages are to irrigated wheat growers.

TABLE No. A 1·11.—*contd.*

(*a*) *Wheat growers adopting practices due to campaign, their area and output*

District/Block/Non-block area	No.		Area (acres)		Output (mds.)	
	1957-58	1958-59	1957-58	1958-9	1957-58	1958-59
1	2	3	4	5	6	7
1. Ludhiana—						
Block	61	61	347·4	396·5	6533·9	7028·7
Non-block area ..	29	31	148·8	182·3	2076·4	2396·2
2. Amritsar—						
Block	3	3	15·0	11·5	211·0	212·5
Non-block area ..	2	3	5·0	6·0	76·0	81·0
3. Hissar—						
Block	3	3	11·5	15·5	73·0	142·0
Non-block area ..	1	1	7·0	5·0	70·0	92·0

	Yield per acre (mds.)		Increase(+) or decrease(—) in output over the previous season (mds.)	Increase or decrease due to	
	1957-58	1958-59		Additional area (mds.)	Practices (mds.)
	8	9	10	11	12
1. Ludhiana—					
Block	18·81	17·73	494·8	923·6	—428·8
Non-block area ..	13·95	13·14	319·8	467·3	—147·5
2. Amritsar—					
Block	14·07	18·48	1·5	—49·2	50·7
Non-block area ..	15·20	13·50	5·0	15·2	—10·2
3. Hissar—					
Block	6·35	9·16	69·0	25·4	43·6
Non-block area ..	10·00	18·40	22·0	—20·0	42·0

NOTE—In the 1957-58 there was no campaign. Cols. 2, 4, 6 and 8, therefore, show only the corresponding position in the 1957-58.

TABLE No. A 1·11—*contd.*

(b) Wheat growers not influenced by the campaign, their area and output

District/Block/Non-block	No.		Area (Acres)		Output (mds.)	
	1957-58	1958-59	1957-58	1958-59	1957-58	1958-59
1	2	3	4	5	6	7
1. Ludhiana—						
Block	14	13	47·0	57·5	626·9	772·8
Non-block area ..	42	43	162·0	177·0	2588·7	2194·2
2. Amritsar—						
Block	32	39	99·5	114·0	1063·0	1197·1
Non-block area ..	27	36	68·0	98·5	661·4	591·4
3. Hissar—						
Block	20	37	51·5	89·5	326·0	707·0
Non-block area ..	29	29	286·0	326·7	2853·0	5145·0

	Yield per acre (mds.)		Increase(+) or decrease(—) in output over the previous season (mds.)	Increase or decrease due to	
	1957-58	1958-59		Additional area (mds.)	Practices (mds.)
	8	9	10	11	12
1. Ludhiana—					
Block	13·34	13·44	145·9	140·1	5·8
Non-block area ..	15·98	12·40	—394·5	239·7	—634·2
2. Amritsar—					
Block	10·68	10·50	134·1	154·9	—20·8
Non-block area ..	9·73	6·00	—70·0	296·8	—366·8
3. Hissar—					
Block	6·33	7·90	381·0	240·5	140·5
Non-block area ..	9·98	15·75	2292·0	406·2	1885·8

TABLE NO. A 1·12

Distribution of seeds and fertilizers in selected areas

District/Block/Non-block area	Seeds (Mds.)			Fertilizers (Tons)		
	1957-58	1958-59	% increase or decrease over previous year	1957-58	1958-59	% increase or decrease over previous year
1	2	3	4	5	6	7
1. *Ludhiana*—						
(*a*) District ..	2,987·0	3,300·0 (+2,8071)*	10·5	1,591·5	1,920·5	20·7
(*b*) Block ..	305·0	1,875·0 (+1,913)*	514·8	240·7	471·8	96·0
(*c*) Non-block area	257·0	436·0	69·6	349·5	326·0	—6·7
2. *Amritsar*—						
(*a*) District ..	3,023·0	3,000·0 (+65,000)*	—0·8	1,389·5	1,058·0	—23·9
(*b*) Block ..	150·0	200·0 (+771)*	33·3	47·4	59·2	24·9
(*c*) Non-block area	1,100·0	420·0 (+17,234)*	—61·8	716·0	584·5	—18·4
3. *Hissar*—						
(*a*) District ..	3,262·0	4,369·0	33·9	288·5	414·3	43 6
(*b*) Block ..	120·0	530·0	341·7	2·8	16·4	485·7
(*c*) Non-block area	426·0	828·0	94·4	195·0	N A.	..
All districts ..	9,272·0	10,669·0	15·1	3,269·5	3,392·8	3·8
All blocks ..	575·0	2,605·0	353·0	290·9	547·4	88·2
All non-blocks areas	1,783·0	1,684·0	—5·6	1,260·5	910·5	—27·8

This quantity of 'mixture' of improved seeds was given at subsidized rate in flood affected area. The percentages of increase or decrease have been calculated on the basis of improved seed only.

TABLE No. A 1·13

Reactions of cultivators who obtained wheat seed from Institutional Agencies

Reactions	Rabi Season 1958-59 1957-58	All districts		
		Agricultural seed store	Cooperative seed store	Total
1	2	3	4	5
1. Relevant number of cultivators	1958-59	6	45	51
	1957-58	3	5	8
2. No. reporting supply—				
(*a*) Adequate	1958-59	5	24	29
	1957-58	3	5	8
(*b*) Timely	1958-59	6	45	51
	1957-58	3	5	8
(*c*) Proper quality	1958-59	6	45	51
	1957-58	3	5	8
(*d*) Price reasonable	1958-59	3	40	43
	1957-58	3	3	6

Reactions	Rabi Season 1958-59 1957-58	All blocks			All non-block areas		
		Agricultural seed store	Cooperative seed store	Total	Agricultural seed store	Cooperative seed store	Total
1	2	6	7	8	9	10	11
1. Relevant number of cultivators.	1958-59	4	25	29	2	20	22
	1957-58	..	2	2	3	3	6
No. reporting supply							
(*a*) Adequate ..	1958-59	3	13	16	2	11	13
	1957-58	..	2	2	3	3	6
(*b*) Timely ..	1958-59	4	25	29	2	20	22
	1957-58	..	2	2	3	3	6
(*c*) Proper quality	1958-59	4	25	29	2	20	22
	1957-58	..	2	2	3	3	6
(*d*) Price reasonable	1958-59	1	23	24	2	17	19
	1957-58	..	2	2	3	1	4

TABLE NO. A 1·14

Distribution of cultivators by sources of supply of improved wheat seed

Sources	Amritsar			Ludhiana			Hissar		
	Block	Non-block area	Total	Block	Non-block area	Total	Block	Non-block area	Total
1	2	3	4	5	6	7	8	9	10
1. Agriculture stores—									
1958-59 ..	1	..	1 (1·2)	3	..	3 (2·0)	..	2	2 (2·9)
1957-58 ..	..	..	..	..	..	..	..	3	3 (5·7)
2. Cooperative store—									
1958-59 ..	9	9	18 (22·2)	12	11	23 (15·5)	4	..	4 (5·7)
1957-58 ..	..	..	..	1	3	4 (2·7)	1	..	1 (1·9)
3. Market—									
1958-59 ..	3	3	6 (7·4)	..	2	2 (1·4)	13	1	14 (20·0)
1957-58 ..	10	6	16 (25·0)	..	..	..	4	..	4 (7·5)
4. Self—									
1958-59 ..	20	19	39 (48·1)	53	57	110 (74·3)	11	8	19 (27·1)
1957-58 ..	19	12	31 (48·4)	73	66	139 (95·2)	8	5	13 (24·5)
5. Other farmers—									
1958-59 ..	9	8	17 (21·0)	6	4	10 (6·8)	6	..	6 (8·6)
1957-58 ..	6	11	17 (26·6)	1	2	3 (2·0)	3	1	4 (7·5)
6. All sources—									
1958-59 ..	42	39	81 (100·0)	74	74	148 (100·0)	34	11	45 (64·3)
1957-58 ..	35	29	64 (100·0)	75	71	146 (100·0)	16	9	25 (47·2)

NOTE—Figures in brackets give percentages of cultivators.

TABLE NO. A 1·14—*contd.*

Sources	All blocks	All non-block areas	All districts
	11	12	13
1. Agriculture stores—			
1958-59	4	2	6 (2·0)
1957-58	..	3	3 (1·1)
2. Co-operative seed store—			
1958-59	25	20	45 (15·1)
1957-58	2	3	5 (1·9)
3. Market—			
1958-59	16	6	22 (7·4)
1957-58	14	6	20 (7·6)
4. Self—			
1958-59	84	84	168 (56·2)
1957-58	100	83	183 (69·6)
5. Other farmers—			
1958-59	21	12	33 (11·0)
1957-58	10	14	24 (9·1)
6. All sources—			
1958-59	150	124	274 (91·6)
1957-58	126	109	235 (89·4)

सत्यमेव जयते

APPENDIX B

RAJASTHAN TABLES

TABLE No. B 2·1

Particulars of the sample cultivators

Items	Block			Total	Non-block area			Total
	Cultivator-groups				Cultivator-groups			
	B	M	S		B	M	S	
1	2	3	4	5	6	7	8	9
				1. BHARATPUR				
1. Sample cultivators.	13	36	26	75	9	39	27	75
(a) With irrigated land.	12	22	11	45	8	24	8	40
(b) Without irrigated land.	1	14	15	30	1	15	19	35
2. (a) Members of the cooperatives.	7	10	14	31	7	26	7	40
(b) Members of the panchayats.	1	..	2	3	2	2	1	5
(c) Gram Sahayaks	3	1	2	6	..	..	..	..
3. Total cultivated area.	521·5	452·2	184·6	1,158·3	328·0	551·6	136·4	1,016·0
4. Irrigated area	78·3	43·7	26·2	148·2	53·6	95·4	12·6	161·6
5. Area under rabi crops.	317·7	351·1	179·6	848·4	187·8	400·6	112·4	700·8
6. Average area per cultivator.	40·1	12·6	7·1	15·4	36·4	14·2	5·1	13·5
				2. KOTAH				
1. Sample cultivators.	16	33	26	75	11	22	42	75
(a) With irrigated land.	8	14	13	35	..	..	1	1
(b) Without irrigated land.	8	19	13	40	11	22	41	74
2. (a) Members of the cooperatives.	6	9	4	19	1	8	11	20
(b) Members of the panchayats.	2	1	..	3	2	..	..	2
(c) Gram Sahayaks	6	4	..	10	..	..	..	..
3. Total cultivated area.	471·6	463·0	114·9	1,049·5	774·1	539·8	292·2	1,606·1
4. Irrigated area	18·0	19·4	16·8	54·2	..	..	1·9	1·9
5. Area under rabi crops.	280·0	253·1	58·9	592·0	490·3	373·0	211·4	1,074·7
6. Average area per cultivator.	29·5	14·0	4·4	14·0	70·4	24·5	7·0	21·4

NOTE— B—Big cultivators. M—Medium cultivators. S—Small cultivators.

TABLE No. B 2·1—*Contd.*

Items	Block			Total	Non-block area			Total
	Cultivator-groups				Cultivator-groups			
	B	M	S		B	M	S	
1	2	3	4	5	6	7	8	9
				3. SRI GANGANAGAR				
1. Sample cultivators.	13	32	30	75	15	25	35	75
(*a*) With irrigated land.	13	29	27	69	15	25	33	73
(*b*) Without irrigated land.	..	3	3	6	..	..	2	2
2. (*a*) Members of the cooperatives.	6	10	2	18	4	2	3	9
(*b*) Members of the Panchayats	3	6	2	11	3	2	2	7
(*c*) Gram Sahayaks.	1	1	1	3	..	..	..	..
3. Total cultivated area.	1,002·2	1,191·6	544·4	2,738·1	1,068·1	727·5	409·1	2,204·7
4. Irrigated area	601·0	658·6	299·2	1,558·8	1,032·3	676·2	394·6	2,103·1
5. Area under rabi crops.	556·6	758·8	349·1	1,664·4	646·9	401·9	238·4	1,287·2
6. Average area per cultivator.	77·1	37·2	18·1	36·5	71·2	29·1	11·7	29·4

NOTE—15 more Gram Sahayaks were selected in the three blocks of the districts to obtain a sizable number of total Gram Sahayaks. The distribution of additional Gram Sahayaks is given below:—

Block	No. of additional Gram Sahayaks
1. Ladpura (Kotah)	5*
2. Nagar (Bharatpur)	5
3. Raisinghnagar (Sri Ganganagar)	5

*Two were not available for canvassing the schedule.

TABLE No. B 2·2

No. of wheat, gram and barley growers and their area under them

(a) Wheat

Items	Block			Total	Non-block area			Total
	Cultivator groups				Cultivator groups			
	Big	Medium	Small		Big	Medium	Small	
1	2	3	4	5	6	7	8	9
			1. BHARATPUR					
1. No. of wheat growers—								
1958-59 ..	11	29	18	58	6	23	8	37
1957-58 ..	12	31	22	65	7	27	8	42
2. Wheat area—								
..	90·2	71·1	46·4	207·7	38·0	92·4	17·4	147·8
..	101·4	69·0	75·1	245·5	39·6	96·0	15·2	150·8
3. No. having irrigated wheat—								
1958-59 ..	9	17	8	34	5	17	4	26
1957-58 ..	9	19	10	38	6	20	2	28
4. Area under irrigated wheat—								
1958-59 ..	19·4	18·1	17·2	54·7	16·0	39·6	4·2	59·8
1957-58 ..	26·2	21·8	22·4	70·4	21·6	50·8	4·0	76·4
			2. KOTA					
1. No. of wheat growers—								
1958-59 ..	15	27	15	57	11	22	34	67
1957-58 ..	15	23	10	48	11	20	31	62
2. Wheat area—								
1958-59 ..	125·8	120·6	36·6	282·9	311·2	289·1	141·0	741·3
1957-58 ..	115·1	117·7	35·4	268·3	348·2	236·6	150·9	735·6
3. No. having irrigated wheat—								
1958-59 ..	5	7	8	20	..	..	..	..
1957-58 ..	5	5	3	13	..	..	..	..
4. Area under irrigated wheat—								
1958-59 ..	11·4	12·4	9·0	32·8	..	..	..	..
7-58 ..	11·4	6·7	3·8	21·9	..	..	..	..

TABLE No. B 2·2—*Contd.*

Items	Block			Total	Non-block area			Total
	Cultivator groups				Cultivator groups			
	Big	Medium	Small		Big	Medium	Small	
1	2	3	4	5	6	7	8	9
			3. SRI GANGANAGAR					
1. No. of wheat growers—								
1958-59 ..	11	27	24	62	15	25	34	74
1957-58 ..	12	29	26	67	14	25	33	72
2. Wheat area—								
1958-59 ..	176·6	299·7	90·6	566·9	434·4	245·3	133·9	813·6
1957-58 ..	172·8	273·4	107·2	553·4	387·8	234·1	124·7	746·6
3. No. having irrigated wheat—								
1958-59 ..	11	24	24	59	15	25	33	73
1957-58 ..	11	27	25	63	14	25	33	72
4. Area under irrigated wheat—								
1958-59 ..	142·2	209·1	85·6	436·9	406·2	241·6	127·0	774·8
1957-58 ..	127·8	216·6	93·1	437·5	387·8	234·1	124·7	746·6

(b) Wheat growers amongst Gram Sahayaks and non-Gram Sahayaks (Block areas only)

Year/item	Gram Sahayaks		Non-gram Sahayaks	
	No.	Area	No.	Area
1	2	3	4	5
1958-59—				
(*a*) Total	28	276·4	160	942·6
(*b*) having irrigated wheat	15	108·1	104	503·4
1957-58—				
(*a*) Total	26	241·7	165	957·8
(*b*) having irrigated wheat	11	114·3	108	504·6

TABLE No. B 2·2—*contd.*

No. of growers and area

(c) Gram

No. and area	Block			Non-block area		
	Bharatpur	Kota	Sri-Ganga-nagar	Bharatpur	Kota	Sri-Ganga-nagar
1	2	3	4	5	6	7
No. of growers—						
1958-59 ..	69	24	64	59	34	70
1957-58 ..	72	26	53	66	32	67
Area under gram—						
1958-59	369·2	104·6	468·1	234·7	163·0	248·9
1957-58 ..	327·2	110·3	382·8	271·1	213·3	265·3

(d) Barley

No. of growers—						
1958-59 ..	39	3	17	22	..	10
1957-58 ..	39	3	12	21	..	5
Area under barley—						
1958-59 ..	53·1	2·1	155·3	24·6	..	21·2
1957-58 ..	61·8	2·3	103·4	22·8	..	13·8

TABLE No. B 2·3

(a) No. of wheat growers reporting knowledge of campaign practices

Campaign practices	Block		Non-block area	
	1957-58	1958-59	1957-58	1958-59
1	2	3	4	5
1. BHARATPUR				
1. Improved seed	65	58	6	37
2. Seed treatment	18	37	10	15
3. Basal application of fertilizers	20	56	2	28
4. Top dressing	1	25	..	18
2. KOTA				
1. Improved Seed	48	57	47	56
2. Seed treatment	..	..	..	..
3. Basal application of fertilizers	39	57	43	56
4. Top dressing	9	20	..	..
3. SRI GANGANAGAR				
Improved seed	67	62	72	74
Seed treatment	6	14	5	20
3. Basal application of fertilizers	7	55	1	39
4. Top dressing	14	58	16	73

Note—Knowledge of other practices, viz. preparation of soil, line sowing, irrigation and weeding, was 100% in 1958-59 and 1957-58.

TABLE NO. B 2·3—*contd.*

(b) Knowledge of improved practices by broad holding groups

Crop: *Wheat*

Campaign practices	1957-58				1958-59			
	Cultivator groups				Cultivator groups			
	Big 71	Medium 155	Small 130	Total 356	Big 69	Medium 153	Small 133	Total 355
1	2	3	4	5	6	7	8	9
1. Improved Seed	65 (91·5)	127 (81·9)	113 (86·9)	305 (85·7)	69 (100·0)	149 (97·4)	126 (94·7)	344 (96·9)
2. Seed treatment	15 (21·1)	19 (12·3)	5 (3·8)	39 (11·0)	22 (31·9)	44 (28·8)	20 (15·0)	86 (24.2)
3. Basal application	29 (40·8)	54 (34·8)	29 (22·3)	112 (31·5)	59 (85·5)	127 (83·0)	105 (78·9)	291 (82·0)
4. Top dressing	12 (26·7)	18 (18·8)	10 (13·7)	40 (18·7)	38 (84·4)	83 (92·2)	73 (94·8)	194 (91·5)

	% increase or decrease			
	Cultivator groups			Total
	Big	Medium	Small	
	10	11	12	13
1 Improved seed	+9·3	+18·9	+9·0	+13·1
2. Seed treatment	+51·26	+134·1	+294·7	+120·0
3. Basal application	+109·6	+138·5	+253·8	+160·3
4. Top dressing	+216·1	+390·4	+592·0	+389·3

(c) Knowledge of campaign items among Gram Sahayaks and non-Gram Sahayaks (Blocks only)

Campaign practices	Gram Sahayaks		%age increase or decrease.	Non-Gram Sahayaks		%age increase or decrease.
	1957-58	1958-59		1957-58	1958-59	
1	2	3	4	5	6	7
1. Improved seed ..	26 (100·0)	28 (100·0)	..	165 (100·0)	160 (100·0)	..
2. Seed treatment ..	9 (32·1)	18 (64·3)	+ (100·3)	18 (10·9)	42 (20·2)	+ (140·4)
3. Basal application ..	18 (69·2)	27 (96·4)	+ (39·3)	54 (32·7)	152 (95·0)	+ (190·5)
4. Top dressing ..	7 (63·6)	15 (100·0)	+ (57·2)	21 (19·4)	93 (89·9)	+ (360·8)

	Gram Sahayaks	Non-Gram Sahayaks
Wheat growers:		
1957-58 ..	26	165
1958-59 ..	28	160

Note—Figures in brackets indicate percentages of relevant wheat growere.

TABLE No. B 2·4

No. of barley growers reporting knowledge of campaign practices

Campaign practices	Block		Non-block area	
	1958-59	1957-58	1958-59	1957-58
1	2	3	4	5
BHARATPUR				
Basal application of fertilisers	34	13	8	..
Irrigation as recommended	23	24	1	..
Weeding	39	39	22	21
SRI GANGANAGAR				
Weeding	17	12	10	5

N.B.—(1) All the sample respondents had knowledge of preparation of soil and line sowing.

(2) In Sri Ganganagar basal application and irrigation were not sponsored practices for the crop.

(3) The number of barley growers in Kota was only three.

TABLE No. B 2·5

No. of wheat growers adopting campaign practices

Campaign Practices	Block			Non-block area		
	1957-58	1958-59	Due to cam-paign	1957-58	1958-59	Due to cam-paign
1	2	3	4	5	6	7
			BHARATPUR			
1. Preparation of soil	59	45	..	26	23	..
2. Seed treatment ..	19	37	20	5	14	4
3. Improved seed ..	23	42	20	7	16	4
4. Line sowing ..	65	58	..	42	37	..
5. Basal application	17	39	31	2	1	..
6. Irrigation as recommended.	26	23	..	17	11	..
7. Top dressing ..	1	2	1	..	..	..
8. Weeding ..	51	47	..	24	25	..
			KOTA*			
1. Preparation of Soil	45	52	..	62	66	..
2. Seed treatment ..	..	..	..	..	..	..
3. Improved seed ..	..	10	1	..	..	..
4. Line sowing ..	48	57	..	62	67	..
5. Basal application	..	6	..	..	..	..
6. Irrigation as recommended.	4	8	..	..	..	..
7. Top dssreing ..	..	..	..	..	..	..
			SRI GANGANAGAR			
1. Preparation of soil	21	18	1	17	15	..
2. Seed treatment ..	..	7	7	..	5	..
3. Improved seed ..	38	42	1	53	69	1
4. Line sowing ..	56	52	..	72	74	..
5. Basal application	2	2	..	1	..	..
6. Irrigation as recommended.	11	15	..	3	9	2
7. Top dressing ..	10	15	8	12	40	29
8. Weeding ..	62	57	..	62	66	3

*Weeding was not a sponsored practice in Kota.

TABLE No. B 2·6

(a) Adoption of improved practices by broad cultivator groups

Campaign practices	1957-58				1958-59				Due to campaign			
	Cultivator groups				Cultivator groups				Cultivator groups			
	B	M	S	Total	B	M	S	Total	B	M	S	Total
1	2	3	4	5	6	7	8	9	10	11	12	13
1. Preparation of soil.	55	100	75	230	51	94	74	219	..	1	..	1
2. Use of improved seed.	26	52	43	121	36	83	60	179	2	16	9	27
3. Seed treatment.	9	10	5	24	14	35	14	63	2	19	10	31
4. Line sowing.	69	150	126	345	67	148	130	345	..	..	..	..
5. Basal application.	7	13	2	22	14	21	13	48	7	12	12	31
6. Irrigation as recommended.	16	34	11	61	15	32	19	66	..	1	1	2
7. Top dressing.	10	9	4	23	14	25	18	57	6	19	13	38
8. Weeding and interculture.	33	91	75	199	34	90	71	195	2	..	1	3

B=Big M=Medium S=Small

(b) Adoption of campaign practices by Gram Sahayaks and non-Gram Sahayak

Campaign practices	Gram Sahayaks		Non-Gram Sahayaks		Adoption due to campaign	
	1957-58	1958-59	1957-58	1958-59	Gram Sahayaks	Non-Gram Sahayaks
1	2	3	4	5	6	7
1. Preparation of soil	24	23	113	103	3	9
2. Seed treatment ..	10	13	15	37	9	25
3. Improved seed ..	15	20	56	84	5	21
4. Line sowing ..	26	28	154	151	..	..
5. Basal application	2	12	19	40	5	27
6. Irrigation as recommended.	3	1	38	45	..	..
7. Top dressing ..	..	4	11	15	4	8
8. Weeding ..	15	15	107	97	..	..

NOTE—Wheat growers (in blocks only) among

	Gram Sahayaks and	Non-Gram Sahayaks :
1957-58	26	165
1958-59	28	160

TABLE NO. B 2·6—*Contd.*

(c) No. of gram growers adopting campaign practices in Sri Ganganagar

Campaign practices	Block		Non-block area	
	1958-59	1957-58	1958-59	1957-58
1	2	3	4	5
1. Preparations of soil	29	23	35	33
2. Improved seed	62	52	70	66
3. Line sowing	56	51	70	67
4. Irrigation as recommended	35	5	29	19
5. Weeding and interculture	57	50	54	54

No. growing gram	1958-59	1957-58
Block	64	53
Non-block area	70	67

Note—The changes in adoption of improved practices were not significant in Kota and Bharatpur. So the table has been given for Sri Ganganagar district only.

(d) No. of barley growers adopting campaign practices

Campaign practices	Block		Non-block area	
	1958-59	1957-58	1958-59	1957-58
1	2	3	4	5
BHARATPUR				
Preparation of soil	32	32	19	15
Line sowing	39	39	22	21
Basal application	7	..	..	..
Irrigation as recommended	21	21	1	..
Weeding	39	39	12	10
SRI GANGANAGAR				
Proparation of soil	6	5	2	..
Line sowing	17	12	10	5
Weeding	5	4	6	4

TABLE No. B 2·7

(a) *Area under improved practices* . . Crop : *Wheat*

(in acres)

Campaign practices	Block			Non-Block area		
	1957-58	1958-59	Due to campaign	1957-58	1958-59	Due to campaign
1	2	3	4	5	6	7
		1. BHARATPUR				
1. Preparation of soil	169·2	118·6	..	56·0	42·0	..
2. Improved seed ..	113·4	140·9	32·3	64·8	108·4	9·2
3. Line sowing ..	245·5	207·7	..	150·8	147·8	..
4. Basal application	75·9	127·1	43·7	17·6	28·0	..
5. Weeding ..	216·4	179·1	..	96·8	108·8	..
6. Irrigation as recommended.	41·2	27·1	..	42·2	14·8	..
7. Top dressing ..	16·0	17·6	1·6	..	..	..
		2. KOTA*				
1. Preparation of soil	206·1	238·1	..	696·1	579·9	..
2. Improved seed ..	..	39·6	6·2	..	..	..
3. Line sowing ..	268·3	282·5	..	735·7	741·5	..
4. Basal application	..	4·0	..	..	..	..
5. Irrigation as recommended.	5·0	11·6	..	..	..	..
6 Top dressing ..	..	..	..	..	..	..
		3. SRI GANGANAGAR				
1. Preparation of soil	167·5	174·4	13·7	137·8	153·8	..
2. Improved seed ..	290·9	364·0	8·1	578·1	674·9	48·4
3. Line sowing ..	428·8	460·3	..	746·6	813·7	..
4. Basal application	16·2	18·8	..	15·6	..	..
5. Weeding ..	472·3	503·5	..	438·8	651·4	58·8
6. Irrigation as recommended.	94·0	125·3	..	20·6	71·9	7·8
7. Top dressing ..	63·1	95·0	34·4	290·6	448·4	178·8

*Weeding was not a sponsored practice in Kota.

TABLE No. B 2·7—*contd.*

(*b*) *Area under improved practices by broad holding groups*

(in acres)

Campaign practices	1957-58				1958-59			
	Cultivator groups			Total	Cultivator groups			Total
	B	M	S		B	M	S	
1	2	3	4	5	6	7	8	9
1. Preparation of soil.	694·7	476·7	261·3	1432·7	631·8	473·5	201·5	1306·8
2. Improved seed	505·6	384·8	156·8	1047·2	561·2	557·3	209·3	1327·8
3. Line sowing..	1132·4	947·9	495·4	2575·7	1141·0	1059·1	453·4	2653·5
4. Basal application. ..	81·2	42·5	1·6	125·3	109·0	38·9	30·0	177·9
5. Weeding ..	383·3	553·4	287·6	1224·3	602·8	591·7	248·3	1442·8
6. Irrigation ..	80·8	95·3	26·4	202·5	111·4	100·4	38·9	250·7
7. Top dressing	282·3	70·6	16·9	369·8	328·8	166·9	65·4	561·1

(in acres)

Campaign practices	Due to campaign			
	Cultivator groups			Total
	B	M	S	
1	10	11	12	13
1. Preparation of soil	..	13·7	..	13·7
2. Improved seed	33·7	55·8	14·7	104·2
3. Line sowing	..	..	..	..
4. Basal application	4·0	16·1	23·6	43·7
5. Weeding	35·9	14·8	8·1	58·8
6. Irrigation	..	5·0	2·8	7·8
7. Top dressing	73·5	96·9	44·4	214·8

B—Big M—Medium S—Small

TABLE NO. B 2·7—*contd.*

(c) *Area under improved practices Gram Sahayaks and non-Gram Sahayaks (Block areas only)*

Crop—*Wheat*

(in acres)

Campaign practices		Gram Sahayaks	Non-Gram Sahayaks
1	2	3	4
1. Preparation of soil	1958-59	238·9 (86·4)	434·9 (46·4)
	1957-58	167·8 (69·4)	449·3 (47·2)
2. Improved seed	1958-59	171·7 (62·1)	485·6 (51·5)
	1957-58	103·3 (42·7)	383·5 (40·3)
3. Line sowing	1958-59	276·4 (100·0)	829·9 (88·0)
	1957-58	241·7 (100·0)	827·4 (86·4)
4. Basal application	1958-59	69·7 (25·2)	112·9 (12·1)
	1957-58	7·2 (3·0)	89·3 (9·4)
5. Weeding	1958-59	179·3 (99·9)	631·5 (87·2)
	1957-58	121·8 (90·1)	670·3 (88·7)
6. Irrigation as many times as recommended	1958-59	7·4 (6·8)	161·2 (32·0)
	1957-58	4·5 (3·9)	135·0 (26·8)
7. Top dressing:	1958-59	16·2 (15·0)	109·5 (21·8)
	1957-58	..	79·1 (15·7)

N.B.—The figures in brackets are percentages of the total area under wheat relevant to each practice. For weeding, the wheat area of Bharatpur and Sri Ganganagar districts only is relevant. For irrigation and top dressing the total area under irrigated wheat is relevant.

TABLE No. B 2·8

Reasons for non adoption of campaign practices

(a) Preparation of soil

Crop—*Wheat*

Area groups	Reasons						All reasons	Partial non-adoption	Total non-adoption
	No time available	Not needed	Unfavourable season	Not suitable	Lack of resources	Used tractor			
1	2	3	4	5	6	7	8	9	10
1. Bharatpur ..	22 (23·2)	..	5 (5·3)	..	..	..	27 (28·5)	..	27 (28·5)
2. Kota ..	6 (4·8)	..	..	..	..	..	6 (4·8)	..	6 (4·8)
3 Sri Ganganagar	60 (44·1)	6 (4·5)	4 (2·9)	15 (11·0)	2 (1·5)	23 (16·9)	110 (80·9)	7 (5·1)	103 (75·8)
4. All blocks ..	37 (20·9)	..	7 (4·0)	13 (7·3)	1 (0·6)	7 (4·0)	65 (36·8)	3 (1·7)	62 (35·1)
5. All non-block areas. ..	51 (28·7)	6 (3·4)	2 (1·1)	2 (1·1)	1 (0·6)	16 (9·0)	78 (43·9)	4 (2·2)	74 (41·7)
6. All big cultivators. ..	9 (13·0)	..	..	4 (5·8)	..	9 (13·0)	22 (31·9)	4 (5·8)	18 (26·1)
7. All medium cultivators. ..	37 (24·2)	1 (0·7)	3 (2·0)	9 (5·7)	1 (0·7)	11 (7·2)	62 (40·5)	3 (2·0)	59 (38·5)
8. All small cultivators. ..	42 (31·6)	5 (3·8)	6 (4·5)	2 (1·5)	1 (0·8)	3 (2·3)	59 (44·4)	..	59 (44·4)
9. Gram Sahayaks	5 (17·9)	..	..	..	..	..	5 (17·9)	..	5 (17·9)
10. Non-Gram Sahayaks.	32 (20·0)	..	7 (4·4)	13 (8·1)	1 (0·6)	7 (4·4)	60 (37·5)	3 (1·9)	57 (35·6)

NOTE—Figures in brackets are percentages of relevant growers.

TABLE No. B 2·8—*Contd.*

(*b*) *Improved seed*

Crop—*Wheat*

Areas/groups	Reasons							All reasons	Partial non-adoption	Total non-adoption
	No knowledge	Lack of water	Lack of supply	Not convinced	Not suitable	Lack of finance	Desi is better			
1	2	3	4	5	6	7	8	9	10	11
1. Bharatpur	..	..	41 (43·2)	..	..	..	..	41 (43·2)	4 (4·2)	37 (39·0)
2. Kota ..	11 (8·8)	49 (39·5)	33 (26·6)	3 (2·4)	..	2 (1·6)	20 (16·1)	118 (95·0)	4 (3·2)	114 (91·8)
3. Sri Ganganagar.	..	26 (19·1)	1 (0·7)	7 (5·1)	9 (6·6)	1 (0·7)	..	44 (32·2)	19 (14·0)	25 (18·2)
4. All blocks	..	36 (20·3)	26 (14·7)	6 (3·4)	8 (4·5)	2 (1·1)	16 (9·0)	94 (53·0)	11 (6·2)	83 (46·8)
5. All non-block areas.	11 (6·2)	39 (21·9)	49 (27·7)	4 (2·2)	1 (0·6)	1 (0·6)	4 (2·2)	109 (61·4)	16 (9·0)	93 (52·4)
6. All big cultivators ..	..	16 (23·2)	14 (20·3)	4 (5·8)	2 (2·9)	..	6 (8·7)	42 (60·9)	9 (13·0)	33 (47·9)
7. All medium cultivators.	4 (2·6)	23 (15·0)	35 (22·9)	4 (2·6)	5 (3·3)	1 (0·6)	9 (5·9)	81 (52·9)	11 (7·2)	70 (45·8)
8. All small cultivators.	7 (5·3)	36 (27·1)	26 (19·5)	2 (1·5)	2 (1·5)	2 (1·5)	5 (3·8)	80 (60·2)	7 (5·3)	73 (54·9)
9. Gram Sahayaks.	..	2 (7·1)	4 (14·3)	..	1 (3·6)	..	2 (7·1)	9 (32·1)	1 (3·6)	8 (28·5)
10. Non-Gram Sahayaks.	..	34 (21·3)	22 (13·8)	6 (3·8)	8 (5·0)	2 (1·3)	14 (8·8)	86 (54·0)	10 (6·3)	76 (47·7)

TABLE No. B 2·8—*contd.*

(*c*) *Seed treatment*

Crop—*Wheat*

Areas/groups	Reasons					All reasons	Partial non-adoption	Total non-adoption
	No knowledge	Not needed	Not-convinced	Lack of supply	Not suitable			
1	2	3	4	5	6	7	8	9
1. Bharatpur ..	43 (45·2)	..	..	2 (2·1)	..	45 (47·3)	1 (1·1)	44 (46·2)
2. Kota ..	124 (100·0)	..	..	..	..	124 (100·0)	..	124 (100·0)
3. Sri Ganganagar.	102 (75·6)	3 (2·2)	3 (2·2)	18 (13·2)	1 (0·7)	127 (93·4)	3 (2·2)	124 (91·2)
4. All blocks ..	126 (71·2)	..	3 (1·7)	7 (4·0)	1 (0·6)	137 (77·5)	4 (2·3)	133 (75·2)
5. All non-block areas.	143 (80·3)	3 (1·7)	..	13 (7·3)	..	159 (89·3)	..	159 (89·3)
6. All big cultivators. ..	47 (68·1)	2 (2·9)	..	7 (10·1)	..	56 (81·1)	1 (1·4)	55 (79·7)
7. All medium cultivators.	109 (71·2)	1 (0·6)	2 (1·3)	8 (5·2)	1 (0·6)	121 (78·9)	3 (2·0)	118 (76·9)
8. All small cultivators. ..	113 (85·0)	..	1 (0·8)	5 (3·8)	..	119 (89·6)	..	119 (89·6)
9. Gram Sahayaks	10 (35·7)	..	3 (10·7)	2 (7·1)	..	15 (53·5)	..	15 (53·5)
10. Non-Gram Sahayaks.	117 (73·1)	..	3 (1·9)	6 (3·8)	1 (0·6)	127 (79·4)	4 (2·5)	123 (76·9)

TABLE NO. B 2·8—*contd.*

(d) Basal application

Crop—*Wheat*

Areas/groups	Reasons						
	No knowledge	No time available	Not needed	Lack of water	Lack of supply	Not convinced	Not suitable
1	2	3	4	5	6	7	8
1. Bharatpur	11 (11·6)	..	4 (4·2)	..	11 (11·6)	5 (5·3)	10 (10·6)
2. Kota	11 (8·9)	..	9 (7·3)	49 (39·5)	34 (27·4)	3 (2·4)	..
3. Sri Ganganagar ..	42 (30·9)	3 (2·2)	44 (32·3)	..	1 (0·7)	3 (2·2)	32 (23·5)
4. All blocks	9 (5·1)	3 (1·7)	20 (11·3)	25 (14·1)	21 (11·9)	6 (3·4)	34 (19·2)
5. All non-block areas ..	55 (31·0)	..	37 (20·8)	24 (13·5)	25 (14·0)	5 (2·8)	8 (4·5)
6. All big cultivators ..	10 (14·5)	..	14 (20·3)	11 (15·9)	11 (15·9)	2 (2·9)	5 (7·2)
7. All medium cultivators	26 (17·0)	3 (1·9)	20 (13·1)	18 (11·8)	23 (15·0)	7 (4·6)	18 (11·8)
8. All small cultivators ..	28 (21·1)	..	23 (17·3)	20 (15·0)	12 (9·0)	2 (1·5)	19 (14·3)
9. Gram Sahayaks ..	1 (3·6)	..	3 (10·7)	5 (17·9)	5 (17·9)	..	..
10. Non-Gram Sahayaks	9 (5·6)	3 (1·9)	19 (11·9)	22 (13·8)	16 (10·0)	6 (3·8)	34 (21·3)

TABLE No. B 2·8—*contd.*
(*d*) *Basal application*—contd.

Crop—*Wheat*

Areas groups	Reasons				All reasons	Partial non-adoption	Total non-adoption
	Lack of finance	F.Y.M.* is sufficient	Compost & F.Y.M.* is better	Reason not given			
	9	10	11	12	13	14	15
1. Bharatpur	15 (15·8)	..	..	..	56 (59·1)	1 (1·1)	55 (58·0)
2. Kota	2 (1·6)	15 (12·1)	1 (0·8)	..	124 (100·0)	6 (4·8)	118 (95·2)
3. Sri Ganganagar ..	9 (6·6)	..	..	2 (1·5)	136 (100·0)	2 (1·5)	134 (98·5)
4. All blocks	7 (4·0)	14 (8·0)	..	..	139 (78·7)	9 (5·1)	130 (73·6)
5. All non-block areas ..	19 (10·7)	1 (0·6)	1 (0·6)	2 (1·1)	177 (99·6)	..	177 (99·6)
6. All big cultivators ..	2 (2·9)	3 (4·3)	..	1 (1·4)	59 (85·3)	4 (5·8)	55 (79·5)
7. All medium cultivators.	14 (9·2)	6 (3·9)	..	1 (0·6)	136 (88·9)	4 (2·6)	132 (86·3)
8. All small cultivators ..	10 (7·5)	6 (4·5)	1 (0·8)	..	121 (91·0)	1 (0·8)	120 (90·2)
9. Gram Sahayaks ..	2 (7·1)	1 (3·6)	..	..	17 (60·8)	1 (3·6)	16 (57·2)
10. Non-Gram Sahayaks.	6 (3·8)	13 (8·1)	..	..	128 (80·2)	8 (5·0)	120 (75·2)

*F.Y.M.—Farm Yard manure.

TABLE No. B 2·8—*contd.*

(e) Irrigation as recommended

Crop—*Wheat*

Areas/Groups	Reasons			All reasons	Non-adoption	
	Not needed	Lack of water	Un-faourable season		Partial	Total
1	2	3	4	5	6	7
1. Bharatpur ..	22 (36·7)	4 (6·7)	..	26 (43·4)	..	26 (43·4)
2. Kota ..	..	7 (35·0)	5 (25·0)	12 (60·0)	..	12 (60·0)
3. Sri-Ganganagar ..	14 (10·6)	91 (68·9)	4 (3·0)	109 (82·5)	1 (0·8)	108 (81·8)
4. All blocks ..	9 (8·0)	53 (46·9)	5 (4·4)	67 (59·3)	..	67 (59·3)
5. All non-block areas	27 (27·3)	49 (49·5)	4 (4·0)	80 (80·8)	1 (1·0)	79 (79·8)
6. All big cultivators	7 (15·6)	21 (46·7)	3 (6·7)	31 (69·0)	1 (2·2)	30 (66·7)
7. All medium cultivators ..	18 (20·0)	38 (42·2)	3 (3·3)	59 (65·5)	..	59 (65·6)
8. All small cultivators	11 (14·3)	43 (55·8)	3 (3·9)	57 (74·0)	..	57 (74·0)
6. Gram Sahayaks.	1 (6·7)	12 (80·0)	1 (6·7)	14 (93·4)	..	14 (93·3)
10. Non-Gram Sahayaks.	8 (7·7)	47 (45·2)	4 (3·8)	59 (56·7)	..	59 (56·7)

TABLE No. B 2·8—*contd.*

(f) Top dressing

Crop—*Wheat*

Areas/Groups	Reasons						
	No knowledge	Not needed	Lack of water	Lack of supply	Not convinced	Not suitable	Lack of finance
1	2	3	4	5	6	7	8
1. Bharatpur	17 (28·3)	..	..	9 (15·0)	9 (15·0)	..	23 (38·3)
2. Kota	..	20 (100·0)	..	..	..	..	
3. Sri Ganganagar ..	1 (0·8)	29 (22·0)	24 (18·2)	4 (3·0)	1 (0·8)	6 (4·5)	38 (28·8)
4. All blocks	10 (8·8)	29 (25·7)	19 (16·8)	11 (9·7)	5 (4·4)	6 (5·3)	25 (22·1)
5. All non-block areas ..	8 (8·1)	20 (20·2)	5 (5·0)	2 (2·0)	5 (5·0)	..	36 (36·4)
6. All big cultivators ..	7 (15·6)	12 (26·7)	3 (6·7)	3 (6·7)	1 (2·2)	2 (4·4)	8 (17·8)
7. All medium cultivators	7 (7·8)	20 (22·2)	8 (8·9)	5 (5·6)	6 (6·7)	3 (3·3	29 (32·2)
8. All small cultivators ..	4 (5·2)	17 (22·1)	13 (16·9)	5 (6·5)	3 (3·9)	1 (1·3)	24 (31·2)
9. Gram Sahayaks ..	..	4 (26·7)	..	2 (13·3)	..	1 (6·7)	4 (26·7)
10. Non-Gram Sahayaks	10 (9·6)	26 (25·0)	19 (18·3)	9 (8·6)	5 (4·8)	6 (5·8)	21 (20·2)

TABLE No. B 2·8—*contd.*

(f) Top dressing—contd.

Crop—*Wheat*

Areas/Groups	Reasons			All reasons	Partial non-adoption	Total non-adoption
	Lack of resources	Experimenting	Reason not given			
	9	10	11	12	13	14
1. Bharatpur ..	..	..	2 (3·3)	60 (100·0)	2 (3·3)	58 (96·7)
2. Kota	..	..	..	20 (100·0)	..	20 (100·0)
3. Sri Ganganagar ..	1 (0·8)	2 (1·5)	..	106 (80·4)	29 (22·0)	77 (58·4)
4. All blocks ..	1 (0·9)	1 (0·9)	1 (0·9)	108 (95·5)	12 (10·6)	96 (84·9)
5. All non-block areas	..	1 (1·0)	1 (1·0)	78 (78·7)	19 (19·2)	59 (59·5)
6. All big cultivators	1 (2·2)	..	2 (4·4)	39 (86·7)	8 (17·8)	31 (68·9)
7. All medium cultivators.	..	2 (2·2)	..	80 (88·9)	15 (16·7)	65 (72·2)
8. All small cultivators	..	..	..	67 (87·0)	8 (10·4)	59 (76·6)
9. Gram Sahayaks	..	1 (6·7)	..	12 (80·0)	1 (6·7)	11 (73·3)
10. Non-Gram Sahayaks.	1 (1·0)	..	1 (1·0)	98 (94·3)	9 (8·7)	89 (85·6)

TABLE NO. B 2·8—*concld.*

(g) Weeding and interculture

Crop—*Wheat*

Areas/Groups	Reasons			All reasons	Partial non-adoption	Total non-adoption
	Not needed	*Not convinced	Lack of resources			
1	2	3	4	5	6	7
1. Bharatpur ..	22 (23·2)	1 (1·1)	..	23 (24·3)	..	23 (24·3)
2. Kota*	..	..	..	..	..	..
3. Sri Ganganagar ..	11 (8·1)	2 (1·5)	4 (2·9)	17 (12·5)	4 (2·9)	13 (9·6)
4. All blocks	13 (10·8)	2 (1·7)	1 (0·8)	16 (13·3)	..	16 (13·3)
5. All non-block areas.	20 (18 0)	1 (0·9)	3 (2 7)	24 (21·6)	4 (3·6)	20 (18 0)
6. All big cultivators	7 (16·3)	2 (4·7)	1 (2·3)	10 (23·3)	1 (2·3)	9 (20·9)
7. All medium cultivators ..	14 (13·5)	..	1 (1·0)	15 (14·5)	1 (1·0)	14 (13·5)
8. All small cultivators	12 (14·3)	1 (1·2)	2 (2·4)	15 (17·9)	2 (2·4)	13 (15·5)
9. Gram Sahayaks ..	1 (6·2)	..	..	1 (6·2)	..	1 (6·2)
10. Non-Gram Sahayaks.	12 (10·7)	2 (1·8)	1 (0·9)	15 (13·4)	..	15 (13·4)

* The practice was not sponsored in Kota.

TABLE No. B 2·9

Wheat growers, their area and output

(a) Wheat growers adopting practice due to campaign, their area and yield

Distt./Block/Non-block area	No. of growers		Area (acres)		Output (Mds.)	
	1957-58	1958-59	1957-58	1958-59	1957-58	1958-59
1	2	3	4	5	6	7
Bharatpur—						
Block ..	31	31	116·9	123·3	1,578·5	1,871·5
Non-block area ..	3	4	18·4	23·2	120·0	116·0
Kota—						
Block ..	1	1	4·2	6·2	25·0	27·0
Non-block area ..	..	..	..	..	..	..
Sri Ganganagar						
Block ..	14	14	111·6	120·9	1,483·0	1,629·5
Non-block area ..	33	34	479·4	519·4	6,174·0	7,363·5

Distt./Block/Non-block area	Output per acre (Mds.)		Increase (+) or decrease (—) in yield over the previous year (Mds.)	Increase or decrease in yield due to	
	1957-58	1958-59		Change in area (Mds.)	Practice (Mds.)
	8	9	10	11	12
Bharatpur—					
Block ..	13·50	15·18	+293·0	86·4	206·6
Non-block area ..	6·52	5·00	—4·0	31·3	—35·3
Kota—					
Block ..	5·95	4·35	+2·0	11·9	—9·9
Non-block area ..	..	..	..	..	..
Sri Ganganagar—					
Block ..	13·29	13·48	+146·5	123·6	22·9
Non-block area ..	12·88	14·18	+1,189·5	515·2	674·3

TABLE NO. B 2·9—*contd.*

(b) Wheat growers not influenced by campaign, their area and yield

Distt./Block/ Non-block area	No. of growers		Area (acres)		Output (Mds.)	
	1957-58	1958-59	1957-58	1958-59	1957-58	1958-59
1	2	3	4	5	6	7
Bharatpur—						
Block ..	34	27	128·6	84·4	2,335·0	1,159·5
Non-block area ..	39	33	132·4	124·6	116·5	625·8
Kota—						
Block	47	56	266·6	278·7	1,104·0	1,483·5
Non-block area ..	62	67	742·7	752·3	3,516·0	3,236·0
Sri Ganganagar—						
Block ..	53	48	441·8	446·0	3,541·0	4,076·5
Non-block area ..	39	40	267·3	294·1	3,839·0	3,839·5

Distt./Block/Non-block area	Output per acre (Mds.)		Increase (+) or decrease (—) in yield over the previous year (Mds.)	Increase or decrease in yield due to	
	1957-58	1958-59		Change in area (Mds.)	Practice (Mds.)
	8	9	10	11	12
Bharatpur—					
Block ..	18·16	13·74	—1,175·5	—802·7	—372·8
Non-block area ..	8·43	5·02	—490·7	—65·8	—424·9
Kota—					
Block ..	4·14	5·32	+379·5	50·1	329·4
Non-block area	4·73	4·30	—280·0	—45·4	—243·6
Sri Ganganagar—					
Block ..	8·01	9·14	+535·5	33·6	501·9
Non-block area ..	14·36	13·06	+0·5	384·8	—385·3

NOTE—In year 1957-58 there was no campaign. Cols. 2, 4, 6 and 8, therefore, show only the corresponding position in the year 1957-58.

TABLE No. B 2·10

Distribution of seeds and fertilizers in the selected areas

Districts/Block/ Non-block area	Fertilizers				
	No. of outlets		Quantity distributed (in Tons)		% increase over 1957-58
	1957-58	1958-59	1957-58	1958-59	
1	2	3	4	5	6
1. *Bharatpur*—					
(*a*) District	N.A.	74	186·5	557·0	+198·7
(*b*) Block	14	15	107·2	59·8	—44·2
(*c*) Non-block area	13	16	26·0	29·5	+13·5
2. *Kota*—					
(*a*) District	20	30	105·0	115·0	+9·5
(*b*) Block	4	11	21·5	33·8	+57·2
(*c*) Non-block area ..	1	1	*Nil*	2·0	..
3. *Sri Ganganagar*—					
(*a*) District ..	70	N.A.	501·2	1,807·1	+260·6
(*b*) Block	4	21	215·5	480·0	+122·7
(*c*) Non-block area ..	6	31	158·2	490·0	+207·7
All districts	90	104	792·7	2,479·1	+212·7
All blocks	22	47	344·2	573·6	+66·6
All Non-block areas	20	48	184·2	521·5	+183·1

Districts/Block/ Non-block area	Seeds				
	No. of outlets		Quantity distributed (in Mds.).		% increase over
	1957-58	1958-59	1957-58	1958-59	1957-58
1	2	3	4	5	6
1. *Bharatpur*—					
(*a*) District	N.A.	74	22,876	52,676	+130·3
(*b*) Block	4	4	4,000	6,650	+66·3
(*c*) Non-block area ..	1	4	6,350	6,179	—2·7
2. *Kota*—					
(*a*) District	20	35	5,886	8,382	+42·4
(*b*) Block	4	9	5,511	4,329	—21·4
(*c*) Non-block area ..	1	2	*Nil*	285	..
3. *Sri Ganganagar*					
(*a*) District	68	N.A.	29,409	68,818	+134·0
(*b*) Block	20	24	18,242	12,426	—31·9
(*c*) Non-block area ..	6	19	798	10,825	+1,256·5
All districts	88	83	58,171	129,876	+123·3
All blocks	28	37	27,753	23,405	—15·7
All non-block area	8	25	7,148	17,289	+141·9

N.A.—(Not Available).

TABLE No. B 2·11

Distribution of cultivators by sources of supply of improved wheat seed

Sources	Rabi seasons	Block				Non-block area			
		Cultivator-groups			Total	Cultivator-groups			Total
		Big	Medium	Small		Big	Medium	Small	
1	2	3	4	5	6	7	8	9	10
1. Agriculture seed store.	1958-59	2	3	..	5	6	9	2	17
	1957-58	3	..	..	3	1	..	..	1
2. Cooperative seed store.	1958-59	8	20	10	38	1	4	1	6
	1957-58	3	7	7	17	..	..	..	..
3. Panchayat ..	1958-59	1	3	4	8	1	1	3	5
	1957-58	..	..	..	..	..	..	..	..
4. Market	1958-59	..	..	..	..	1	..	..	1
	1957-58	..	..	..	..	..	1	..	1
5. Self	1958-59	9	17	15	41	9	23	19	51
	1957-58	8	15	12	35	10	27	18	55
6. Other farmers ..	1958-59	..	..	3	3	..	1	5	6
	1957-58	..	1	2	3	..	..	2	2
7. Self and other farmers	1958-59	..	1	..	1	..	1	..	1
	1957-58	..	1	1	2	1	2	1	4
8. All sources ..	1958-59	20	45	32	97	18	39	30	87
	1957-58	14	24	22	60	12	30	21	63

TABLE NO. B 2·12

Distribution of cultivators using chemical fertilizers obtained from institutional agencies (Agri. seed stores, co-operative seed stores, Panchayat and VLW.)

(wheat growers)

Institutional agencies	Bharatpur		Kota		Sri Ganganagar	
	Block	Non-block area	Block	Non-block area	Block	Non-block area
1	2	3	4	5	6	7
All institutional agencies—						
1958-59 ..	39*	1	6	..	13	@33
1957-58 ..	19	2	..	..	7	1

* 33 cultivators obtained chemical fertilizers from co-operative seed stores.

@ 29 cultivators obtained chemical fertilizers through Panchayat agency.

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TABLE No. B 2·13

Reactions of cultivators who obtained wheat seed from institutional agencies

Reactions	Agriculture seed store			Cooperative seed store			Panchayat		
	Block	Non-block area	Total	Block	Non-block area	Total	Block	Non-block area	Total
1	2	3	4	5	6	7	8	9	10
1. Relevant number of cultivators—									
1958-59 rabi ..	5	17	22	38	6	44	9	5	14
1957-58 rabi ..	3	1	4	17	..	17	..	..	..
2. No. reporting supplies—									
(*a*) Adequate—									
1958-59 rabi ..	5	12	17	23	6	29	6	3	9
1957-58 rabi ..	3	1	4	16	..	16	..	..	..
(*b*) Timely—									
1958-59 rabi ..	5	17	22	36	6	42	9	5	14
1957-58 rabi ..	3	1	4	17	..	17	..	..	..
(*c*) Proper quality—									
1958-59 rabi ..	5	17	22	31	6	37	9	5	14
1957-58 rabi ..	3	1	4	4	..	4	..	..	..

APPENDIX C
UTTAR PRADESH TABLES
TABLE NO. C 3·1
Particulars of the sample cultivators

Items	Block				Non-block area			
	Cultivator Groups			Total	Cultivator Groups			Total
	Big	Medium	Small		Big	Medium	Small	
1	2	3	4	5	6	7	8	9
			1. MUZAFFARNAGAR					
1. Sample cultivators.	12	31	32	75	20	29	26	75
2. (*a*) Members of Cooperatives.	7	16	15	38	6	12	9	27
(*b*) Members of Panchayat.	5	9	11	25	7	8	4	19
(*c*) Gram Sahayaks.*	4	4	4	12	3	3	..	6
3. Total cultivated area (in acres).	306·2	366·4	155·7	828·3	740·6	332·9	133·2	1,206·7
4. Irrigated area (in acres)	271·1	327·4	123·7	722·2	447·9	204·7	92·4	745·0
5. Area under rabi crops (in acres).	217·9	236·2	117·0	571·1	298·3	166·0	72·3	536·6
6. Average area per cultivator (in acres).	25·5	11·8	5·0	11·0	37·0	11·5	5·1	16·1
			2. RAE BARELI					
1. Sample cultivators.	12	25	38	75	10	30	35	75
2. (*a*) Members of Cooperatives.	7	7	6	20	4	8	9	21
(*b*) Members of Panchayat.	3	4	4	11	2	4	3	9
(c) Gram Sahayaks*	2	2	4	8	..	2	..	2
3. Total cultivated area (in acres).	114·4	100·8	71·8	287·0	97·5	125·6	64·0	287·1
4. Irrigated area (in acres).	97·9	95·2	67·7	260·8	67·5	78·3	44·7	190·5
5. Area under rabi crops (in acres).	63·4	62·7	43·2	179·3	43·8	71·3	36·5	151·6
6. Average area per cultivator (in acres).	9·5	4·0	1·9	3·8	9·8	4·2	1·8	3·8

TABLE No. C 3·1—*contd.*

Items	Block				Non-block area			
	Cultivator Groups			Total	Cultivator Groups			Total
	Big	Medium	Small		Big	Medium	Small	
1	2	3	4	5	6	7	8	9
			3. DEORIA					
1. Sample cultivators.	11	28	36	75	6	22	47	75
2.(*a*) Member of Cooperatives.	6	14	21	41	3	7	12	22
(*b*) Member of Panchayats.	8	14	15	37	3	3	8	14
(*c*) Gram Sahayaks*	7	3	1	11	1	..	1	2
3. Total cultivated area (in acres).	176·5	156·8	86·1	418·4	116·0	128·5	117·5	362·0
4. Irrigated area (in acres).	176·5	154·8	86·1	416·4	97·0	112·0	92·7	301·7
5. Area under rabi crops (in acres)	87·7	82·7	49·5	219·9	61·0	53·0	50·9	164·9
6. Average area per cultivator (in acres)	16·0	5·6	2·4	5·6	19·3	5·8	2·5	4·8

*15 more Gram Sahayaks were selected in the three blocks of the districts to obtain a sizable number of total Gram Sahayaks. The distribution of additional Gram Sahayaks is given below—

Block	No. of Additional Gram Sahayaks
1. Muzaffarnagar (Kairana)	5
2. Rae Bareli (Harchandpur)	4
3. Deoria (Hata)	6

TABLE No. C 3·2

Number of wheat growers and their area

(Area in acres)

Items	Block				Non-block area			
	Cultivator Groups			Total	Cultivator Groups			Total
	Big	Medium	Small		Big	Medium	Small	
1	2	3	4	5	6	7	8	9
			1. MUZAFFARNAGAR					
1. No. of wheat growers—								
1958-59 ..	12	31	29	72	20	29	22	71
1957-58 ..	12	31	29	72	20	29	22	71
2. Wheat area—								
1958-59 ..	96·2	121·2	66·3	283·7	180·8	94·4	31·5	306·7
1957-58 ..	75·5	98·5	50·9	224·9	158·9	87·4	30·4	276·7
3. No. having irrigated wheat								
1958-59 ..	12	31	29	72	17	26	20	63
1957-58 ..	12	31	28	71	16	25	18	59
4. Area under irrigated wheat								
1958-59 ..	90·1	114·0	58·7	262·8	92·7	49·3	18·0	160·0
1957-58 ..	72·9	95·2	48·1	216·2	92·1	48·1	18·5	158·7
			2. RAE BARELI					
1. No. of wheat growers—								
1958-59 ..	12	24	38	74	10	29	31	70
1957-58 ..	12	25	36	73	10	30	32	72
2. Wheat area—								
1958-59 ..	22·7	22·2	20·9	65·8	17·9	20·1	13·3	51·3
1957-58 ..	18·3	22·0	18·3	58·6	16·4	20·7	13·2	50·3

TABLE NO. C 3·2—*contd.*

Number of wheat growers and their area—contd.

(Area in acres)

Items	Block				Non-block area			
	Cultivator Groups			Total	Cultivator Groups			Total
	Big	Medium	Small		Big	Medium	Small	
1	2	3	4	5	6	7	8	9
			RAE BARELI—*contd.*					
3. No. having irrigated wheat—								
1958-59 ..	12	24	38	74	10	26	30	66
1957-58 ..	12	25	36	73	10	26	31	67
4. Area under irrigated wheat—								
1958-59 ..	22·7	22·2	20·9	65·8	17·9	18·8	13·0	49·7
1957-58 ..	18·3	22·0	18·3	58·6	16·4	17·7	13·0	47·1
			3. DEORIA					
1. No. of wheat growers—								
1958-59 ..	11	28	35	74	6	22	31	59
1957-58 ..	11	28	35	74	6	22	35	63
2. Wheat area—								
1958-59 ..	39·8	35·0	21·2	96·0	25·3	25·8	20·2	71·3
1957-58 ..	39·7	34·9	21·8	96·4	21·3	25·0	21·3	67·6
3. No. having irrigated wheat								
1958-59 ..	11	28	35	74	6	22	30	58
1957-58 ..	11	28	35	74	6	22	34	62
4. Area under Irrigated wheat								
1958-59 ..	39·8	35·0	21·2	96·0	25·3	25·8	20·0	71·1
1957-58 ..	59·7	34·9	21·8	96·4	21·3	25·0	21·1	67·4

TABLE No. C 3·3

Knowledge of campaign practices

(In percentage of growers)

Crop—*Wheat*

Campaign practices	Districts			All districts	All blocks
	Muzaffarnagar	Rae Bareli	Deoria		
1	2	3	4	5	6
1. Dibbler sowing—					
1958-59	50·3	74·3	43·6	56·4	77·7
1957-58	..	..	..	..	..
2. Line sowing—					
1958-59	100·0	100·0	100·0	100·0	100·0
1957-58	100·0	100·0	69·3	90·1	91·8
3. Basal application—					
1958-59	65·7	100·0	94·7	86·7	93·2
1957-58	28·0	100·0	83·2	70·4	76·7
4. Top dressing—					
1958-59	72·6	100·0	93·9	88·9	90·5
1957-58	27·2	100·0	47·8	59·4	56·4
5. Rogueing—					
1958-59	37·8	36·8	47·4	40·5	65·0
1957-58	25·2	10·3	2·2	12·7	20·5

Campaign practices	All non-block areas	Big cultivators	Medium cultivators	Small cultivators
1	7	8	9	10
1. Dibbler sowing—				
1958-59	33·0	62·0	57·7	53·2
1957-58	..	..	..	..
2. Line sowing—				
1958-59	100·0	100·0	100·0	100·0
1957-58	88·3	93·0	93·3	86·2
3. Basal application—				
1958-59	79·5	85·9	85·3	88·1
1957-58	63·6	67·6	67·9	73·5
4. Top dressing—				
1958-59	87·2	92·5	87·9	88·5
1957-58	63·8	61·2	58·6	60·4
5. Rogueing—				
1958-59	13·5	49·3	44·2	33·9
1957-58	4·4	15·5	13·9	10·6

NOTE—For top dressing percentages are based on the number of growers having irrigated land.

TABLE No. C 3·4

Adoption of campaign practices

(In percentage of growers)

Crop : Wheat

Campaign practices	Districts			All districts	All blocks
	Muzaffar-nagar	Rae Bareli	Deoria		
1	2	3	4	5	6
1. Preparation of soil—					
1958-59	79·7	7·6	72·9	52·9	55·0
1957-58	67·0	3·4	68·6	45·9	46·1
2. Improved seed—					
1958-59	97·2	83·3	63·2	81·7	89·5
1957-58	85·3	73·1	48·9	69·4	73·1
3. Line sowing—					
1958-59	99·3	79·2	66·2	81·9	85·0
1957-58	90·9	71·0	40·1	67·8	66·7
4. Dibbler sowing—					
1958-59	24·5	9·0	7·5	13·8	24·5
1957-58	..	..	..	..	..
5. Basal application—					
1958-59	42·0	29·9	44·4	38·6	55·5
1957-58	10·5	0·7	0·7	4·0	3·2
6. Irrigation—					
1958-59	2·2	13·5	59·1	24·6	19·5
1957-58	28·0	91·0	78·8	69·0	63·0
7. Top dressing—					
1958-59	46·7	23·6	34·8	34·8	40·5
1957-58	18·5	5·0	20·4	14·5	13·3
8. Weeding and interculture					
1958-59	51·7	13·2	39·8	34·8	27·7
1957-58	43·4	5·5	17·1	22·1	19·6
9. Rogueing—					
1958-59	27·1	..	1·5	8·1	15·5
1957-58	22·4	..	1·5	6·1	11·9

For irrigation and top dressing percentages are based on the number of growers having irrigated land.

TABLE No. C 3·4—*contd.*

Adoption of campagin purchases—contd.

Compaign practices	All non-block areas	Cultivator Groups		
		Big	Medium	Small
1	7	8	9	10
1. Preparation of soil—				
1958-59	50·5	59·2	54·6	48·9
1957-58	45·6	50·7	45·5	44·4
2. Improved seed—				
1958-59	73·0	93·0	84·0	75·3
1957-58	65·5	80·3	69·7	65·1
3. Line sowing—				
1958-59	78·5	78·7	84·7	76·9
1957-58	68·7	81·7	72·7	58·2
4. Dibbler sowing—				
1958-59	2·0	29·6	12·3	10·4
1957-58	..	..	..	..
5. Basal application—				
1958-59	20·0	52·1	41·7	30·6
1957-58	4·9	11·3	3·6	1·6
6. Irrigation—				
1958-59	30·5	29·4	22·9	24·2
1957-58	68·9	65·7	65·6	73·1
7. Top dressing—				
1958-59	28·3	54·4	38·9	24·2
1957-58	16·0	22·4	15·9	10·4
8. Weeding and interculture—				
1958-59	42·5	50·7	33·7	29·6
1957-58	24·8	30·9	21·2	19·6
9. Rogueing—				
1958-59	..	8·5	9·8	6·5
1957-58	..	5·6	7·2	5·3

NOTE —For irrigation and top dressing percentages are based on the number of growers having irrigated land.

TABLE No. C 3·5

Adoption of campaign practices attributed to campaign

(In percentage of growers)

Crop : Wheat

Serial No.	Campaign practices	Districts			All districts	All blocks
		Muzaffar-nagar	Rae Bareli	Deoria		
1	2	3	4	5	6	7
1	Improved seed ..	..	14·6	12·8	9·0	10·5
2	Line sowing ..	4·9	10·4	21·1	11·9	15·0
3	Dibbler sowing ..	24·5	9·0	7·5	13·8	24·5
4	Basal application ..	30·8	29·2	43·6	34·3	52·3
5	Top dressing ..	25·2	20·7	12·9	19·7	27·3
6	Weeding ..	11·2	4·2	18·8	11·9	11·4
7	Rogueing ..	5·6	..	..	1·9	3·6

Serial No.	Campaign practices	All non-block area	Cultivator Groups		
			Big	Medium	Small
1	2	8	9	10	11
1	Improved seed ..	7·5	9·9	10·4	7·5
2	Line sowing ..	8·5	7·0	8·6	16·7
3	Dibbler sowing ..	2·0	29·6	12·3	9·1
4	Basal application ..	14·5	40·8	38·0	28·5
5	Top dressing ..	10·7	30·0	20·4	14·8
6	Weeding ..	11·0	14·1	9·8	11·3
7	Rogueing ..	..	2·8	2·5	1·1

NOTE 1. No adoption due to campaign was reported for preparation of soil and irrigation.

2. For top dressing percentages relate to growers having irrigated land.

TABLE No. C 3·6

Area under campaign practices

Crop : Wheat

Campaign practices	Districts			All districts	All blocks
	Muzaffar-nagar	Rae Bareli	Deoria		
1	2	3	4	5	6
1. Improved seed—					
1958-59	577·3 (97·9)	99·4 (84·9)	96·6 (57·8)	773·3 (88·5)	412·6 (92·6)
1957-58	446·5 (89·0)	83·8 (77·1)	78·1 (47·7)	608·0 (78·5)	285·5 (75·2)
2. Line sowing—					
1958-59	581·7 (98·6)	96·0 (81·9)	98·2 (58·8)	776·0 (88·8)	407·9 (91·6)
1957-58	464·1 (192·5)	78·0 (71·8)	62·9 (38·4)	605·0 (78·2)	287·0 (75·6)
3. Basal application—					
1958-59	149·7 (25·4)	43·2 (36·9)	79·0 (47·3)	271·9 (31·1)	212·5 (47·7)
1957-58	32·4 (6·5)	1·8 (1·7)	4·0 (2·4)	38·2 (4·9)	23·9 (6·3)
4. Top dressing—					
1958-59	164·4 (38·9)	29·4 (25·5)	71·1 (42·8)	264·9 (37·6)	179·7 (42·3)
1957-58	53·0 (14·1)	11·0 (10·4)	47·0 (28·7)	111·1 (17·2)	52·9 (14·3)
5. Weeding—					
1958-59	134·6 (22·8)	16·6 (14·2)	86·5 (51·8)	237·6 (27·2)	115·9 (26·0)
1957-58	137·1 (27·3)	6·9 (6·3)	52·3 (31·9)	196·3 (25·4)	99·4 (26·2)

TABLE No. C. 3·6—*contd.*

Area under campaign practices—contd.

Crop : Wheat

Campaign practices	All non-block area	Cultivator Groups		
		Big	Medium	Small
1	7	8	9	10
1. Improved seed—				
1958-59	360·7 (84·2)	346·1 (90·6)	282·6 (88·7)	144·7 (83·6)
1957-58	322·9 (81·9)	283·8 (86·0)	216·6 (75·1)	107·6 (69·0)
2. Line sowing—				
1958-59	368·0 (85·9)	351·5 (92·0)	281·2 (88·2)	143·3 (82·8)
1957-58	318·0 (80·6)	283·6 (85·9)	222·4 (77·1)	99·0 (63·5)
3. Basal application—				
1958-59	59·4 (13·9)	124·6 (32·6)	104·7 (32·9)	100·0 (57·8)
1957-58	14·3 (3·6)	25·9 (7·8)	9·7 (3·4)	2·6 (1·7)
4. Top dressing—				
1958-59	85·2 (30·4)	129·3 (44·8)	96·7 (36·7)	38·9 (25·6)
1957-58	58·1 (21·3)	59·4 (22·8)	35·2 (14·5)	16·5 (11·7)
5. Weeding—				
1958-59	121·7 (28·4)	116·1 (30·4)	76·6 (24.0)	44·9 (25·9)
1957-58	96·9 (24·6)	89·7 (27·2)	67·3 (23·3)	39·3 (25·2)

NOTE :—(1) For top dressing percentages relate to irrigated area only.

(2) Figures outside the brackets indicate the areas in acres and those inside the brackets are percentages of the relevant areas.

TABLE NO. 3·7

Area brought under improved practices due to campaign

Crop : Wheat

(In acres)

Campaign practices	Districts			All districts
	Muzaffar nagar	Rae Bareli	Deoria	
1	2	3	4	5
1. Improved seeds	..	18·8 (16·1)	11·7 (7·0)	30·5 (3·5)
2. Line sowing	26·9 (4·6)	14·6 (12·5)	25·0 (15·0)	66·5 (7·6)
3. Basal application	119·9 (20·3)	41·2 (35·2)	75·0 (44·9)	236·1 (27·0)
4. Top dressing	107·4 (25·4)	22·5 (19·5)	23·8 (14·3)	153·7 (21·8)
5. Weeding and interculture	32·0 (5·4)	3·7 (3·2)	29·3 (17·5)	65·0 (7·4)

Campaign practices	All blocks	All non-block area	Cultivator Groups		
			Big	Medium	Smal
1	6	7	8	9	10
1. Improved seed	17·2 (3·8)	13·3 (3·1)	8·2 (2·1)	15·7 (4·9)	6·6 (3·8)
2. Line sowing	50·0 (11·2)	16·5 (3·9)	14·2 (3·7)	27·8 (8·7)	24·5 (14·2)
3. Basal application	194·1 (43·6)	42·0 (9·8)	100·7 (26·3)	95·3 (29·9)	40·2 (23·2)
4. Top dressing	130·8 (30·8)	22·9 (8·2)	78·4 (27·2)	52·0 (19·6)	23·3 (15·4)
5. Weeding and interculture ..	43·6 (9·8)	21·4 (5·0)	29·3 (7·7)	19·7 (6·2)	16·0 (9·2)

NOTE—1. For top dressing percentages relate to irrigated area only.

2. Figures outside the bracket give the area under the practice and inside the bracket the percentage.

TABLE NO. C 3·8

Reasons for non-adoption of campaign practices

(a) Preparation of soil

Crop: Wheat

Areas/groups	Reasons				All reasons	Complete non-adoption
	Lack of equipment	Lack of time	Heavy rains	Not needed		
1	2	3	4	5	6	7
Districts—						
Muzaffarnagar ..	3 (2·1)	20 (14·0)	6 (4·2)	..	29 (20·3)	29 (20·3)
Rae Bareli ..	15 (10·4)	118 (81·9)	..	..	133 (92·4)	133 (92·4)
Deoria	6 (4·5)	19 (14·3)	2 (1·5)	9 (6·8)	36 (27·1)	36 (27·1)
All blocks ..	10 (4·5)	85 (38·6)	4 (1·8)	..	99 (45·0)	99 (45·0)
All non-block areas	14 (7·0)	72 (36·0)	4 (2·0)	9 (4·5)	99 (49·5)	99 (49·5)
Cultivator groups—						
Big	6 (8·5)	20 (28·2)	1 (1·4)	2 (2·8)	29 (40·8)	29 (40·8)
Medium	10 (6·1)	55 (33·7)	7 (4·3)	2 (1·2)	74 (45·4)	74 (45·4)
Small	8 (4·3)	82 (44·1)	..	5 (2·7)	95 (51·1)	95 (51·1)

NOTE—1. Figures in brackets give percentage based on total growers of wheat.

2. Partial adoption was not reported by any respondent for this item.

TABLE No. C 3·8—*contd.*

(*b*) *Improved seed*

Crop : *Wheat*

Areas/groups	Reasons			
	Costly	Not needed	Lack of supply	Not convinced
1	2	3	4	5
Districts—				
Muzaffarnagar	..	..	4 (2·8)	..
Rae Bareli	1 (0·7)	..	18 (12·5)	2 (1·4)
Deoria	..	7 (5·3)	51 (38·3)	..
All blocks	1 (0·5)	7 (3·2)	27 (12·3)	1 (0·5)
All non-block areas	..	..	46 (23·0)	1 (0·5)
Cultivator groups—				
Big	..	..	8 (11·3)	..
Medium	..	3 (1·8)	22 (13·5)	2 (1·2)
Small	1 (0·5)	4 (2·2)	43 (23·1)	..

Areas/groups	Reasons			Complete non-adoption	Partial Non-adoption
	Experimenting	Own supply	All reason		
1	6	7	8	9	10
Districts—					
Muzaffarnagar	..	..	4 (2·8)	4 (2·8)	..
Rae Bareli	1 (0·7)	12 (8·3)	34 (23·6)	24 (16·7)	10 (6·9)
Deoria	..	11 (8·3)	69 (51·9)	49 (36·8)	20 (15·0)
All blocks	1 (0·5)	6 (2·7)	43 (19·5)	23 (10·5)	20 (9·1)
All non-block areas	..	17 (8·5)	64 (32·0)	54 (27·0)	10 (5·0)
Cultivator groups—					
Big	..	3 (4·2)	11 (15·5)	5 (7·0)	6 (8·5)
Medium	..	12 (7·4)	39 (23·9)	26 (16·0)	13 (8·0)
Small	1 (0·5)	8 (4·3)	57 (30·6)	46 (24·7)	11 (5·9)

NOTE—Figures in brackets give percentages based on total growers of wheat.

TABLE No. C 3·8—*contd.*

(c) Line sowing

Crop : Wheat

Areas/groups	Reasons					
	Lack of time	Heavy rains	Lack of labour supply	Not convinced	Soil not suitable	Takes too much time
1	2	3	4	5	6	7
Districts—						
Muzaffarnagar ..	..	1 (0·7)	..	..	1 (0·7)	..
Rae Bareli ..	..	..	4 (2·8)	9 (6·2)	23 (16·0)	..
Deoria	22 (16·5)	..	..	14 (10·5)	..	31 (23·3)
All blocks ..	17 (7·7)	1 (0·5)	4 (1·8)	10 (4·5)	23 (10·5)	..
All non-block areas	5 (2·5)	..	..	13 (6·5)	1 (0·5)	31 (15·5)
Cultivator groups—						
Big	5 (7·0)	..	..	..	6 (8·5)	2 (2·8)
Medium	7 (4·3)	..	2 (1·2)	8 (4·9)	4 (2·5)	14 (8·6)
Small	10 (5·4)	1 (0·5)	2 (1·1)	15 (8·1)	14 (7·5)	15 (8·1)

Areas/ groups	Reasons		Complete non-adoption	Partial non-adoption
	Experimenting	All reasons		
1	8	9	10	11
Districts—				
Muzaffarnagar ..	..	2 (1·4)	1 (0·7)	1 (0·7)
Rae Bareli ..	2 (1·4)	38 (26·4)	30 (20·8)	8 (5·6)
Deoria	..	67 (50·4)	45 (33·8)	22 (16·5)
All blocks ..	..	55 (25·0)	33 (15·0)	22 (10·0)
All non-block areas ..	2 (1·0)	52 (26·0)	43 (21·5)	9 (4·5)
Cultivator groups—				
Big	1 (1·4)	14 (19·7)	8 (11·3)	6 (8·5)
Medium	1 (0·6)	36 (22·1)	25 (15·3)	11 (6·7)
Small	..	57 (30·6)	43 (23·1)	14 (7·5)

NOTE—Figures in brackets give percentages based on total growers of wheat.

TABLE No. C 3·8—*contd*

(d) Basal application

Crop : Wheat

Areas/groups	Reasons				
	Not needed	Not known	Lack of supply	Not convinced	Experimenting
1	2	3	4	5	6
Districts—					
Muzaffarnagar	10 (7·0)	49 (34·3)	12 (8·4)	10 (7·0)	..
Rae Bareli	35 (24·3)	..	23 (16·0)	3 (2·1)	7 (4·9)
Deoria	6 (4·5)	7 (5·3)	40 (30·1)	2 (1·5)	..
All blocks	24 (10·9)	15 (6·8)	34 (15·5)	7 (3·2)	6 (2·7)
All non-block areas	27 (13·5)	41 (20·5)	41 (20·5)	8 (4·0)	1 (0·5)
Cultivator groups—					
Big	8 (11·3)	10 (14·1)	15 (21·1)	4 (5·6)	2 (2·8)
Medium	22 (13·5)	24 (14·7)	28 (17·2)	6 (3·7)	5 (3·1)
Small	21 (11·3)	22 (11·8)	32 (17·2)	5 (2·7)	..

Areas/groups	Reasons				Complete non-adoption	Partial non-adoption
	Lack of finance	Costly	Lack of water	All reasons		
1	7	8	9	10	11	12
Districts—						
Muzaffarnagar ..	3 (2·1)	23 (16·1)	..	107 (74·8)	83 (58·0)	24 (16·8)
Rae Bareli ..	..	36 (25·0)	10 (6·9)	114 (79·2)	101 (70·1)	13 (9·0)
Deoria	29 (21·8)	..	..	84 (63·2)	74 (55·6)	10 (7·5)
All blocks	13 (5·9)	27 (12·3)	..	126 (57·3)	98 (44·5)	28 (12·7)
All non-block areas	19 (9·5)	32 (16·0)	10 (5·0)	179 (89·5)	160 (80·0)	19 (9·5)
Cultivator groups—						
Big	..	8 (11·3)	1 (1·4)	48 (67·6)	34 (47·9)	14 (19·7)
Medium	9 (5·5)	17 (10·4)	7 (4·3)	118 (72·4)	95 (58·3)	23 (14·1)
Small	23 (12·4)	34 (18·3)	2 (1·1)	139 (74·7)	129 (69·4)	10 (5·4)

NOTE :—Figures in brackets give percentages based on total growers of wheat.

TABLE NO. C 3·8—*contd*

(e) Top dressing

Crop : Wheat

Areas/groups	Reasons					
	Not needed	Not known	Lack of supply	Not convinced	Lack of finance	Costly
1	2	3	4	5	6	7
Districts—						
Muzaffarnagar ..	11	37	8	29	5	2
	(8·1)	(27·4)	(5·9)	(21·5)	(3·7)	(1·5)
Rae Bareli ..	16	..	1	2	..	95
	(11·4)		(0·7)	(1·4)		(67·9)
Deoria	11	8	23	8	32	4
	(8·3)	(6·1)	(17·4)	(6·1)	(24·2)	(3·0)
All blocks	13	21	8	36	14	57
	(5·9)	(9·5)	(3·6)	(16·4)	(6·4)	(25·9)
All non-block areas ..	25	24	24	3	23	44
	(13·4)	(12·8)	(12·8)	(1·6)	(12·3)	(23·5)
Cultivator groups—						
Big	12	5	5	6	3	10
	(17·6)	(7·5)	(7·5)	(8·8)	(4·4)	(14·7)
Medium	18	19	14	16	13	36
	(11·5)	(12·1)	(8·9)	(10·2)	(8·3)	(22·9)
Small	8	21	13	17	21	55
	(4·4)	(11·5)	(7·1)	(9·3)	(11·5)	(30·2)

Areas/groups	Reasons		All reasons	Complete non-adoption	Partial non-adoption
	Lack of water	Heavy rains			
1	8	9	10	11	12
Districts—					
Muzaffarnagar	..	2	94	72	22
		(1·5)	(69·6)	(53·3)	(16·3)
Rae Bareli	7	..	121	107	14
	(5·0)		(86·4)	(76·4)	(10·0)
Deoria	..	..	86	86	..
			(65·1)	(65·1)	
All blocks	..	1	150	131	19
		(0·5)	(68·2)	(59·5)	(8·6)
All non-block areas	7	1	151	134	17
	(3·7)	(0·5)	(80·7)	(71·7)	(9·1)
Cultivator groups—					
Big	..	1	42	31	11
		(1·5)	(61·8)	(45·6)	(16·2)
Medium	1	1	118	96	22
	(0·6)	(0·6)	(75·2)	(61·1)	(14·0)
Small	6	..	141	138	3
	(3·3)		(77·5)	(75·8)	(1·6)

NOTE—Figures in brackets give percentages based on growers of irrigated wheat.

TABLE NO. C 3·8—*contd.*

(f) Irrigation

Crop : Wheat

Areas/groups	Reasons	
	Heavy rains	No time
1	2	3
Districts—		
Muzaffarnagar	130 (96·3)	2 (1·5)
Rae Bareli	121 (86·4)	..
Deoria	54 (40·9)	..
All blocks	177 (80·5)	..
All Non-block area	128 (68·5)	2 (1·1)
Cultivator groups—		
Big	47 (69·1)	1 (1·5)
Medium	120 (76·4)	1 (0·6)
Small	138 (75·8)	..

NOTE—Figures in brackets give percentages based on growers of wheat.

TABLE NO. C 3·8—*contd.*

(g) Weeding

Crop. : Wheat

Areas groups	Reasons					
	Lack of time	Heavy rains	Not needed	Lack of labour supply	Not convinced	Lack of finance
1	2	3	4	5	6	7
Districts—						
Muzaffarnagar ..	2 (1·4)	67 (46·9)	27 (18·9)	8 (5·6)	10 (7·0)	1 (0·7)
Rae Bareli ..	5 (3·5)	..	106 (73·6)	..	..	..
Deoria	33 (24·8)	..	16 (12·0)	1 (0·8)	7 (5·3)	2 (1·5)
All blocks ..	34 (15·5)	37 (16·8)	82 (37·3)	9 (4·1)	2 (0·9)	..
All non-block area	6 (3·0)	30 (15·0)	67 (33·5)	..	15 (7·5)	3 (1·5)
Cultivator groups—						
Big	6 (8·5)	19 (26·8)	24 (33·8)	3 (4·2)	1 (1·4)	..
Medium ..	12 (7·4)	28 (17·2)	62 (38·0)	3 (1·8)	11 (6·7)	2 (1·2)
Small	22 (11·8)	20 (10·8)	63 (33·9)	3 (1·6)	5 (2·7)	1 (0·5)

NOTE—Figures in brackets give percentages based on total growers of wheat.

TABLE No. C 3·8—*concld.*

(*g*) *Weeding*—concld.

Crop : Wheat

Areas/groups	Reasons			All reasons	Complete non-adoption	Partial non-adoption
	Costly	Not interested	Takes more time and labour			
1	8	9	10	11	12	13
Districts—						
Muzaffarnagar ..	..	7 (4·9)	..	122 (85·3)	69 (48·3)	53 (37·0)
Rae Bareli ..	17 (11·8)	..	..	128 (88·9)	125 (86·8)	3 (2·1)
Deoria	..	2 (1·5)	19 (14·3)	80 (60·2)	80 (60·2)	..
All blocks ..	10 (4·5)	6 (2·7)	13 (5·9)	193 (87·7)	159 (72·3)	34 (15·5)
All-non-block area	7 (3·5)	3 (1·5)	6 (3·0)	137 (68·5)	115 (57·5)	22 (11·0)
Cultivator groups—						
Big	1 (1·4)	1 (1·4)	..	55 (77·5)	35 (49·3)	20 (28·2)
Medium	6 (3·7)	3 (1·8)	5 (3·1)	132 (81·0)	108 (66·3)	24 (14·7)
Small	10 (5·4)	5 (2·7)	14 (7·5)	143 (76·9)	131 (70·4)	12 (6·5)

NOTE—Figures in brackets give percentages based on total growers of wheat.

TABLE No. C 3·9

Number of Pea growers and their area

Items	Blocks				Non-block areas			
	Cultivator groups			Total	Cultivator groups			Total
	Big	Medium	Small		Big	Medium	Small	
1	2	3	4	5	6	7	8	9
				1. MUZAFFARNAGR				
1. No. of pea growers—								
1958-59 ..	9	22	14	45	18	23	15	56
1957-58 ..	7	21	17	45	17	26	11	54
2. Pea area—								
1958-59 ..	30·5	34·8	10·8	76·1	50·6	24·3	12·0	86·9
1957-58 ..	21·6	22·5	10·9	55·0	36·4	20·2	9·4	66·0
3. No. having irrigated pea—								
1958-59 ..	9	21	14	44	16	20	13	49
1957-58 ..	6	21	17	44	15	20	10	45
4. Area under irrigated pea—								
1958-59 ..	30·5	34·6	10·8	75·9	42·9	21·2	9·5	73·6
1957-58 ..	21·4	22·5	10·9	54·8	29·6	16·0	7·7	53·3

TABLE NO. C 3·9—*contd*

Number of pea growers and their area—contd.

Items	Blocks				Non block areas			
	Cultivator groups			Total	Cultivator groups			Total
	Big	Medium	Small		Big	Medium	Small	
1	2	3	4	5	6	7	8	9
				2. Rae Bareli				
1. No. of pea growers—								
1958-59 ..	7	9	10	26	3	5	7	15
1957-58 ..	7	9	10	26	4	8	8	20
2. Pea area—								
1958-59 ..	5·9	3·9	2·2	12·0	1·1	2·5	1·7	5·3
1957-58 ..	4·5	2·7	2·2	9·4	2·2	3·6	1·6	7·4
3. No. having irrigated pea—								
1958-59 ..	7	9	10	26	2	4	6	12
1957-58 ..	7	9	10	26	4	6	7	17
4. Area under irrigated pea—								
1858-59 ..	5·9	3·9	2·2	12·0	1·1	1·8	1·6	4·5
1957-58 ..	4·5	2·7	2·2	9·4	2·2	2·8	1·5	6·5
				3. Deoria				
1. No. of pea growers—								
1958-59 ..	11	28	32	71	5	20	33	58
1957-58 ..	11	28	32	71	5	20	31	56
2. Pea area—								
1958-59 ..	25·9	25·3	17·7	68·9	15·9	11·9	14·5	42.3
1957-58 ..	24·0	26·1	16·1	66·2	15·3	11·6	12·4	39·3
3. No having irrigated pea—								
1958-59 ..	11	28	32	71	5	20	33	58
1957-58 ..	11	28	32	71	5	20	31	56
4. Area under irrigated pea—								
1958-59 ..	25·9	25·3	17·7	68·9	15·9	11·9	14·5	42·3
1957-58 ..	24·0	26·1	16·1	66·2	15·3	11·6	12·3	39·2

TABLE NO C 3·10

(a) Knowledge of campaign practices

Crop : Pea

Campaign practices	Districts			All blocks	All non-block areas
	Muzaffar-nagar	Rae Bareli	Deoria		
1	2	3	4	5	6
1. Line sowing—					
1958-59	101 (100·0)	41 (100·0)	88 (68·2)	142 (100·0)	88 (68·2)
1957-58	99 (100·0)	45 (97·8)	71 (55·9)	140 (98·6)	75 (57·7)
2. Basal application—					
1958-59	..	..	77 (59·7)	62 (87·3)	15 (25·9)
1957-58	..	..	..	..	..
3. Weeding—					
1958-59	..	..	35 (60·3)	..	35 (60·3)
1957-58	..	..	8 (14·3)	..	8 (14·3)

(Percentages given within brackets are based on relevant growers).

(b) Knowledge of campaign practices by broad holding groups

Crop : Pea

Campaign practices	1957-58			1958-59		
	Cultivator groups			Cultivator groups		
	Big	Medium	Small	Big	Medium	Small
1	2	3	4	5	6	7
1. Line sowing ..	47 (92·2)	90 (80·4)	78 (71·6)	49 (92·5)	95 (88·8)	86 (77·5)
2. Basal application	..	..	..	11 (68·8)	32 (66·7)	34 (52·3)
3. Weeding ..	2 (40·0)	1 (5·0)	5 (16·1)	5 (100·0)	13 (65·0)	17 (51·5)

NOTE—Percentages given in brackets are based on relevant growers.

TABLE No. C 3·11

(a) Adoption of campaign practices

Crop : Pea

Campaign practices	Districts			All blocks	All non-block areas
	Muzaffar-nagar	Rae Bareli	Deoria		
1	2	3	4	5	6
1. Preparation of soil—					
1958-59	47 (46·5)	11 (26·8)	122 (94·6)	90 (63·4)	90 (69·8)
1957-58	29 (29·3)	13 (28·3)	119 (93·7)	81 (57·0)	80 (61·5)
2. Improved seed—					
1958-59	49 (48·5)	4 (9·8)	74 (57·3)	97 (68·3)	30 (23·3)
1957-58	20 (20·2)	4 (8·7)	54 (42·5)	65 (45·8)	13 (10·0)
3. Line sowing—					
1958-59	26 (25·7)	8 (19·5)	15 (11·6)	27 (18·9)	22 (17·1)
1957-58	11 (11·1)	14 (30·4)	11 (8·6)	15 (10·6)	21 (16·2)
4. Basal application—					
1958-59	..	..	14 (10·9)	14 (19·7)	
1957-58	..	..	..	..	..
5. Irrigation—					
1958-59	..	2 (5·3)	119 (92·2)	72 (74·2)	49 (70·0)
1957-58	..	21 (48·8)	119 (93·7)	79 (81·4)	61 (83·6)
6. Weeding—					
1958-59	..	..	24 (41·4)	..	24 (41·4)
1957-58	..	..	8 (14·3)	..	8 (14·3)

NOTE—Figures in brackets give percentages based on relevant pea growers.

TABLE No. C 3·11—*contd.*

(b) Adoption of campaign practices by broad holding groups

Crop : Pea

Campaign practices	1957-58				1958-59			
	Cultivator groups			Total	Cultivator groups			Total
	Big	Medium	Small		Big	Medium	Small	
1	2	3	4	5	6	7	8	9
1. Preparation of soil ..	26 (51·0)	66 (58·9)	69 (63·3)	161 (59·2)	30 (56·6)	70 (65·4)	80 (72·1)	180 (66·4)
2. Improved seed	20 (39·2)	29 (25·9)	29 (26·6)	78 (28·7)	32 (60·4)	51 (47·7)	44 (39·6)	127 (46·9)
3. Line sowing	9 (17·6)	10 (8·9)	17 (15·6)	36 (13·2)	17 (32·1)	15 (14·0)	17 (15·3)	49 (18·1)
4. Basal application ..	..	..	..	..	5 (31·3)	4 (8·3)	5 (7·7)	14 (10·9)
5. Irrigation ..	21 (77·8)	53 (84·1)	66 (82·5)	140 (82·4)	17 (68·0)	45 (73·8)	59 (72·8)	121 (72·5)
6. Weeding ..	2 (40·0)	1 (5·0)	5 (16·1)	8 (14·3)	2 (40·0)	6 (30·0)	16 (48·5)	24 (41·4)

NOTE—Figures in brackets are percentages based on relevant pea growers.

TABLE No. C 3·11—*contd.*

(c) Adoption of practices due to campaign *Pea*

Campaign Practices	Districts			All blocks
	Muzaffar-nagar	Rae-Bareli	Deoria	
1	2	3	4	5
1. Improved seed	..	3 (7·3)	20 (15·5)	10 (7·0)
2. Line sowing	10 (9·9)	..	2 (1·6)	11 (7·7)
3. Basal application	..	..	14 (10·9)	14 (19·7)
4. Weeding	..	..	16 (27·6)	..

Campaign practices	All non block areas	Cultivator groups			
		Big	Medium	Small	Total
1	6	7	8	9	10
1. Improved seed	13 (10·1)	3 (5·7)	10 (9·3)	10 (9·0)	23 (8·5)
2. Line sowing	1 (0·8)	4 (7·5)	5 (4·7)	3 (2·7)	12 (4·4)
3. Basal application	..	5 (31·3)	4 (8·3)	5 (7·7)	14 (10·9)
4. Weeding	16 (27·6)	.. ..	5 (25·0)	11 (33·3)	16 (27·6)

NOTE—The figures in the brackets are percentages based on relevant growers of pea.

TABLE NO. C 3·12

(a) Area under campaign practices — *Crop : Pea*

Campaign practices	Muzaffar-nagar	Rae Bareli	Deoria	All districts	All blocks
1	2	3	4	5	6
1. Improved seed—					
1958-59	104·4	1·1	64·8	170·3	**124·3**
	(64·0)	(6·4)	(58·3)	(58·4)	(79·2)
1957-58	52·1	1·6	48·1	101·8	86·4
	(43·1)	(9·5)	(45·6)	(41·8)	(66·2)
2. Line sowing—					
1958-59	**43·4**	3·0	14·9	61·3	35·9
	(26·6)	(17·3)	(13·4)	(21·0)	(22·9)
1957-58	16·0	5·6	10·1	31·7	19·5
	(13·2)	(33·3)	(9·6)	(13·0)	(14·9)
3. Basal application—					
1958-59	..	..	18·4	18·4	18·4
			(16·5)	(16·5)	(26·7)
1957-58	..	..	..	..	..
4. Weeding—					
1958-59	..	..	15·3	15·3	..
			(36·2)	(36·2)	
1957-58	..	..	7·5	7·5	..
			(19·1)	(19·1)	

Campaign practices	All non-block areas	Cultivator groups		
		Big	Medium	Small
1	7	8	9	10
1. Improved seed—				
1958-59	45·9	86·4	59·0	24·9
	(34·2)	(66·5)	(57·5)	(42·2)
1957-58	15·4	48·8	35·8	17·2
	(13·7)	(46·9)	(41·2)	(32·7)
2. Line sowing—				
1958-59	25·4	34·1	18·0	9·2
	(18·9)	(26·3)	(17·5)	(15·6)
1957-58	12·2	17·7	6·3	7·7
	(10·8)	(17·1)	(7·3)	(14·6)
3. Basal application—				
1958-59	..	10·5	4·4	3·6
		(25·1)	(11·8)	(11·2)
1957-58	..	..	..	..
4. Weeding—				
1958-59	15·3	5·8	3·5	6·1
	(36·2)	(36·5)	(29·4)	(42·1)
1957-58	7·5	5·4	0·8	1·3
	(19·1)	(35·3)	(6·9)	(10·5)

NOTE—Figures in brackets are percentages based on relevant area.

TABLE No. C 3·12—*contd.*

(*b*) *Area brought under improved practices due to campaign*

Crop : Pea

Campaign practices	Muzaffar-nagar	Rae-Bareli	Deoria	All districts	All blocks
1	2	3	4	5	6
1. Improved seed	..	0·9 (5·2)	9·4 (8·5)	10·3 (3·5)	4·3 (2·7)
2. Line sowing	13·3 (8·2)	..	1·8 (1·6)	15·1 (5·2)	14·3 (9·1)
3. Basal application	..	..	18·4 (16·5)	18·4 (16·5)	18·4 (26·7)
4. Weeding	..	..	7·8 (18·4)	7·8 (18·4)	..

Campaign practices	All non-block areas	Cultivator groups		
		Big	Medium	Small
1	7	8	9	10
1. Improved seed	6·0 (4·5)	2·3 (1·8)	4·0 (3·9)	4·0 (6·8)
2. Line sowing	0·8 (0·6)	3·5 (2·7)	9·8 (9·6)	1·8 (3·1)
3. Basal application	..	10·5 (25·1)	4·4 (11·8)	3·5 (11·2)
4. Weeding	7·8 (18·4)	..	2·9 (24·4)	4·9 (33·8)

NOTE—Figures in brackets are percentages based on relevant area.

TABLE No. C 3·13

(*a*) *Reasons for non-adoption of campaign practices*

Crop: *Pea*

Reasons	Campaign Practices					
	Preparation of soil	Improved seed	Line sowing	Basal application	Irrigation	Weeding
1	2	3	4	5	6	7
1. Unfavourable season	2 (0·7)	..	..	..	46 (27·5)	..
2. No time ..	85 (31·4)	..	1 (0·4)	..	..	3 (5·2)
3. Lack of equipment	4 (1·5)	..	..	..	..	..
4. Lack of supply ..	..	80 (29·5)	..	10 (7·8)	..	..
5. Own supply ..	..	69 (25·5)	..	..	..	..
6. Not convinced ..	..	13 (4·8)	50 (18·5)	9 (7·0)	..	6 (10·3)
7. No knowledge ..	..	..	41 (15·1)	52 (40·3)	..	23 (39·7)
8. Lack of labour ..	..	..	2 (0·7)	..	..	..
9. Needs more time and labour ..	..	..	52 (19·2)	..	..	..
10. Soil condition ..	..	..	80 (29·5)	..	..	..
11. Not needed ..	..	..	8 (3·0)	33 (25·6)	..	..
12. Lack of finance ..	..	..	..	11 (8·5)	..	..
13. Not suitable ..	..	..	..	1 (0·8)	..	..
14. Too big area ..	..	..	..	..	..	2 (3·4)
Total (including partial non-adoption)	91 (33·6)	162 (59·8)	234 (86·3)	116 (89·9)	46 (27·5)	34 (58·6)
Partial non-adoption	..	18 (6·6)	12 (4·4)	1 (0·8)	..	..

NOTE—Figures in brackets indicate percentages based on relevant growers.

TABLE NO. C 3·13—*contd.*

(b) Reasons for non-adoption of campaign practices

(1) Improved seed *Crop : Pea*

Areas/groups	Reasons			All reasons	Complete non-adoption	Partial non-adoption
	Lack of supply	Domestic supply	Not-Convinced			
1	2	3	4	5	6	7
Districts—						
Muzaffarnagar ..	11 (10·9)	42 (41·6)	..	53 (52·5)	52 (51·5)	1 (1·0)
Rae-Bareli ..	19 (46·3)	5 (12·2)	13 (31·7)	37 (90·2)	37 (90·2)	..
Deoria	50 (38·8)	22 (17·1)	..	72 (55·8)	55 (42·6)	17 (13·2)
All blocks ..	27 (19·0)	24 (16·9)	8 (5·6)	59 (41·5)	45 (31·7)	14 (9·9)
All non-block area	53 (41·1)	45 (34·9)	5 (3·9)	103 (79·8)	99 (76·7)	4 (3·1)
Cultivator groups—						
Big	12 (22·6)	13 (24·5)	2 (3·8)	27 (50·9)	21 (39·6)	6 (11·3)
Medium ..	24 (22·4)	31 (29·0)	6 (5·6)	61 (57·0)	56 (52·3)	5 (4·7)
Small	44 (39·6)	25 (22·5)	5 (4·5)	74 (66·7)	67 (60·4)	7 (6·3)

TABLE No. C 3·13—*contd.*

(*b*) *Reasons for non-adoption of campaign practices*—contd.

(2) *Line sowing* *Crop : Pea*

Areas/groups	Reasons				
	No knowledge	Lack of labour	No time	Not convinced	Needs more time & labour
1	2	3	4	5	6
Districts—					
Muzaffarnagar	..	..	1 (1·0)	18 (17·8)	..
Rae-Bareli	..	2 (4·9)	..	4 (9·8)	16 (39·0)
Deoria	41 (31·8)	..	..	28 (21·7)	36 (27·9)
All blocks	..	2 (1·4)	1 (0·7)	26 (18·3)	41 (28·9)
All non-block areas	41 (31·8)	..	..	24 (18·6)	11 (8·5)
Cultivator groups—					
Big	4 (7·5)	..	..	8 (15·1)	10 (18·9)
Medium	12 (11·2)	2 (1·9)	..	18 (16·8)	19 (17·8)
Small	25 (22·5)	..	1 (0·9)	24 (21·6)	23 (20·7)

Areas/groups	Reasons		All reasons	Complete non-adoption	Partial non-adoption
	Soil condition	Not needed			
1	7	8	9	10	11
Districts—					
Muzaffarnagar	56 (55·4)	8 (7·9)	83 (82·2)	75 (74·3)	8 (7·9)
Rae-Bareli	11 (26·8)	..	33 (80·5)	33 (80·5)	..
Deoria	13 (10·1)	..	118 (91·5)	114 (88·4)	4 (3·1)
All blocks	44 (31·0)	7 (4·9)	121 (85·2)	115 (81·0)	6 (4·2)
All non-block area	36 (27·9)	1 (0·8)	113 (87·6)	107 (82·9)	6 (4·7)
Cultivator groups—					
Big	19 (35·8)	2 (3·8)	43 (81·1)	36 (67·9)	7 (13·2)
Medium	40 (37·4)	3 (2·8)	94 (87·9)	92 (86·0)	2 (1·9)
Small	21 (18·9)	3 (2·7)	97 (87·4)	94 (84·7)	3 (2·7)

TABLE No. C 3·14

No. of gram growers and their area

Crop : Gram

Items	Blocks	Non-block areas
	Total	Total
1	2	3
1. MUZAFFARNAGAR		
1. No. of gram growers—		
1958-59	36	34
1957-58	29	37
2. Gram area—		
1958-59	54·2	56·6
1957-58	31·0	51·3
3. No. having irrigated gram—		
1958-59	30	30
1957-58	25	31
4. Area under irrigated gram—		
1958-59	39·8	52·5
1957-58	28·1	39·8
2. RAE-BARELI		
1. No. of gram growers—		
1958-59	39	52
1957-58	33	46
2. Gram area—		
1958-59	23·1	24·6
1957-58	18·4	25·1
3. No. having irrigated gram—		
1958-59	29	26
1957-58	23	29
4. Area under irrigated gram—		
1958-59	15·1	13·5
1957-58	12·0	18·0
3. DEORIA		
1. No. of gram growers—		
1958-59	50	17
1957-58	50	17
2. Gram area—		
1958-59	44·7	10·6
1957-58	39·5	10·3
3. No. having irrigated gram—		
1958-59	43	15
1957-58	43	15
4. Area under irrigated gram—		
1958-59	36·8	9·8
1957-58	32·7	9·3

TABLE No. C 3·15

(a) Knowledge of campaign practices

Crop : Gram

Campaign practices	Districts			All districts	All blocks	All non-block areas
	Muzaffar-nagar	Rae-Bareli	Deoria			
1	2	3	4	5	6	7
1. Line sowing—						
1958-59	70 (100·0)	90 (98·9)	53 (79·1)	213 (93·4)	124 (99·2)	89 (86·4)
1957-58	66 (100·0)	78 (98·7)	50 (74·6)	194 (91·5)	111 (99·1)	83 (83·0)
2. Basal application—						
1958-59	..	..	48 (71·6)	48 (71·6)	45 (90·0)	3 (17·6)
1957-58	..	..	..	..	..	..
3. Weeding—						
1958-59	..	..	11 (64·7)	11 (64·7)	..	11 (64·7)
1957-58	..	..	5 (29·4)	5 (29·4)	..	5 (29·4)

(b) Knowledge of campaign practices by broad holding groups

Crop : Gram

Campaign practices	1957-58			1958-59		
	Cultivator groups			Cultivator groups		
	Big	Medium	Small	Big	Medium	Small
1	2	3	4	5	6	7
1. Line sowing	48 (90·6)	90 (90·9)	56 (93·3)	5 (94·3)	98 (93·3)	65 (92·9)
2. Basal application	..	..	..	12 (75·0)	19 (65·5)	17 (77·3)
3. Weeding	1 (20·0)	2 (25·0)	2 (50·0)	5 (100·0)	3 (37·5)	3 (75·0)

NOTE—Figures in brackets are percentages based on relevant growers.

TABLE NO. C 3·16

(a) Adoption of campaign practices

Crop : Gram

Campaign practices	Districts			All districts	All blocks	All non-block areas
	Muzaffar-nagar	Rae Bareli	Deoria			
1	2	3	4	5	6	7
1. Preparation of soil—						
1958-59	46 (65·7)	56 (61·5)	62 (92·5)	164 (71·9)	92 (73·6)	72 (69·9)
1957-58	36 (54·5)	52 (65·8)	62 (92·5)	150 (70·8)	78 (69·6)	72 (72·0)
2. Improved seed—						
1958-59	9 (12·9)	4 (4·4)	45 (67·2)	58 (25·4)	55 (44·0)	3 (2·9)
1957-58	4 (6·1)	1 (1·3)	36 (53·7)	41 (19·3)	41 (36·6)	..
3. Line sowing—						
1958-59	14 (20·0)	26 (28·5)	4 (6·0)	44 (19·3)	9 (7·2)	35 (34·1)
1957-58	6 (9·1)	19 (24·1)	4 (6·0)	29 (13·7)	6 (5·3)	23 (23·0)
4. Basal application—						
1958-59	..	..	6 (9·0)	6 (9·0)	6 (12·0)	..
1957-58	..	..	..	..	..	..
5. Irrigation—						
1958-59	..	..	58 (100·0)	58 (100·0)	43 (100·0)	15 (100·0)
1957-58	..	..	58 (100·0)	58 (100·0)	43 (100·0)	15 (100·0)
6. Weeding—						
1958-59	..	..	5 (29·4)	5 (29·4)	..	5 (29·4)
1957-58	..	..	5 (29·4)	5 (29·4)	..	5 (29·4)

NOTE—Figures in brackets are percentages based on relevant growers.

TABLE No. C 3·16—*contd.*

(b) Adoption of campaign practices by broad cultivator groups

Crop : Gram

Campaign practices	1957-58			1958-59		
	Cultivator groups			Cultivator groups		
	Big	Medium	Small	Big	Medium	Small
1	2	3	4	5	6	7
1. Preparation of soil	34 (64·2)	68 (68·7)	48 (80·0)	39 (73·6)	72 (68·6)	53 (75·7)
2. Improved seed	12 (22·6)	15 (15·2)	14 (23·3)	17 (32·1)	23 (21·9)	18 (25·7)
3. Line sowing	7 (13·2)	12 (12·1)	10 (16·7)	13 (24·5)	21 (20·0)	10 (14·3)
4. Basal application	..	..	..	2 (12·5)	2 (6·9)	2 (9·1)
5. Irrigation	14 (100·0)	24 (100·0)	20 (100·0)	14 (100·0)	24 (100·0)	20 (100·0)
6. Weeding	2 (40·0)	1 (12·5)	2 (50·0)	2 (40·0)	1 (12·5)	2 (50·0)

NOTE—Figures in brackets give percentages to relevant growers.

(c) Adoption of practices due to campaign

Campaign practices	Districts			All blocks	All non-block areas
	Muzaffar-nagar	Rae Bareli	Deoria		
1	2	3	4	5	6
1. Improved seed	..	2 (2·2)	10 (14·9)	11 (8·8)	1 (1·0)
2. Line sowing	4 (5·7)	..	..	4 (3·2)	..
3. Basal application	..	..	6 (9·0)	6 (12·0)	..

Campaign practices	Cultivator groups			Total
	Big	Medium	Small	
1	7	8	9	10
1. Improved seed	2 (3·8)	5 (4·8)	5 (7·1)	12 (5·3)
2. Line sowing	2 (3·8)	2 (1·9)	..	4 (1·8)
3. Basal application	2 (12·5)	2 (6·9)	2 (9·1)	6 (9·0)

NOTE—Figures in brackets give percentages based on relevant growers.

TABLE No. C 3·17

(a) Area under campaign practices

Crop : Gram

Campaign practices	Districts			All districts
	Muzaffar-nagar	Rae-Bareli	Deoria	
1	2	3	4	5
1. Line sowing—				
1958-59	22·2 (20·0)	13·4 (28·1)	2·6 (4·7)	38·2 (17·9)
1957-58	6·5 (7·9)	8·6 (19·8)	2·8 (5·6)	17·9 (10·2)
2. Improved seed—				
1958-59	20·5 (18·5)	4·6 (9·6)	38·8 (70·2)	63·9 (29·9)
1957-58	13·4 (16·3)	0·9 (2·1)	25·3 (50·8)	39·6 (22·6)
3. Basal application—				
1958-59	..	..	7·7 (13·9)	7·7 (13·9)
1957-58	..	..	..	..
4. Weeding—				
1958-59	..	..	3·4 (32·1)	3·4 (32·1)
1957-58	..	..	3·4 (33·0)	3·4 (33·0)

(b) Area brought under improved practices due to campaign

1. Line sowing	5·0 (4·5)	..	..	5·0 (2·3)
2. Improved seed	..	1·1 (2·3)	7·0 (12·7)	8·1 (3·8)
3. Basal application	..	..	7·7 (13·9)	7·7 (13·9)

NOTE—Figures in brackets are percentages based on relevant areas.

TABLE No. C 3·17—*contd.*

(*b*) *Area brought under improved practices due to campaign*—contd.

Crop : Gram

Campaign practices	All blocks	All non-block areas	Cultivator Groups		
			Big	Medium	Small
1	6	7	8	9	10
1. Line sowing—					
1958-59	9·3 (7·6)	28·9 (31·5)	22·2 (22·3)	12·7 (15·4)	3·3 (10·3)
1957-58	5·9 (6·6)	12·0 (13·8)	3·7 (4·7)	11·4 (15·7)	2·8 (11·4)
2. Improved seed—					
1958-59	53·0 (43·4)	10·9 (11·9)	34·6 (34·8)	22·3 (27·0)	7·0 (21·9)
1957-58	31·4 (35·3)	8·2 (9·5)	24·4 (31·0)	9·6 (13·2)	5·6 (22·9)
3. Basal application—					
1958-59	7·7 (17·2)	..	4·1 (20·3)	2·6 (15·3)	1·6 (13·3)
1957-58	..	..	..	..	..
4. Weeding—					
1958-59	..	3·4 (32·1)	2·7 (48·2)	0·3 (7·7)	0·4 (36·4)
1957-58	..	3·4 (33·0)	2·8 (59·6)	0·1 (2·2)	0·5 (45·5)
1. Line sowing	5·0 (4·1)	..	3·9 (3·9)	1·1 (1·3)	..
2. Improved seed	7·5 (6·1)	0·6 (0·7)	3·0 (3·0)	3·7 (4·5)	1·4 (4·4)
3. Basal application	7·7 (17·2)	..	4·1 (20·3)	2·6 (15·3)	1·0 (13·3)

NOTE—Figures in brackets are percentages based on relevant areas.

TABLE No. C 3·18

Reasons for non-adoption of campaign practices

Crop : Gram

Reasons	Campaign practices				
	Preparation of soil	Improved seed	Line sowing	Basal application	Weeding
1	2	3	4	5	6
1. No time	56 (24·6)	..	11 (4·8)	..	..
2. Not needed	2 (0·9)	..	9 (3·9)	24 (35·8)	..
3. Lack of equipment	5 (2·2)	..	..	..	..
4. Not convinced	1 (0·4)	25 (11·0)	53 (23·2)	7 (10·4)	5 (29·4)
5. Lack of supply	..	59 (25·9)	..	2 (3·1)	..
6. Own supply	..	91 (39·9)	..	..	..
7. Involves more labour ..	..	1 (0·4)	..	..	..
8. Not suitable	..	..	76 (33·3)	1 (1·5)	..
9. Lack of labour	..	..	4 (1·8)	..	..
10. No knowledge	..	..	15 (6·6)	19 (28·4)	6 (35·3)
11. Takes time	..	..	18 (7·9)	..	..
12. Lack of finance	..	..	..	8 (11·9)	..
13. Too big area	..	..	..	..	1 (5·9)
Total (including Partial non-adoption).	64 (28·1)	176 (77·2)	186 (81·6)	61 (91·0)	12 (70·6)
Partial adoption	..	6 (2·6)	2 (0·9)	..	..

NOTE—Figures in brackets are percentages based on relevant growers.

TABLE No. C 3·19

No. of barley growers and their area

Items	Blocks				Non-block areas			
	Culitvator Groups				Cultivator Groups			
	Big	Medium	Small	Total	Big	Medium	Small	Total
1	2	3	4	5	6	7	8	9
			1. *Rae-Bareli*					
1. No. of barley growers—								
1958-59 ..	8	9	11	28	2	10	3	15
1957-58 ..	7	9	10	26	2	10	4	16
2. Barley area—								
1958-59 ..	5·5	5·9	2·6	14·0	1·9	5·9	0·5	8·3
1957-58 ..	6·8	4·9	2·4	14·1	3·3	5·6	1·3	10·1
3. No. having irrigated barley—								
1958-59 ..	8	9	11	28	2	7	3	12
1957-58 ..	7	9	10	26	2	7	3	12
4. Area under irrigated barley—								
1958-59 ..	5·5	5·9	2·6	14·0	1·9	3·7	0·5	6·1
1957-58 ..	6·8	4·9	2·4	14·1	3·3	4·2	0·6	8·1
			2. *Deoria*					
1. No. of barley growers—								
1958-59 ..	2	10	10	22	6	18	30	54
1957-58 ..	2	10	11	23	6	17	26	49
2. Barley area—								
1958-59 ..	1·9	5·7	2·8	10·4	9·4	9·7	11·8	30·9
1957-58 ..	1·9	5·8	3·1	10·8	10·4	9·2	10·3	29·9
3. No. having irrigated barley—								
1958-59 ..	2	10	10	22	6	18	30	54
1957-58 ..	2	10	11	23	6	17	26	49
4. Area under irrigated barley—								
1958-59 ..	1·9	5·7	2·8	10·4	9·4	9·7	11·8	30·9
1957-58 ..	1·9	5·8	3·1	10·8	10·4	9·2	10·3	29·9

NOTE—There are no barley growers in the sample in Muzaffarnagar district.

TABLE No. C 3·20

(a) Knowledge of campaign practices

Crop: Barley

Campaign practices	Districts		All districts	All blocks	All non-block areas
	Rae-Bareli	Deoria			
1	2	3	4	5	6
1. Basal application—					
1958-59	43 (100·0)	35 (46·1)	78 (65·5)	46 (92·0)	32 (46·4)
1957-58	37 (88·1)	..	37 (32·5)	21 (42·9)	16 (24·6)
2. Top dressing—					
1958-59	40 (100·0)	53 (69·7)	93 (80·2)	46 (92·0)	47 (71·2)
1957-58	38 (100·0)	4 (5·6)	42 (38·2)	30 (61·2)	12 (19·7)
3. Weeding					
1958-59	43 (100·0)	46 (60·5)	89 (74·8)	44 (88·0)	45 (65·2)
1957-58	42 (100·0)	5 (6·9)	47 (41·2)	27 (55·1)	20 (30·8)
4. Rogueing—					
1958-59	17 (39·5)	27 (35·5)	44 (37·0)	39 (78·0)	5 (7·2)
1957-58	2 (4·8)	25 (34·7)	27 (23·7)	25 (51·0)	2 (3·1)

(b) Knowledge of campaign practices by broad holding groups

Campaign practices	1957-58			1958-59		
	Cultivator groups			Cultivator groups		
	Big	Medium	Small	Big	Medium	Small
1	2	3	4	5	6	7
1 Basal application ..	9 (52·9)	19 (41·3)	9 (17·6)	13 (72·2)	37 (78·7)	28 (51·8)
2 Top dressing ..	10 (58·8)	17 (39·5)	15 (30·0)	18 (100·0)	35 (79·5)	40 (74·1)
3 Weeding ..	11 (64·7)	21 (45·7)	15 (29·4)	18 (100·0)	36 (76·6)	35 (64·8)
4 Rogueing ..	5 (29·4)	10 (21·7)	12 (23·5)	11 (61·1)	18 (38·3)	15 (27·8)

Note—Figures in brackets are percentages based on relevant growers.

TABLE No. C 3·21

(a) Adoption of campaign practices

Crop: Barley

Campaign practices	Districts		All blocks	All non-block area	All districts
	Rae-Bareli	Deoria			
1	2	3	4	5	6
1. Preparation of soil—					
1958-59	4 (9·3)	15 (19·7)	11 (22·0)	8 (11·6)	19 (16·0)
1957-58	4 (9·5)	14 (19·4)	11 (22·4)	7 (10·8)	18 (15·8)
2. Improved seed—					
1958-59	4 (9·3)	22 (18·9)	18 (36·0)	8 (11·6)	26 (21·8)
1957-58	..	10 (13·9)	10 (20·4)	..	10 (8·8)
3. Line sowing—					
1958-59	25 (58·1)	9 (11·8)	17 (34·0)	17 (24·6)	34 (28·6)
1957-58	21 (50·0)	4 (5·6)	9 (18·4)	16 (24·6)	25 (21·9)
4. Basal application—					
1958-59	1 (2·3)	1 (1·3)	2 (4·0)	..	2 (1·7)
1957-58	..	..	..	..	..
5. Irrigation—					
1958-59	5 (12·5)	65 (85·5)	27 (54·0)	43 (65·2)	70 (60·3)
1957-58	31 (81·6)	72 (100·0)	44 (89·8)	59 (96·7)	103 (93·6)
6. Top dressing—					
1958-59	6 (15·0)	10 (13·2)	10 (20·0)	6 (9·1)	16 (13·8)
1957-58	1 (2·6)	4 (5·6)	5 (10·2)	..	5 (4·5)
7. Weeding—					
1958-59	1 (2·3)	·24 (31·6)	3 (6 0)	22 (31·9)	25 (21 ·0)
1957-58	..	5 (6·9)	1 (2·0)	4 (6·2)	5 (4·4)

NOTE—Figures in brackets are percentages based on relevant growers.

TABLE No. C 3·21—*contd.*

(*b*) *Adoption of campaign practices by broad holding groups*

Crop : *Barley*

Campaign practices	1957-58			1958-59		
	Cultivator groups			Cultivator groups		
	Big	Medium	Small	Big	Medium	Small
1	2	3	4	5	6	7
1. Preparation of soil	3 (17·6)	7 (15·2)	8 (15·7)	4 (22·2)	6 (12·8)	9 (16·7)
2. Improved seed ..	..	4 (8·7)	6 (11·8)	2 (11·1)	11 (23·4)	13 (24·1)
3. Line sowing ..	3 (17·6)	13 (28·3)	9 (17·6)	8 (44·4)	16 (34·0)	10 (18·5)
4. Basal application ..	..	..	..	1 (5·6)	1 (2·1)	..
5. Irrigation ..	13 (76·5)	46 (93·0)	50 (100·0)	8 (44·4)	25 (56·8)	37 (68·5)
6. Top dressing ..	2 (11·8)	1 (2·3)	2 (4·0)	7 (38·9)	5 (11·4)	4 (7·4)
7. Weeding ..	2 (11·8)	2 (4·3)	1 (2·0)	3 (16·7)	8 (17·0)	14 (25·9)

NOTE:—Figures in brackets are percentages based on relevant growers.

(*c*) *Adoption of practices due to campaign*

Campaign practices	Districts		All blocks	All non-block area	Cultivator groups			Total
	Rae-Bareli	Deoria			Big	Medium	Small	
1	2	3	4	5	6	7	8	9
1. Preparation of soil.	..	..	..	..	..	..	..	..
Improved seed	4 (9·3)	12 (15·8)	8 (16·0)	8 (11·6)	2 (11·1)	7 (14·9)	7 (13·0)	16 (13·4)
3. Line sowing	4 (9·3)	5 (6·6)	7 (14·0)	2 (2·9)	5 (27·8)	2 (4·3)	2 (3·7)	9 (7·6)
4. Basal application.	1 (2·3)	1 (1·3)	2 (4·0)	..	1 (5·6)	1 (2·1)	..	2 (1·7)
5. Irrigation ..	..	..	..	..	..	..	..	..
6. Top dressing	5 (12·5)	6 (7·9)	5 (10·0)	6 (9·1)	5 (27·8)	4 (9·1)	2 (3·7)	11 (9·5)
7. Weeding ..	1 (2·3)	18 (23·7)	2 (4·0)	17 (24·6)	1 (5·6)	6 (12·8)	12 (22·2)	19 (16·0)

NOTE:—Figures in brackets are percentages based on relevant growers.

TABLE No. C 3·22

(a) Area (in acres) under campaign practices

Crop : *Barley*

Campaign practices	Districts			All districts	All blocks
	Muzaffar-nagar	Rae Bareli	Deoria		
1	2	3	4	5	6
1. Line sowing—					
1958-59		13·1 (58·7)	3·4 (8·2)	16·5 (25·9)	7·6 (31·1)
1957-58		11·9 (49·1)	1·2 (2·9)	13·1 (20·2)	3·7 (14·9)
2. Improved seed—					
1958-59		1·7 (7·6)	6·6 (16·0)	8·3 (13·1)	6·2 (25·4)
1957-58		..	3·4 (8·4)	3·4 (5·2)	3·4 (13·7)
3. Basal application—					
1958-59	No Crop	0·5 (2·2)	1·0 (2·4)	1·5 (2·4)	1·5 (6·2)
1957-58		..	..	..	..
4. Top dressing—					
1958-59		4·3 (21·4)	8·6 (20·8)	12·9 (21·0)	5·9 (24·2)
1957-58		1·0 (4·5)	1·8 (4·4)	2·8 (4·4)	2·8 (11·3)
5. Weeding—					
1958-59		0·5 (2·2)	13·8 (33·4)	14·3 (22·5)	1·1 (4·5)
1957-58		..	4·1 (10·1)	4·1 (6·3)	0·3 (1·2)

Note—Figures in brackets are percentages based on relevant area.

TABLE No. C 3·22—*contd.*

(*a*) *Area* (*in acres*) *under campaign practices*—contd

Crop: *Barley*

Campaign practices	All non-block area	Cultivator groups		
		Big	Medium	Small
1	7	8	9	10
1. Line sowing—				
1958-59	8·9 (22·7)	4·5 (24·2)	9·0 (33·1)	3·0 (16·9)
1957-58	9·4 (23·4)	3·5 (15·6)	7·8 (30·6)	1·8 (10·6)
2. Improved seed—				
1958-59	2·1 (5·4)	0·8 (4·3)	4·1 (15·1)	3·4 (19·2)
1957-58	..	..	2·2 (8·6)	1·2 (7·1)
3. Basal application—				
1958-59	..	1·0 (5·4)	0·5 (1·8)	..
1957-58	..	..	..	..
4. Top dressing—				
1958-59	7·0 (18·9)	8·7 (46·7)	2·5 (10·0)	1·7 (9·6)
1957-58	..	2·0 (8·9)	0·5 (2·1)	0·3 (1·8)
5. Weeding—				
1958-59	13·2 (33·7)	5·0 (26·7)	4·5 (16·5)	4·8 (27·1)
1957-58	3·8 (9·5)	3·4 (15·2)	0·4 (1·6)	0·3 (1·8)

Note—Figures in brackets are percentages based on relevant area.

TABLE No. C 3·22—*contd.*

(*b*) *Area* (*in acres*) *brought under improved practices due to campaign*

Crop : *Barley*

Campaign practices	Districts			All districts	All blocks
	Muzaffarnagar	Rae Bareli	Deoria		
1	2	3	4	5	6
1. Line sowing		1·3 (5·8)	2·2 (5·3)	3·5 (5·5)	2·9 (11·9)
2. Improved seed ..		1·7 (7·6)	3·2 (7·7)	4·9 (7·7)	2·8 (11·5)
3. Basal application ..	No Crop	0·5 (2·2)	1·0 (2·4)	1·5 (2·4)	1·5 (6·1)
4. Top dressing ..		3·7 (18·4)	7·0 (16·9)	10·7 (17·4)	3·7 (15·2)
5. Weeding		0·5 (2·2)	9·6 (23·2)	10·1 (15·9)	0·8 (3·3)

Campaign practices	All non-block areas	Cultivator groups		
		Big	Medium	Small
1	7	8	9	10
1. Line sowing	0·6 (1·5)	1·6 (8·6)	0·8 (2·9)	1·1 (6·2)
2. Improved seed ..	2·1 (5·4)	0·8 (4·3)	1·9 (7·0)	2·2 (12·4)
3. Basal application ..	..	1·0 (5·4)	0·5 (1·8)	..
4. Top dressing	7·0 (18·9)	7·1 (38·0)	2·2 (8·8)	1·4 (7·9)
5. Weeding	9·3 (23·7)	1·6 (8·6)	4·1 (15·1)	4·4 (24·9)

NOTE—Figures in brackets are percentages based on relevant area.

TABLE No. C 3·23

Reasons for non-adoption of campaign practices

Crop : *Barley*

Reasons	Campaign practices						
	Preparation of soil	Improved seed	Line sowing	Basal application	Irrigation	Top dressing	Weeding
1	2	3	4	5	6	7	8
1. No time available ..	72 (60·5)	..	..	1 (0·8)	..	..	15 (12·6)
2. Lack of equipment ..	9 (7·6)	..	..	..	..	..	..
3. Not needed ..	17 (14·3)	..	..	24 (20·2)	..	4 (3·4)	18 (15·1)
4. Heavy rains ..	2 (1·7)	..	..	..	46 (39·7)	..	..
5. Own supply ..	..	18 (15·1)	..	..	..	..	..
6. Lack of supply ..	..	79 (66·4)	..	22 (18·5)	..	13 (11·2)	..
7. Not convinced ..	..	1 (0·8)	10 (8·4)	4 (3·4)	..	8 (6·9)	20 (16·8)
8. Involves more labour and time	..	1 (0·8)	7 (5·9)	..	..	..	..
9. No knowledge ..	..	..	37 (31·1)	41 (34·5)	..	23 (19·8)	30 (25·2)
10. Takes too much time	..	..	24 (20·2)	..	..	..	..
11. Labour not available	..	..	1 (0·8)	..	..	1 (0·9)	1 (0·8)
12. Soil condition ..	..	..	7 (5·9)	1 (0·8)	..	..	..
13. Lack of finance ..	..	..	..	10 (38·4)	..	36 (31·0)	8 (6·7)
14. Experimenting ..	..	..	..	1 (0·8)	..	2 (1·7)	..
15. Costly	..	..	..	13 (10·9)	..	11 (9·5)	1 (0·8)
16. Not suitable ..	..	..	..	..	..	3 (2·6)	1 (0·8)
17. Not interested ..	..	..	..	..	..	1 (0·9)	..
Total (including partial non-adoption)	100 (84·0)	99 (83·2)	86 (72·3)	117 (98·3)	46 (39·7)	102 (87·9)	94 (79·0)
Partial non-adoption ..	..	6 (5·0)	1 (0·8)	..	..	2 (1·7)	..

Note—Figures in brackets indicate percentages based on relavant growers.

TABLE No. C 3·24

*Gram Sahayaks and non-Gram Sahayaks**

(*a*) *Knowledge of campaign practices*

Crop : *Wheat*

Serial No.	Campaign practices	Gram Sahayaks		Non-Gram Sahayaks	
		1958-59	1957-58	1958-59	1957-58
1	2	3	4	5	6
1	Dibbler sowing	49 (89·1)	..	203 (53·4)	..
2	Line sowing	55 (100·0)	54 (96·4)	380 (100·0)	344 (89·6)
3	Basal application ..	55 (100·0)	35 (62·5)	324 (85·3)	272 (70·8)
4	Top dressing	55 (100·0)	35 (62·5)	322 (87·7)	220 (60·3)
5	Rogueing	46 (83·6)	7 (12·5)	139 (36·6)	47 (12·2)

(*b*) *Adoption of campaign practices*

1	Preparation of soil ..	44 (80·0)	36 (64·3)	193 (50·8)	171 (44·5)
2	Improved seed	53 (96·4)	43 (76·8)	305 (80·3)	266 (69·3)
3	Line sowing	51 (92·7)	40 (71·4)	306 (80·5)	261 (68·0)
4	Dibbler sowing	27 (49·1)	..	41 (10·8)	..
5	Basal application	44 (80·0)	7 (12·5)	130 (34·2)	11 (2·9)
6	Irrigation as recommended	25 (45·5)	35 (62·5)	88 (24·0)	255 (69·9)
7	Top dressing	33 (60·0)	18 (32·1)	120 (32·8)	48 (13·2)
8	Weeding and interculture ..	31 (56·4)	19 (33·9)	124 (32·6)	81 (21·1)
9	Rogueing	4 (7·3)	6 (10·7)	30 (7·9)	20 (5·2)

*Figures in brackets indicate percentages based upon relevant wheat growers or wheat area. For irrigation and top dressing, percentages relate to number of growers or area having irrigated wheat.

TABLE No. C 3·24—*contd.*

(*c*) *Adoption of practices due to campaign*

Crop : *Wheat*

Serial No.	Campaign practices	Gram Sahayaks	Non-Gram Sahayaks
1	2	3	4
1	Improved seed	8 (14·5)	32 (8·4)
2	Line sowing	11 (20·0)	40 (10·5)
3	Dibbler sowing	27 (49·1)	41 (10·8)
4	Basal application	35 (63·6)	118 (31·1)
5	Top dressing	14 (25·5)	70 (19·1)
6	Weeding	12 (21·8)	37 (9·7)
7	Rogueing	..	8 (2·1)

(*d*) *Area under campaign practices*

Wheat

Serial No.	Campaign practices	1958-59		1957-58		Area under the item attributed to campaign	
		Gram Sahayaks	Non-Gram Sahayaks	Gram Sahayaks	Non-Gram Sahayaks	Gram Sahayaks	Non-Gram Sahayaks
1	2	3	4	5	6	7	8
1	Improved seed	199·6 (98·0)	644·2 (86·9)	147·8 (85·4)	522·5 (78·7)	6·5 (3·3)	26·5 (4·1)
2	Line sowing	195·8 (96·1)	649·7 (87·7)	140·1 (81·0)	524·8 (79·0)	26·9 (13·7)	42·1 (6·5)
3	Basal application ..	125·9 (61·8)	202·1 (27·3)	30·8 (17·8)	19·6 (3·0)	82·4 (40·5)	187·8 (25·3)
4	Top dressing	125·0 (61·4)	193·3 (33·1)	59·6 (34·4)	76·7 (13·9)	48·8 (24·8)	116·2 (19·9)
5	Weeding and interculture	103·2 (50·7)	178·5 (24·1)	68·2 (39·4)	153·0 (23·0)	24·4 (23·6)	48·3 (27·8)

TABLE No C 3·24—*contd.*

(e) *Reasons for non-adoption of campaign practices reported by Gram Sahayaks*

Crop : *Wheat*

Serial No.	Reasons	Campaign practices						
		Preparation of soil	Improved seed	Line sowing	Basal application	Top dressing	Irrigation	Weeding and interculture
1	2	3	4	5	6	7	8	9
1	Lack of equipment	2 (3·6)	..	..	..	..	..	..
2	Lack of time ..	8 (14·6)	..	3 (5·5)	..	..	..	3 (5·5)
3	Unfavourable season.	1 (1·8)	..	..	..	..	..	.
4	Lack of supply ..	..	5 (9·1)	..	4 (7·2)	6 (10·9)	..	..
5	Own supply ..	..	1 (1·8)	..	..	..	..	..
6	Soil not suitable	..	..	2 (3·6)	..	..	..	..
7	Not needed ..	..	..	..	4 (7·2)	2 (3·6)	..	18 (32·7)
8	Not convinced of use.	..	..	..	5 (9·1)	13 (23·6)	..	2 (3·6)
9	Experimenting ..	..	..	..	1 (1·8)	..	..	..
10	Costly	..	..	..	3 (5·5)	1 (1·8)	..	..
11	Lack of finance	..	..	..	..	4 (7·3)	..	1 (1·8)
12	Heavy rains ..	..	..	..	..	..	30 (54·5)	8 (14·5)
13	Lack of Labour supply.	..	..	..	..	..	..	3 (5·5)
	All reasons ..	11 (20·0)	6 (10·9)	5 (9·1)	17 (30·9)	26 (47·3)	30 (54·5)	35 (63·6)
	Complete non-adoption.	11 (20·0)	2 (3·6)	4 (7·3)	11 (20·0)	22 (40·0)	30 (54·5)	24 (43·6)
	Partial non-adoption.	..	4 (7·3)	1 (1·8)	6 (10·9)	4 (7·3)	..	11 (20·0)

TABLE No. C 3·24—*contd.*

(f) Reasons for non-adoption of campaign practices reported by non-Gram Sahayaks

Crop : *Wheat*

Serial No.	Reasons	Campaign practices						
		Preparation of soil	Improved seed	Line sowing	Basal application	Top dressing	Irrigation	Weeding and interculture
1	2	3	4	5	6	7	8	9
1	Lack of equipment	22 (5·8)	..	..	..	..	..	..
2	Lack of time ..	149 (39·2)	..	20 (5·3)	..	..	2 (0·5)	37 (9·7)
3	Heavy rains ..	7 (1·8)	..	1 (0·3)	..	2 (0·5)	277 (75·5)	59 (15·5)
4	Not needed ..	9 (2·4)	7 (1·8)	..	48 (12·7)	36 (9·8)	..	139 (36·6)
5	Costly	.. ..	1 (0·3)	..	57 (15·0)	100 (27·2)	..	17 (4·5)
6	Lack of supply	..	68 (17·9)	..	71 (18·7)	26 (7·1)	..	..
7	Not convinced ..	..	2 (0·5)	23 (6·1)	11 (2·9)	31 (8·4)	..	15 (3·9)
8	Experimenting ..	..	1 (0·3)	2 (0·5)	6 (1·6)	..	..	..
9	Own supply ..	..	23 (6·1)	..	..	..	..	..
10	Lack of labour supply	..	..	4 (1·1)	..	..	..	6 (1·6)
11	Soil not suitable	..	..	22 (5·8)	..	..	..	..
12	Takes too much time & labour	..	..	31 (8·2)	..	..	..	19 (5·0)
13	Not known ..	..	..	..	56 (14·8)	45 (12·3)	..	..
14	Lack of finance..	..	..	..	32 (8·4)	34 (9·3)	..	2 (0·5)
15	Lack of water ..	..	..	..	10 (2·6)	7 (1·9)	..	..
16	Not interested ..	..	..	..	..	..	..	9 (2·4)
	All reasons ..	187 (49·2)	102 (26·8)	103 (27·1)	291 (76·6)	281 (71·6)	279 (76·0)	303 (79·7)
	Complete non-adoption	187 (49·2)	75 (19·7)	74 (19·5)	250 (65·8)	247 (67·3)	279 (76·0)	256 (67·4)
	Partial non-adoption	..	27 (7·1)	29 (7·6)	41 (10·8)	34 (9·3)	..	47 (12·4)

TABLE No. C 3·25

Wheat growers, their area and output

(a) Wheat growers adopting practices due to campaign, their area and output

District/Block/Non-block area	No.		Area (acres)		Output (mds.)	
	1957-58	1958-59	1957-58	1958-59	1957-58	1958-59
1	2	3	4	5	6	7
1. *Muzaffarnagar*—						
Block	48	49	155·6	190·8	1582·0	2,107·5
Non block area ..	19	20	91·0	105·9	795·0	1,039·0
2. *Rae Bareli*—						
Block	49	50	48·8	53·4	370·2	429·4
Non-block area	14	14	12·8	14·0	68·1	116·8
3. *Deoria*—						
Block	52	52	72·8	71·8	673·3	809·8
Non-block area	31	31	34·9	38·0	335·3	194·0

(b) Wheat growers not influenced by the campaign, their area and output

1. *Muzaffarnagar*—						
Block	24	23	69·3	92·9	623·8	811·5
Non-block area ..	52	51	185·7	200·8	1431·5	1985·0
2. *Rae Bareli*—						
Block	19	22	9·1	4·5	54·1	60·5
Non-block area ..	50	52	34·8	40·0	347·1	432·7
3. *Deoria*—						
Block	22	22	23·5	24·1	255·2	304·5
Non-block area	32	28	32·6	33·2	165·3	164·0

TABLE No. C 3·25—*contd.*

(*a*) *Wheat growers adopting practices due to campaign, their area and output* —contd.

District/Block/ Non-block area	Yield per Acre (mds.)		Increase (+) or decrease(—) in output over the previous season (mds.)	Increase or decrease due to	
	1957-58	1958-59		Additional area (mds.)	Practices (mds.)
1	8	9	10	11	12
1. *Muzaffarnagar*—					
Block	10·17	11·05	525·5	358·0	167·5
Non-block area ..	8·74	9·81	244·0	130·2	113·8
2. *Rae Bareli*—					
Block	7·59	8·04	59·2	34·9	24·3
Non-block area ..	5·32	8·34	48·7	6·4	42·3
3. *Deoria*—					
Block	9·25	11·28	136·5	—9·3	145·8
Non-block area ..	9·61	5·11	—141·3	29·8	—171·1

(*b*) *Wheat growers not influenced by the campaign, their area and output* —contd.

1. *Muzaffarnagar*					
Block	9·00	8·74	187·7	212·4	—24·7
Non-block area ..	7·71	9·89	553·5	116·4	437·1
2. *Rae Bareli*—					
Block	5·95	13·44	6·4	—27·4	33·8
Non-block area ..	9·97	10·82	85·6	51·8	33·8
3. *Deoria*—					
Block	10·86	12·63	49·3	6·5	42·8
Non-block area ..	5·07	4·94	—1·3	3·0	—4·3

NOTE—In the year 1957-58 there was no campaign. Cols. 2, 4, 6 and 8, therefore, show only the corresponding position in the previous year.

TABLE NO. C 3·26

Distribution of seeds, fertilizers and taccavi loans

(a) Seeds

District/Block Non-block area/Selected villages	Distribution in 1957-58 (mds.)	Distribution in 1958-59 (mds.)	Increase in 1958-59 over 1957-58 (mds.)	Percentage increase or decrease in 1958-59 over 1957-58
1	2	3	4	5
1. *Muzaffarnagar*—				
Selected area—				
District	52,359·0	64,754·0	12,395·0	23·7
Kairana block ..	6,500·0	9,541·0	3,041·0	46·8
Muzaffarnagar non-block area	6,713·0	6,823·0	110·0	1·6
Selected villages—				
5 in block	267·0	647·4	380·4	142·5
5 in non-block area ..	393·8	553·5	159·7	40·6
2. *Rae Bareli*—				
Selected area—				
District	29,583·0	42,323·0	12,740·0	43·1
Harchandpur block ..	3,305·0	3,535·0	230·0	7·0
Rahi non-block area ..	4,495·0	5,903·0	1,408·0	31·3
Selected villages—				
5 in block	106·1	95·5	—10·6	—10·0
5 in non-block area ..	N.A.	N.A.	N.R.	N.R.
3. *Deoria*—				
Selected area—				
District	38,681·0	82,969·0	44,288·0	114·5
Hata block	2,519·0	3,332·0	813·0	32·3
Pather Deva non-block area	*Nil*	930·0	930·0	..
Selected villages—				
5 in block	119·5	122·5	3·0	2·5
5 in non-block area ..	*Nil*	93·5	93·5	..
4. *All districts*—				
Selected areas—				
All districts ..	1,20,623·0	1,90,046·0	69,423·0	57·5
All blocks	12,324·0	16,408·0	4,084·0	33·1
All non-block areas ..	11,208·0	13,656·0	2,448·0	21·8
Selected villages—				
15 in blocks	492·6	865·4	372·8	75·7
15 in non-block areas	393·8	647·0	253·2	64·3

Note :—N.A.—Not available.
N.R.—Not relevant.

TABLE No. C 3·26—*contd.*

(b) Chemical fertilizers

District/Block/Non-block areas/Selected villages	Distribution in 1957-58 (mds.)	Distribution in 1958-59 (mds.)	Increase in 1958-59 over 1957-58 (mds.)	Percentage increase in 1958-59 over 1957-58
1	2	3	4	5
1. *Muzaffarnagar*—				
Selected area—				
District	55,920·0	74,394·0	18,474·0	33·0
Kairana block ..	508·0	4,358·0	3,850·0	757·9
Muzaffarnagar non-block area	4,102·0	1,347·0	—2,755·0	—67·2
Selected villages—				
5 in block	*Nil*	947·0	947·0	..
5 in non-block area ..	17·0	52·0	35·0	205·9
2. *Rae Bareli*—				
Selected area—				
District	N.A.	N.A.	N.R.	N.R.
Harchandpur block ..	482·0	1,427·0	945·0	196·1
Rahi non-block area ..	N.A.	N.A.	N.R.	N.R.
Selected villages—				
5 in block	44·0	205·0	161·0	365·9
5 in non-block area ..	65·0	100·0	35·0	53·8
3. *Deoria*—				
Selected area—				
District	21,792·0	54,283·0	32,491·0	149·1
Hata block	7,269·0	7,294·0	25·0	0·3
Pather Deva non-block area.	*Nil*	1,093·0	1,093·0	
Selected villages—				
5 in block	818·0	1,268·0	450·0	55·0
5 in non-block area ..	*Nil*	112·0	112·0	..
4. *All districts*—				
Selected areas—				
Districts	77,712·0	1,28,677·0	50,965·0	65·6
All blocks	8,259·0	13,079·0	4,820·0	58·4
All non-block areas ..	4,102·0	2,440·0	—1,662·0	—40·5
Selected villages—				
15 in blocks	862·0	2,420·0	1,558·0	180·7
15 in non-block areas ..	82·0	264·0	182·0	222·0

TABLE No. C 3·26—*contd.*

(*c*) *Distribution outlets for seeds and chemical fertilizers*

District/Block/Non-block area	Distribution outlets in 1957-58	Distribution outlets in 1958-59	Increase in 1958-59 over 1957-58	Percentage increase in 1958-59 over 1957-58
1	2	3	4	5
1. *Muzaffarnagar*—				
Selected areas—				
District	10	23	13	130·0
Kairana block ..	1	3	2	200·0
Muzaffarnagar non-block area.	1	2	1	100·0
2. *Deoria*—				
(*a*) (Seed outlets)				
Selected areas—				
District	58½	84	26	44·8
Hata block ..	2	2	..	..
Pather Deva non-block area.	*Nil*	1	1	..
(*b*) (Fertilizer outlets)				
Selected areas—				
District	10	118	48	68·6
Hata block	5	5	..	..
Pather Deva non-block area.	*Nil*	1	1	..

NOTE—Similar data were not available for Rae Bareli.

TABLE NO. C 3·26—*contd.*

(d) Distribution of taccavi loans

District/Block/Non-block area	Amount distributed in 1957-58 (Rs.)	Amount distributed in 1958-59 (Rs.)	Increase in 1958-59 over 1957-58 (Rs.)	Percentage increase in 1958-59 over 1957-58
1	2	3	4	5
1. *Muzaffarnagar*—				
Selected areas—				
District	1,30,690	7,50,000	6,19,310	473·9
Kairana block ..	19,900	1,00,500	80,600	405·0
Muzaffarnagar non-block area.	35,753	30,461	—5,292	—14·8
2. *Rae Bareli*—				
Selected areas—				
District	73,514	1,17,664	44,150	60·1
Harchandpur block ..	*Nil*	15,699	15,699	..
Rahi non-block area ..	N.A.	N.A.	N.R.	N.R.
3. *Deoria*—				
Selected areas—				
District	32,000	2,12,000	1,80,000	562·5
Hata block	6,000	20,500	14,500	241·7
Pather Deva non-block area.	*Nil*	8,000	8,000	..
All selected areas—				
Selected areas—				
Districts	2,36,204	10,79,664	8,43,460	357·1
All blocks	25,900	1,36,699	1,10,799	427·8
All non-block areas ..	35,753	38,461	2,708	7·6

APPENDIX D

SCHEDULES AND QUESTIONNAIRES USED FOR THE EVALUATION OF THE RABI CROP CAMPAIGN, 1958-59.

R-1 First Phase (till the completion of Sowing).

R-1·1 Some details of operation/practices followed and reasons for non-adoption of practices/operations till the time of Sowing.

R-2 Second Phase (After sowing till harvesting).

R-2·1 Statistics relating to supplies in the selected village block/non-block area/district.

R-3 Third Phase—Harvesting and after.

R-3·1 For two cultivators contacted by the Gram Sahayak.

R-1

RABI CROP CAMPAIGN

RESPONDENT SCHEDULE

First Phase (till the completion of sowing)

I. *Particulars of the Respondent—*

1.1. Village

1.2. Block

1.3. District

1.4 State

1.5 Name of the respondent

1.6 Area cultivated

	Irrigated		Total	
	Rabi	All crops	Rabi	All crops
Owned plus mortgaged to, minus mortgaged by				
Leased in Leased out				

Office bearer

1·7 Whether office bearer of the village panchayat.	Yes	No

1·8 Whether member of a cooperative society.	Yes	No

II *Knowledge about the campaign—*

2·1 Have you heard of the campaign?	Yes	No

2·2 If yes, from whom and in what terms?

2·3 What do you know about—

(*a*) its aims

(*b*) methods

2·4 Do you attend the meetings of Gram Sabha regularly?

If no, give reasons

Yes	No

2·5 Has the Gram Sabha passed any resolution about this campaign?

Yes	No	No knowledge

2·6 If yes, do you remember the content of the resolution?

If yes, describe

Yes	No

2·7 Has such a resolution been passed by the cooperative society/village panchayat?

Cooperative society		Village panchayat	
Yes	No	Yes	No

2·8 Has some film been shown and/or lecture given about the campaign in your village during the last two months?

If yes, by whom and what do you recall about it?

Yes	No

III. *Acceptance of the Programme—*

3·1 Did any person approach you for the acceptance of Rabi programme?

Yes	No

3·2 If yes, who? Describe what he said.

3·3 Did you sign a pledge to adopt any of the items of the programme?

Yes	No

If yes, which items?

3·4 Were any facilities, aids or inducements offered to you for the adoption of the programme?

Yes	No

If yes, name them.

IV. *Adoption of the programme—*

4·1 *Seed treatment—*

4·1·1 Is there need to treat seed against any seed borne diseases?

Yes	No

4·1·2 If yes, explain the process.

4·1·3 Did you administer such a treatment?

Current Rabi		*Previous Rabi*	
Yes	No	Yes	No

4·1·4 If no, state the reasons.

4·1·5 Did the VLW or any other official explain to you the manner and advantages of the seed treatment?

Yes	No	Yes	No

4·2 *Preparatory tillage—*

		Yes	No	Yes	No
4·2·1	Were you told what a proper seed bed is?				

If yes, by whom?

		Yes	No	Yes	No
4·2·2	Have/had you prepared one like that?				

If no, give reasons.

4·2·3 What implements did you use for preparing the seed bed?

(*i*)

(*ii*)

(*iii*)

(*iv*)

(*v*)

(*vi*)

4·3 *Use of improved seeds—*

4·3·1 How much area of yours is/was under improved seeds?

	Current Rabi	*Previous Rabi*
(*i*) Wheat		
(*ii*) Gram		
(*iii*) Barley		
(*iv*) Pea		
(*v*) Any others		

4·3·2 If you have used these seeds only for the current Rabi, why?

4·4 *Use of organic and inorganic manures—*

	Current Rabi		*Previous Rabi*	
4·4·1 Did you have a basal application of fertilizers before sowing?	Yes	No	Yes	No

If yes, give the following details—

(*i*) What made you do so?

(*ii*) Area covered.

(*iii*) Quantity of fertilizers used.

4·5 *Method of sowing—*

4·5·1 Indicate the area under—	*Current Rabi*		*Previous Rabi*	
(*i*) Line sowing (*ii*) Broadcasting method of sowing (*iii*) Dibbler sowing				
Is proportionately more area shown in lines now than before?	Yes	No	Yes	No

4·5·2 What are its advantages?

(*i*) Economy in time

(*ii*) Economy in seed

(*iii*) Better yield

(*iv*) Any other advantage

	Current Rabi		*Previous Rabi*	
4·5·3 Could you sow your field in time?	Yes	No	Yes	No

If not, why and what was the disadvantage.

4·5·4 Did you use seed drills?

Current Rabi		*Previous Rabi*	
Yes	No	Yes	No

If used, during current rabi only. What made you do so?

4·6 *Field demonstrations*—

4·6·1 Have you seen or/ and laid a demonstration plot?

Current Rabi		*Previous Rabi*	
Seen	Laid	Seen	Laid

4·6·2 If yes, give the following details—

Seen	Laid	Seen	Laid

(*i*) Place (in the village/ outside).

(*ii*) Type of demonstration.

(*iii*) Area.

(*iv*) At whose instance.

(*v*) Improved practices demonstrated.

(*vi*) Facilities given by the Government/ project agency.

4·6·3 Did you adopt any of the practices demonstrated?

Current Rabi		*Previous Rabi*	
Yes	No	Yes	No

(*i*) If so, which ?

(*ii*) If not, why?

V. *Supplies—*

5·1 Mention the agency from which you got the supplies? (Government store, cooperative store, neighbour or relations, own supply, any other agency).

Seed			Fertilizers			Pesticides			Others		
Agency			Agency			Agency			Agency		
I	II	III	I	II	III	I	II	III	I	II	III
1	2	3	4	5	6	7	8	9	10	11	12
					Current Rabi						
					Previous Rabi						

I—Type

II—Name

III—Distance from the village

Note: Under type mention also the names of the crops.

5·2 Comment on the following aspects of supplies—

	Current Rabi				Previous Rabi			
	Seed	Fertilizers	Pesticides	Other	Seed	Fertilizers	Pesticides	Other
	Yes/No	Yes/No	Yes/No	Yes/No	Yes/No	Yes/No	Yes/No	Yes/No
	1	2	3	4	5	6	7	8
1. Adequate ..								
2. Timely ..								
3. Quality proper or not.								
4. Did their prices compare favourably with market price.								

5·3 Did you inform the VLW or any other official/Gram Sahayak about the unfavourable experience of supplies.

	Seed				Fertilizers				Pesticides				Others			
	Whether informed		If yes		Whether informed		If yes		Whether informed		If yes		Whether informed		If yes	
	I	II	III	IV	I	II	III	IV	I	II	III	IV	I	II	III	IV
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Current Rabi																
1. Not adequate.																
2. Not timely.																
3. Not of proper quality.																
4. Suitability of the prices.																
5. Distance																
Previous Rabi																
1. Not adequate.																
2. Not timely.																
3. Not of proper quality.																
4. Suitability of the prices.																
5. Distance																
6. Impact on yield.																

I—No

II—Yes

III—Whom

IV—Action taken.

5·4 Did you avail of any short-term credit for your Rabi operations?

Current Rabi		*Previous Rabi*	
Yes	No	Yes	No

If yes, give the following details—

(*i*) Amount
(*ii*) Source
(*iii*) Period
(*iv*) Rate of interest
(*v*) Mode of repayment

5·5 Was the supply of credit timely?

Current Rabi		*Previous Rabi*	
Yes	No	Yes	No

5·6 Do you feel the need of any change in the procedure of getting loans from the government and/or from a cooperative society of which you are a member?

Yes	No

Describe

5·7 Were you told by the VLW or some other official about the change in the procedure of getting loans, if any, before the operations for sowing started?

Yes	No	Yes	No

5·8 How did you actually utilize the loan?

VI. *Gram Sahayak*—

(For participants in the camp only)

	Yes	No
6·1 Have you attended the training camp organized for gram sahayaks—		

If yes, indicate the

(*i*) Place

(*ii*) Period

6·2 What were you taught in the camp?

Was it new to you or did you know it earlier?

	Yes	No
6·3 Have you propagated the improved practices to others?		

If no, give reasons?

	Yes	No
6·4 Does the VLW come to you more frequently and discuss more with you about the improved practices than he did for the previous rabi season.		

	Yes	No
6·5 Has any other official visited your field in this season.		

If yes, give the name and the designation of the official.

VII. *Follow-up Programme* (*all respondents*)—

	Yes	No
7·1 Has the VLW or any other official/gram sahayak come to you to inquire about the use of the supplies?		

7·2 Did you point out any technical or other difficulty in pre-sowing and sowing operations to the VLW/gram sahayak?

	Yes	No
7·3 Was he able to solve it on the spot?		

	Yes	No
7·4 If not, did he come to you later with the solution of your difficulty.		

R—1·1

Some details of operations/practices followed and reasons for not ad option of practices/operations till the time of sowing

Operations/practices	Deviation in intensity (more or less)	Reason	Total omission (in Area)	Reason
1	2	3	4	5
		Wheat		
1. Preparation of soil ..				
2. Seed treatment ..				
3. Improved Seed ..				
4. Line Sowing ..				
5. Basal application of fertilizers.				
		Gram		
1. Preparation of soil ..				
2. Seed treatment ..				
3. Improved Seed ..				
4. Line Sowing ..				
5. Basal application of fertilizers.				
		Barley		
1. Preparation of soil				
2. Seed treatment ..				
3. Improved Seed ..				
4. Line Sowing ..				
5. Basal application of fertilizers.				
		Pea		
1. Preparation of soil ..				
2. Seed treatment ..				
3. Improved Seed ..				
4. Line Sowing ..				
5. Basal application of fertilizers.				

NOTE—1. Mention in col. 2 whether the intensity of the practice *i.e.* the number of times it is done, is more or less than that recommended by the agricultural department.

2. An operation may not have been followed on the whole or part of the area under the crop concerned. In col. 4 the relevant area would be given.

R—2

RABI CROP CAMPAIGN

RESPONDENTS SCHEDULE

Second Phase (After sowing till harvesting)

1. *Particulars of the Respondent—*

1·1 Village

1·2 Block/Tehsil

1·3 District

1·4 State

1·5 Name of the respondent

1·6 If a Gram Sahayak/trained village leader.

1·7 Date

1·8 Have you completed all the operations till harvesting.

1·9 What operations are left over ?

Current Rabi	*Previous Rabi*

2. *Area and Crops—*

2·1 Cropped area.

	Current year			Previous year		
	Total	Kharif	Rabi	Total	Kharif	Rabi
1	2	3	4	5	6	
1 Cultivation holding						
2 Owned						
3 Irrigated						
4 Of which owned						
5 Current fallow						
6 Double cropped area						
7 Gross cropped area						
8 Net cropped area						

NOTE—1. (8) should be equal to (7—6)

2. Information on items 3 and 7 should be given for rabi and kharif and that on other items for the total.)

2·2 Gross cropped area under Rabi crops

Crops	Current Rabi				Previous Rabi			
	Total		Irrigated		Total		Irrigated	
	Desi	Improved	Desi	Improved	Desi	Improved	Desi	Improved
1	2	3	4	5	6	7	8	9
1 Wheat .. 2 Gram† .. 3 Barley† .. 4 Pea .. 5 Any other campaign crops .. 6 Total ..								

NOTE—1. †Improved varieties of gram and barley should include Rajasthan variety also.
2. Mixed crop area should be split up in the ratio of the seed sown or in that approved by the Agriculture Department.
3. Against row '6' total area under rabi crops (including food crops) should be given.
4. Block 2 will be convassed to additional Gram Sahayaks also.

3. *Knowledge of the Second Phase—*

3·1 Do you have knowledge of the following campaign items? Did you receive direct/indirect advice and/or help from any agency in respect of them? (indirect, i.e., transmitted to you through other cultivators).

Items	Current Rabi				Previous Rabi			
	If reporting knowledge yes/no	If advice/help received, specify			If reporting knowledge yes/no	If advice/help received, specify.		
		Agency	Advice	Nature of help including loan		Agency	Advice.	Nature of help including loan.
1	2	3	4	5	6	7	8	9
1 Irrigation— (*a*) Better utilisation of irrigation water. .. (*b*) Extension of field channels 2 Top dressing .. 3 Weeding .. 4 Plant protection measures ..								

4. *Order of operations followed as against the recommended one—**

4·1 Order of operations followed during the Second phase (prior to harvesting).

Serial No.	Wheat		Gram		Barley		Pea	
	Order followed.	If deviated from the recommended yes/no	Order followed	If deviated from the recommended yes/no	Order followed.	If deviated from the recommended yes/no	Order followed.	If deviated from the recommended yes/no
1	2	3	4	5	6	7	8	9
			Current Rabi					
			Previous Rabi					

NOTE—1. *The main object of this item is to know what operations and in what order have been/are to be actually followed by the cultivators and how far the order conforms to the recommended one.

2. In case there are no specific recommendations, the order desired by competent authority may be taken for canvassing. This may be given in the village notes. If anyone has omitted a practice it should be specified in the foot note.

3. For previous rabi only the order followed is to be mentioned.

4·2 Reasons for deviations in the order of operations, if any, during the current Rabi.

Serial No. of Deviations††	Wheat	Gram	Barley	Peas
	Reasons†			
1				
2				
3				
4				
5				
6				
7				

†Give code nos. indicating such reasons as (1) Not known (2) Not quite suitable (3) Lack of supplies (4) Inadequate labour supply (5) Lack of finance (6) Not interested (7) Any other (specify)

††The order of serial no. given here should conform to that for item 4·1

5. *Irrigation*—(It would include also pre-sowing irrigation, if any).

5·1 Give the following particulars.

Crop	Source	No. of irrigations needed for full crop maturity	Distribution of area by the no. of irrigation done				If some area not at all irrigated, why?
			once	twice	thrice	no time	
1	2	3	4	5	6	7	8
			Current Rabi				
1. Wheat —							
1. Imp. ..							
2. Desi ..							
2. Gram ..							
3. Barley ..							
4. Pea ..							
			Previous Rabi				
1. Wheat—							
1. Imp. ..							
2. Desi ..							
2. Gram ..							
3. Barley ..							
4. Pea ..							

(NOTE—Type of the crop (improved or desi) should be indicated invariably and information should be given separately)

5·2 If irrigation supply adequate/ timely in current Rabi but was not so in the previous Rabi, what is it due to?

5·3 If it was adequate/timely in the previous Rabi but is not so in the Current Rabi, why so?

5·4 Did you bring this to the notice of the proper authority ? If yes, what action did it take and with what results?

5·5 Have you got some other problem to face in the case of irrigation, e.g., lack of proper channels, etc? If yes, account for it and suggest the remedy thereof.
(Relevancy of items 5·2 to 5·4 should be found from information reported against item 5·1).

6. *Top Dressing* (*Indicate relevant crops*)

		Current Rabi	*Previous Rabi*
6·1	Did you apply fertilizers after sowing (yes/no)?		
6·2	If yes, how many times done?		
6·3	If fertilizers applied neither before nor after sowing, give reasons.		
6·4	If fertilizers applied after sowing, give the details as on page 7.		
6·5	If the supply of fertilizers is timely in this Rabi but was not so in the previous one, what are the reasons?		
6·6	If it was timely in the previous Rabi but is not so in the current Rabi, why ? Did you bring it to the notice of the proper authority? If yes, what action did it take and with what results?		
6·7	Have you got some other problem in the application of fertilizers? If yes, specify and account for it. Also, suggest the remedy thereof. (Relevancy of items 6·5 and 6·6 should be found from information against item 6·4)?		

6·4 If fertilizers applied after sowing, give the following details.

Crops/Type of fertilizer	How obtained (purchased/taken on loan).	Area which applied (acres)	Why not to the whole area	Quantity		If applied less or more doze why ? *	If it is due to inadequate supply, give		If supply untimely, give	
				Applied	Needed		Area effected	Main reason	Area effected	Main reason
1	2	3	4	5	6	7	8	9	10	11
CURRENT RABI										
1.										
(*i*) ..										
(*ii*) ..										
(*iii*) ..										
2.										
(*i*) ..										
(*ii*) ..										
(*iii*) ..										
3.										
(*i*) ..										
(*ii*) ..										
(*iii*) ..										
PREVIOUS RABI										
1.										
(*i*) ..										
(*ii*) ..										
(*iii*) ..										
2.										
(*i*) ..										
(*ii*) ..										
(*iii*) ..										
3.										
(*i*) ..										
(*ii*) ..										
(*iii*) ..										

1. Inadequate supply 2. untimely supply 3. high cost 4. insufficient labour 5. not convinced

7. *Plant Protection Measures (Mention relevant crops)*

	Current Rabi		Previous Rabi	
	Yes	No	Yes	No
7·1 Was the crop affected by any pest or disease?				
7·2 Was the seed used by you treated against seed-borne diseases?				
7·3 If yes to 7·1, was any measure suggested to check the incidence?				
7·4 If sugg ested, did you take the same?				
7·5 If no, why*?				

*Give Code Nos. indicating one or more of the following reasons:

1. Lack of supplies
2. Lack of equipment
3. Lack of guidance
4. Lack of finance
5. Inadequate labour
6. Any other.

7·5 If yes to 7·1, give the following particulars.

Crops	Area affected	Loss feared (Rs.)	Type of measures taken	Material used (qty.)	Agency of supply	Any comments on adequacy/ timeliness/ effectiveness of the measure	If the material inadequate for the area effected, why?	If the supply untimely, give the reason	If measures ineffective, why?
1	2	3	4	5	6	7	8	9	10
CURRENT RABI									
1.									
2.									
3.									
4.									
PREVIOUS RABI									
1.									
2.									
3.									
4.									

NOTE:—1. In Col. 2, information should be given even if the respondent has not adopted plant protection measures.

2. In Col. 3, give the proportion of the Crop affected. Proportion may be given in terms of annas per rupee of the value of the total crop.

7·6 If the adoption of measures is adequate/timely in this Rabi but not so in the previous Rabi, what steps have been taken for the purpose?

7·7 If it was adequate/timely in the previous Rabi but not so in the current Rabi, why so? Have you brought this thing to the notice of proper authority (VLW, Extension Officer)? If so, what action has been taken and with what results?

7·8 Have you got some other problem in the matter of plant disease? If so, mention it and suggest the remedy thereof. (Relevancy of items 7·6 and 7·7 should be found from information against item 7·5).

8. *Weeding interculture operations.* Current Rabi Previous Rabi

8·1 Did you do weeding (yes/no)?

8·2 If no, why?

8·3 If yes, give the following.

Crops	No. of weedings needed	Distribution of area by No. of weedings done				If the No. done less than No. needed, why?*	Implements used Name/ Type
		Once	Twice	Thrice	none		
1	2	3	4	5	6	7	8
				CURRENT RABI			
1.							
2.							
3.							
4.							
				PREVIOUS RABI			
1.							
2.							
3.							
4.							

*Give Code Nos. indicating one or more of the following reasons.
(1) too big area (2) inadequate labour supply (3) not convinced of its utility as commensurate to labour.

8·4 If you did weeding in the case of a crop/crops in the current Rabi but not in the previous one, why so?

8·5 If you did weeding in case of a crop/crops in the previous Rabi but not in the current, account for it.

8·6 If you used 'desi' implements in the previous Rabi but the improved ones in the current Rabi, why so?

8·7 If you used improved implements in the previous Rabi but the 'desi' ones in the current Rabi, why so?

8·8 Have you got some other problem to face in the matter of weeding operation on your field? If so, specify and suggest the remedy thereof. (Relevancy of items 8·4 to 8·7 should be found from information against 8·3).

9. *Demonstration.*

9·1 Did you lay/see a demonstration plot?

Current Rabi		Previous Rabi	
laid	seen	laid	seen

9·2 If laid, did the Block/Agriculture Department give ?

a. supplies (including equipment).

b. technical advice.

Current Rabi		Previous Rabi	
Yes	No	Yes	No

9·3 If seen, is adoption by you of the practice/practices, due wholly/mainly to it?

10. *For Gram Sahayak and/or Trained Village Leaders* : (For all Gram Sahayaks)

10·1 (*a*) Age

10·1 (*b*) When did you attend the camp? (give month and year).

10·2 Total No. of trainees in the camp.

10·3 How many of them from your village?

10·4 Place of camp and its distance from your village.

10·5 No. of days he attended the camp.

10·6 Duration of camp

10·7 How were you selected for Gram Sahayak training (e.g., recommended by the gram panchayat or selected by the VLW or some other official)?

10·8 Have you any comments about arrangements at the camp?

10·9 What is in your view the objective of the current Rabi campaign?

10·10 Do you think that you have a role to play in the campaign?

10·11 If yes, specify your role and the agency which explained it to you?

10·12 If no, why so? (e.g., (*i*) not told, (*ii*) not defined, (*iii*) cannot say).

10·13 Campaign activities in the camp held, during the current Rabi : (For all Gram Sahayaks)

Items*	Did you know it already? (Yes/No)	Were you told about it? (Yes/No)	If yes, was there something new? (Yes/No)	Were you told through lecture or demonstration or both?	Were you convinced? (Yes/No.)	If no, why?
1	2	3	4	5	6	7
1 Preparatory tillage						
2 Seed treatment ..						
3 Line sowing ..						
4 Use of improved seed						
5 Basal application with fertilizers. ..						
6 Channel making ..						
7 Top dressing ..						
8 Plant protection measures ..						
9 Weeding ..						

*Add more items if necessary as (1) improved implements (2) divert area from non-food crops. (3) U.P. method of wheat cultivation (4) dibbler sowing, etc.

10·14 Adoption by the Gram Sahayak of improved practices tought or demonstrated in the centre/camp. (For additional Gram Sahayaks not included in the sample)

Items*	Did you adopt it wholly? Yes/No	Did you adopt it partially? Yes/No	If partially, why?	If not at all adopted, why?	Whether laid demonstration plot, Yes/No	If no, why? †
1	2	3	4	5	6	7
1 Preparatory tillage						
2 Seed treatment ..						
3 Line sowing ..						
4 Use of improved seed.						
5 Basal application with fertilizers ..						
6 Channel making. ..						
7 Top dressing ..						
8 Plant protection measures ..						
9 Weeding ..						

*Add other items, if necessary, such as 'divert area from non-food crops', 'U. P. Method', 'dibbler sowing', etc.

† (e.g. 1. Lack of full knowledge. 2. Lack of supplies including equipment. 3. Lack of finance. 4. Inadequate labour. 5. Not fully convinced. 6. Inadequate area).

10·15 Propagation of improved practices among other cultivators : (For all Gram Sahayaks)

Items*	Did you approach/ assist others ? If yes/number	If no, why ?	No. convinced‡	How convinced	Number not convinced	Why not convinced	Remarks
1	2	3	4	5	6	7	8
1 Preparatory tillage							
2 Seed treatment ..							
3 Line sowing ..							
4 Use of improved seed							
5 Basal application with fertilizers ..							
6 Channel making ..							
7 Top dressing ..							
8 Plant protection measures ..							
9 Weeding ..							

*Add other items, if necessary, such as 'divert area from non-food crops', 'U.P. Method' of wheat cultivation, 'dibbler sowing', etc.

†(*e.g.* 1. No interest. 2. No time. 3. People not responding. 4. No knowledge of method of approach. 5. Not hopeful of expected results).

‡*e.g.* Personnal contact, group contact, personal help, etc.

10·16 What more should be done to make you an effective Gram Sahayak?

R—2·1

*Statistics relating to supplies in the selected village/block/non-block/district**

Items	1955-56	1956-57	1957-58	1958-59
1. Improved seed distribution				
(*a*) Quantity in Mds. crop-wise—				
(*i*) Wheat				
(*ii*) Gram				
(*iii*) Barley				
(*iv*) Any other				
(*b*) Supply price per Md. (as given by the Ag. Deptt.)—				
(*i*) Wheat				
(*ii*) Gram				
(*iii*) Barley				
(*iv*) Any other				
2. Seed exchanged (crop-wise) (in Mds.)—				
(*i*) Wheat				
(*ii*) Gram				
(*iii*) Barley				
(*iv*) Any other				
3. Quantity of seed treated (crop-wise) (in Mds.)—				
(*i*) Wheat				
(*ii*) Gram				
(*iii*) Barley				
(*iv*) Any other				
4. Seed Depots (No.)—				
(*i*) Cooperative				
(*ii*) Agrioulture Department ..				
5. Supply of fertilisers (Specify months)—				
(*a*) Quantity in Mds. (type-wise)—				
(*i*)				
(*ii*)				
(*iii*)				
(*b*) Price per ton (type-wise)—				
(*i*)				
(*ii*)				
(*iii*)				

*Use separate sheet for district, block, non-block area and village.

Items	1955-56	1956-57	1957-58	1958-59
6. Fertilizers Depots (No.)				
7. Agricultural implements distributed type-wise, (Value in Rupees)—				
(*i*)				
(*ii*)				
(*iii*)				
8. Taccavi loans, purpose-wise (Rs.)—				
(*a*) Budget allocations—				
(*i*) Seed				
(*ii*) Fertilisers				
(*iii*) Bullocks and implements ..				
(*iv*)				
(*b*) Loans disbursed (Rs.)				
(*i*)				
(*ii*)				
(*iii*)				
(*iv*)				
9. Cooperative loans (Rs.)—				
(*i*) Long-term				
(*ii*) Medium term				
(*iii*) Short-term				
10. Crop prices at sowing time (range)—				
(*i*) Wheat				
(*ii*) Gram				
(*iii*) Barley				
(*iv*)				
11. Crop prices at harvest (range)—				
(*i*)				
(*ii*)				
(*iii*)				
(*iv*)				
12. Total area under Rabi crops (acres)—				
(*i*)				
(*ii*)				
(*iii*)				
(*iv*)				
13. Demonstrations by type (Nos.)—				
(*i*)				
(*ii*)				
(*iii*)				
(*iv*)				

सत्यमेव जयते

R—3

RABI CROP CAMPAIGN

RESPONDENTS' SCHEDULE

(Third Phase Harvesting and after)

1. *Identification—*

1·1 State

1·2 District

1·3 Block—Non-block

1·4 Village

1·5 Name of the PEO/Officer

1·6 Name of the Investigator

1·7 Name of the Respondent

1·8 If Gram Sahayak, his age

1·9 No. of days he attended the Camp

1·10 Date of Interview

2. *Cultivation Practices—*

2·1 You had stated during the second phase enquiry that operations were left over. Did you complete those operations ?

2·2 Give the details of these operations below :

Crops	Area according to No. of irrigation/weeding done since the first phase					Area on which not done as many time as recommended	Reasons
	One	Two	Three				

2·3 Have you completed all the operations of the Rabi Crop Campaign ?

2·4 If no, what operations are left over ?

2·5 Since I met you last which operations/items were you asked to take up for the Rabi Campaign ?

Operations	For what crops	Who asked or advised	When asked or advised	Remarks*
1. Rogueing	1 2 3 4			
2. Selection of seed	1 2 3 4			
3. Seed treatment before storing	1 2 3 4			
4. Storing of seed	1 2 3 4			
5. Crop competitions	1 2 3 4			

2·6 What are the recommended operations ? What operation have you done in the current and the previous seasons ?

Serial No.	Recommended/Needed operations (crop-wise)	Current Season			
		Operations done†	Implements used	Whether improved	Whether obtained and used because of the campaign
1	2	3	4	5	6

[NOTE—1* If he was asked or advised about these operations/items earlier, i.e., during the first or the second phase this should be indicated crop-wise with the agency which did so, in the "Remarks" column.

2. †Explain deviations in the village note, and give also the recommended order of operations.

3. Against operations done cross (*X*) those which he knew and tick (√) those which he did because of the campaign].

2·6—(*contd.*)

Serial No.	Previous season			Remarks
	Operation done	Implement used	Whether improved	
1	7	8	9	10

3. *Production of Rabi Crops*—

3·1

Rabi crops (Campaign and non-campaign)	Area & yield				If the average yield in the current is better or lower than that in the previous seasons, percentage difference due to			
	Current		Previous					
	Area in acres	Yield in Mds.	Area in acres	Yield in Mds.	Weather	Soil	Facilities (irrigation etc.)	Practices
1	2	3	4	5	6	7	8	9

If the average yield in the current is better or lower than in the previous season, percentage difference due to		If the yield rate is constant, Reasons	Campaign contribution	
Other conditions			Percentage contribution	Facilities or item which contributed
10	11	12	13	14

NOTE—The difference in yield in the two rabi seasons is to be explained by attributing to each factor included in Cols. 6 to 11, some proportion of this difference in percentages. Net difference in yield may be plus or minus; and some factors may have helped to increase the yield as compared with the previous year, whereas some others may have decreased the yield this year. These pulls of different factors should be indicated by plus (+) sign where there is an increase and minus (—) where there is decrease as compared to the pulls of these factors in the previous year.

3·2 } *Adoption of Cultivation Practices and Yield Rates*
3·3 }

Crops (Wheat, Gram, Barley & Pea)	Plots	Area (acres)	Total yield (mds.)	Yield per acre (mds.)	Preparatory tillage as recommended		Seed treatment		Improved Seed	
1	2	3	4	5	6	7	8	9	10	11
					*(1)	(2)†	(1)	(2)	(1)	(2)
Current Rabi										
Previous Rabi										

Line/ Dibbler Sowing		Timely Sowing		Basal application of fertilizers		Irrigations as recommended (if land unirrigated, write NB)		Top dressing with fertilizer		Weeding		Plant protection/ Derating (if not needed, write NR)	
12	13	14	15	16	17	18	19	20	21	22	23	24	25
(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)
Current Rabi													
Previous Rabi													

NOTE—Similar sheet should be used if the space is not sufficient for all relevant plots. Plot wise information for previous year should also be collected.

@ Plots cultivated under the same crop and similar practices should be grouped together and shown as one plot. In case the practices are dissimilar, plots, though under the same crop, are to be shown separately. If plot-wise information on yield is not available for each crop, information for two groups of plots under different practices should at least be collected.

*1. Stands for 'whether done or not'. The answer should be given in yes or no. Also cross (X) those operations which he knows and tick (√) those operations which he knew due to campaign.

†2 Stands for 'If yes, whether it is due to campaign-adopted it as a new item or adopted it intensively this year due to campaign. The answer should be given in yes or no. This col. is not relevant for the previous season.

1. Rogueing—4·1 You got knowledge of this in

Current Rabi	Previous or earlier years
Yes	*No*

@4·2 Did you learn something more about it during the campaign?

5. *Selection of Seed*—(In the village note, record how the cultivators were asked by the deptt. to select the seed).

5·1 How much seed did you select this and last year ?

Crops	Current Season		Previous Season	
	Quality (Improved or Desi)	Quantity in Mds.	Quality (Improved or Desi)	Quantity in Mds.
1	2	3	4	5

*5·2 How did you select the seed in the current and the previous season.

Crops	*Current*	*Previous*

5·3 If your methods in the two seasons are different, state the reasons and the conditions or persons who influenced your methods.

5·4 If you have not selected the seed for your crops, why have you not done so ?

Crops	*Reasons*

5·5 Are you self-sufficient in good quality seed for your Rabi crops ?

Crops	*Yes/No*

@In the village note, the views of the respondents should be given in a general way separately for those who say 'no' and those who say 'yes'.

*In the village note, give different methods and mention here only the method number one or two or three etc.

5·6 If no, how will you get quality seed for next Rabi crops?
(Question is relevant for those who have not selected seed at all).

Crops	Method of obtaining quality seed			
	Exchange	Market	Coopera-tive	Deptt.
1	2	3	4	5

[Note—Agencies should be given in order of preference].

6. *Seed Treatment*—

6·1 Have you treated your seed ? If yes, how ?

Crop *Yes/No* *If yes, Method*

6·2 If you have not treated your seed till now, will you do so or not. If yes, how and if not, why ?

Crops *If yes, Method* *If no, Reason*

NOTE—(Mention the disease against the crops in 6·1 and 6·2)

6·3 If you have done it differently in the two seasons, account for the conditions, persons etc. influencing your action this year.

Crops

7. *Seed Storage*—

7·1 How have you stored your seed ?
(Detailed description according to type should be given in the village note. Here reference should be made to the relevant type).

	Wheat	Gram	Barley	Pea
	2	3	4	5
Current				
Previous				

7·2 If you have done it differently in the two seasons, account for the conditions, persons etc. influencing you this year.

Crops.

8. *Crops Competitions*—

8·1 Are crop Competitions arranged for the Rabi Crops ?
(For all respondents)

Crops	Current	Previous
1	2	3

8·2 If participated in the competition, give the following—

Crops	Current			Previous		
	Level at which competing	Area	Month & the stage of crop when partici-pated	Level at which competing	Area	Month and the stage of the crop when participated
1	2	3	4	5	6	7

8·3 What are the yields on the plots entered by you in the competitions this year ?

Crops	Competition plot (area)	Yields (Mds.)	Whether the yield is better than on other plots not in competition If yes, why ?
1	2	3	4

8·4 (*a*) What are the highest yields reported at different levels of competitions? (For all Respondents).

Crops	Competitions at various levels			
	Panchayat	Block	District	State
1	2	3	4	5

(*b*) Why is your yield not as high as the highest in the block and lower level competitions in which you participated?

9. *Demonstration Plots*—(For the respondent who has laid such plots).

9·1

Crop	Area of the plot	Operations carried out	Visits and guidance given each time by officials	Yield	Whether the demonstration is convincing
1	2	3	4	5	6

9·2 Have you seen any demonstration plots laid in your village in the current Rabi? (*For those who have not laid such plots*).

Crop	Yes/No	Seen how many times and at whose instance ?	Impressions formed
1	2	3	4

R—3·1

For two cultivators contacted by the Gram Sahayak

1. Name.

2. Cultivated holding.

3. Did any Gram Sahayak contact you for Rabi Campaign ? Give his name.

4. Did he explain to you any campaign items/practices ?

5. Did he convince you about any of the campaign items ?
   What are they ?

6. Which practices did you adopt because of the advice, help etc. given by the Gram Sahayak ?

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