EFFECTIVE

AND PURPOSEFUL

DEMONSTRATIONS

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PREFACE

Conducting result and method demonstrations constitutes an important aspect of the work of the Gram Sevaks and other extension workers in the National Extension Service Blocks. A large number of field demonstrations is also proposed to be conducted in the Intensive Agricultural District Programme areas.

The success of a field demonstration much depends on how it is conducted. It is necessary, therefore, that the extension worker knows the correct method of conducting a demonstration and the techniques to be employed in this important work. In this respect, many of the extension workers need familiarization in methods and techniques, and for some time now a need for a compendium, detailing the techniques and procedures in conducting the demonstrations has been strongly felt. Dr. T.R. Mehta, Director, Farm Advisory Unit, Directorate of Extension, Ministry of Food and Agriculture, has prepared this compendium on agricultural demonstrations to meet this need, in which he has brought out all the salient features of an agricultural demonstration which those who are charged with the actual conducting of the demonstration have to know. The valuable suggestions of the experts of the Ministry of Community Development and Cooperation have also been included.

The publication, I am confident, will be of valuable assistance to our extension workers in conducting the field demonstrations on a scientific basis, thereby helping our farmers in a better understanding and quicker adoption of the improved practices, thus leading to better harvests.

Y. N. Varma
Extension Commissioner
Ministry of Food and Agriculture

New Delhi,
4th November, 1961

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INTRODUCTION

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The crop yields in most parts of India are very low. It is because the majority of our farmers still continue to practise the age-old methods of farming. They have not yet adopted the tested practices recommended by the agriculture departments.

The extension staff has not been able to influence the farmers in adopting the improved practices to the extent desirable. In their work they have been depending more upon suggesting the cultivators what to do and how to do rather than on getting down to work with them in their fields and helping them in doing what they teach. It is only after they have seen the value of the new methods demonstrated on their own fields, will our farmers be motivated to adopt them.

Another reason why cultivators do not adopt recommended practices is that these are suggested without a careful analysis of local situations or needs, which differ from village to village and from cultivator to cultivator.

The two most important tasks of the district and Block staff of the agriculture departments are the dissemination of useful and practical information, and the application of that information in the field. That this can best be achieved through demonstrations has been recognised in the past. However, demonstrations still continue to be the weakest programme in the activities of the departments of agriculture. This has lead to confining the scientific research results, with the help of which the agriculture depart-

ments are trying to increase farm production, largely to departmental leaflets and campaign guides, and to the raising of crops in some departmental farms.

To improve the situation, it is necessary to carefully consider the procedure of developing a programme of effective and purposeful demonstrations, the steps necessary to ensure its successful implementation and its follow up. An outline suggesting the procedure and the steps which are considered necessary to build up and implement the demonstration programme are given below. It is not that the outline is a new contribution; many of the States have already outlined similar procedures which have been considered sound over a number of years. However, in some of the States the demonstration programme is perhaps not based upon a sound procedure, and even so it is not properly followed in the field.

PROCEDURE

(1) The items to be included in the demonstration programme should first be decided upon. The items will vary according to local conditions in the different areas, resources of individual cultivators, their needs, etc., and should, therefore, be properly related to the prevailing situation.

(ii) The possible items should be listed during discussions between the research specialists, the Joint Director of Agriculture (Extension) and the Deputy Directors of Agriculture. This meeting should be held a couple of months in advance of the crop

season to which the items relate. The items should be suitable for practical application. Items which are likely to be beyond the means of the majority of cultivators will hardly help to make the programme successful. Items which are most intimately related to the problems of the cultivators and which are within their means, and methods which can be easily adopted by the cultivators should be given priority.

(iii) Since a bad demonstration is likely to do more harm than any good, it is necessary that the field staff is given training in the proper conduct of demonstrations. This training can be given through dummy demonstrations a month or six weeks before the season starts. In giving the training, emphasis must be placed upon the need of having a control plot which would represent the local practices. Many of the demonstrations being conducted at present fail to include a control plot and,therefore, fail to "demonstrate." A demonstration is a practical and convincing way of giving new information, which can be easily interpreted and accepted by the cultivator. It is necessary that every demonstration should show a comparison between what the cultivator is doing at present and what he is advised to do.

(iv) The number of demonstrations that should be established by a particular official, whether he is the Deputy Director or the District Agriculture Officer or the Agri-

cultural Extension Officer in the Block, for which he will be directly responsible, should be clearly specified. Since the number of extension staff exclusively devoted to field work is insufficient at present, it is suggested that the teachers and instructors in the agricultural colleges and extension training centres may also be allotted some demonstrations to be conducted in the neighbouring villages. This would be of help to the college in developing its teaching programme, and directly relating teaching to the needs and problems of the cultivators. These demonstrations will also be of a considerable educational value to the teachers themselves.

STEPS TO BE TAKEN

Selecting the items

It is very necessary to give careful thought while selecting the item which is to be demonstrated, and the farmer on whose field the demonstration is to be carried out. The item selected should be related to the conditions obtaining on the field where the demonstration is to be conducted. Similarly, the success of the demonstration depends to a great extent upon the cooperation of the farmer who owns the field.

The item selected for demonstration should be one on which emphasis is being laid in the village production plan, and one which needs to be popularised. It may be green manuring, or an improved seed, or an improved crop rotation, or an implement, or a method of application of fertilizer. The particular item should first be discussed in a meeting of the

Village Agricultural Production Committee, and after sufficient interest has been aroused and the acceptance of the Committee has been secured, it should be discussed in a larger group of farmers so that they become aware of the idea or the programme. This will help in making the demonstration a success. Then the demonstrating farmers should be carefully selected, preferably in a group meeting, so that nobody has any cause to complain that he had been ignored or that another person was being favoured. The farmer selected should be a typical representative of the farming community in the area regarding the size of his holding and his resource situation. He should be enterprising and prepared to take the risk which the new technique may seem to involve.

Locating demonstrations

Since the number of demonstrations has to be strictly limited in keeping with the resources in terms of extension workers, material and funds available, it will not be possible to establish all the different types of demonstrations in every village of a Block, and the different demonstrations will have to be judiciously apportioned among the different villages. It is possible that either due to over-enthusiasm for trying out the new idea, or due to the desire on the part of the farmers to benefit from the free supply of new seed or fertilizer which goes into the demonstration, too many of them may insist on joining the programme and the extension worker may find it awkward to decide whom to refuse. In such an event it is desirable to decide upon the demonstrating farmers on the advice of the Panchayat or the Agricultural Production Committee.

Demonstrations aim at extending new practices to farmers. Where these new practices have already reached the farmer, there would be no justification for demonstrating them. If farmers in a village are convinced about profits resulting from using urea for manuring their paddy crop and are anxious to have as much of it as they can lay their hands on, it would be a waste of effort to conduct demonstrations on urea there. The available resources could better be utilized on demonstrating some other practice which is new or with which the farmers are not yet so familiar.

Selecting the demonstrator-farmer

In selecting the demonstrator-farmer, an important consideration should be the location of his holding. The field on which the demonstration is to be established should be one which is easily accessible so that a large number of cultivators can see the demonstration and derive benefit from it. The subject of the demonstration, as already emphasised, should be selected with great care and discussed with the demonstrator-farmer so that he knows what the demonstration is about and why it is being conducted.

Approach to the demonstration

It is not a correct approach to ask the cultivator straightaway to try out the new practice to be demonstrated. It is necessary first to ask him about his present method of cultivation and his problems. A lot of listening may have to be done by the extension worker before he tries to tell the cultivator the possible methods of solving his problems. Ultimately, the cultivator may be induced to try the suggested practice and the demonstration explained to him. The need for having a control plot to correctly assess the benefit of the recommended practice should be im-

pressed. The details of the layout of the demonstration shouldbe decidedin consultation with the research specialists. It is, however, necessary that the demonstration should be as simple as possible and should not include more than three plots, one of which will represent the local variety and practices, another will represent an improved variety with local practices and the third,the improved variety and improved practices.

It would be tragic if after the demonstration has been discussedwith the cultivator and his cooperation secured, the extension worker fails to establish the demonstration on account of other engagements or failure to arrange the supplies. Therefore, arrangements for the supplies required should be completed well ahead of the sowing time, and the date and time when the demonstration plot is required to be ready, fixedwith the demonstrating cultivator, The extension worker shouldmake it a point to be present while laying out the demonstration plot.

Involving neighbouring farmers

It would be useful to make some of the neighbouring cultivators interested in what is being done on the field of the demonstrating cultivator. When the differences in the improved and other practices start showing they should be brought to the attention of the demonstrating cultivator and his neighbours. It would be better if the demonstrating cultivator himself explains his neighbours what the plots represent and what he thinks about the treatments or practices being demonstrated.

To show the neighbouring cultivators that something significant is being done, as well as to give the

necessary information to those who are desirous of knowing more about the demonstration, it would be necessary to fix a board in front of the demonstration plot giving in bold letters the title of the demonstration and the main treatments or items being demonstrated.

Two subsequent visits to the demonstration may be made by the cultivators, once in the middle of the season and once at harvest. It should be the duty of the official of the agricultural department entrusted with the demonstration to see that neighbouring cultivators visit the demonstration plots at these times. These visits should serve as occasions for conducting group discussions in which the extension worker explains the significance of the demonstration, illustrating with what can be seen on the field and in the demonstration plots. Unfortunately, much of the work of extending new practices is confined to the meetings held away from the field, mostly in the Panchayat ghar, neglecting the excellent teaching aid provided by the demonstration plots.

Sustained attention

Demonstrations should continue to receive full attention even after the plots have been harvested or data or yield figures have been correctly recorded. Much of the value of a demonstration depends upon the interpretation of the data and on the discussion on this data with the cultivators. Because a demonstration is usually established on a very small area, the results secured are of a small magnitude; hence, their implications may be lost on many of the farmers. Thus, an improved method under demonstration may result in an increased yield of say five kilos from

the demonstration plot which is 1/40 acre in size. The figure of five kilos may not impress a farmer until its implications are discussed. This increase is equivalent to an increase of 1,000 kilos on five acres, the area many farmers would be cultivating. In terms of cash value this would amount to 300 to 400 rupees, which would mean that from the increase in income the farmer would be able to buy new implements, or a cow, or good clothes for the family. In case of fertilizer use, it may be found that an investment of one rupee has resulted in a return of two or three rupees, at the end of the crop season. In other words, within six months the farmer may be able to increase his one rupee into two or three, which is an excellent achievement that even the most successful businessman or money-lender can dream of. When expressed in these terms, the new idea can create the needed impact. Discussions should, therefore, aim at bringing out the economics or other benefits from the practice demonstrated. This will lead many a cultivator to get interested in the practice, and many of them will adopt it.

Follow-up

After this, a very important part still remains to be played by the agriculture department. This is the follow-up action required to meet the increased demand for new seeds or implements or other means of production demonstrated. This follow-up action has to be linked up with the progress of the demonstration programme so that the benefits of the demonstrations are fully exploited.

DEMONSTRATION VERSUS TRIALS

A larger number of demonstrations are being conducted on the use of fertilizers under the Ferti-

lizer Demonstration Scheme, and the Simple Fertilizer Trials Scheme. Unfortunately, these demonstrations are aimed at providing data required by the Indian Council of Agricultural Research for statistical analysis. They are not for popularising the judicious use of fertilizers. Since these demonstrations have to conform to certain treatments and layouts discussed and finalised by competent committees or groups, it is suggested that while they are continued according to the instructions received, they should be fully utilized as means of educating the cultivators by ensuring that the plots are properly labelled. The demonstrating cultivator and others should be encouraged to see the effects of the treatments and discuss them. The data and their implications (including economics of fertilizer use) should be properly interpreted to them.

COMPOSITE OR PACKAGE DEMONSTRATIONS

A very large number of cultivators do not any more need convincing about the use of fertilizers, but they do need to be told how to make the most profitable use of fertilizers by combining them with improved seed and improved practices. Thus, if a blast-resistant variety of paddy is used along with green manuring and top-dressing with fertilizers, the element of risk from blast can be greatly reduced or completely eliminated. Or, the risk of damage from lodging in the case of wheat can be minimised by using varieties with stronger straw, such as C.273 or N.P. 824. An increase in soil fertility calls for a reduced seed-rate (which also helps in reducing the lodging tendency).

Therefore, it is necessary that the cultivators are taught how they are likely to derive greater bene-

fits from demonstrations which combine more than one recommended practice. Some of the best examples of a combination of improved practices leading to substantial increases in yield are the Japanese method of paddy cultivation and the Poona method of jowar cultivation. Similar combinations of improved practices leading to greatly profitable yield-increases are possible in several other crops and must be demonstrated to the cultivators by means of multi-factor or composite or package demonstrations. Similarly, it has been demonstrated that unless the hybrid seed is used at the recommended seed-rate and sown at the recommended spacing (between and within rows), with the recommended manurial schedule, the yield may not be sufficiently profitable to motivate the cultivator to go in for it in preference to the local varieties. When used in combination with the recommended practices, the hybrid seed gives a strikingly higher yield to gain the acceptance of the cultivators.

Wherever the cultivator has not yet been exposed to any extension efforts, he cannot be depended upon to accept at once several improved practices in a particular crop. It may, therefore, be necessary to take him, step by step, from his traditional practices to improved practices, through simple demonstrations. But such simple demonstrations should soon become a thing of the past. Rather, it is the composite demonstration which should be emphasised and which the cultivators should be induced to establish. Such demonstrations were conducted on wheat in many of the Delhi villages last year with the help of the officers of the Ministry of Food and Agriculture and the Delhi Administration. The demonstrations included the following factors:

1. Improved wheat variety N. P. 823, versus the cultivators' variety (C. 591, C. 281, N. P.

718 or local).

2. Treatment of seed with 'Agrosan GN', versus no treatment.

3. Application of BHC for termite control, versus no application.

4. Recommended seed-rate of 64 lb. per acre, versus local seed-rate of 80-100 lb.

5. Application of superphosphate and ammonium sulphate at sowing time followed by another application of ammonium sulphate as top-dressing at the first irrigation, versus application of only ammonium sulphate in one dose at sowing time, which is the local method.

6. Spraying with 2-4D for control of weeds, versus no application of any weedicide. (The cultivators depend upon thick sowing of wheat for whatever control of weeds this may afford.)

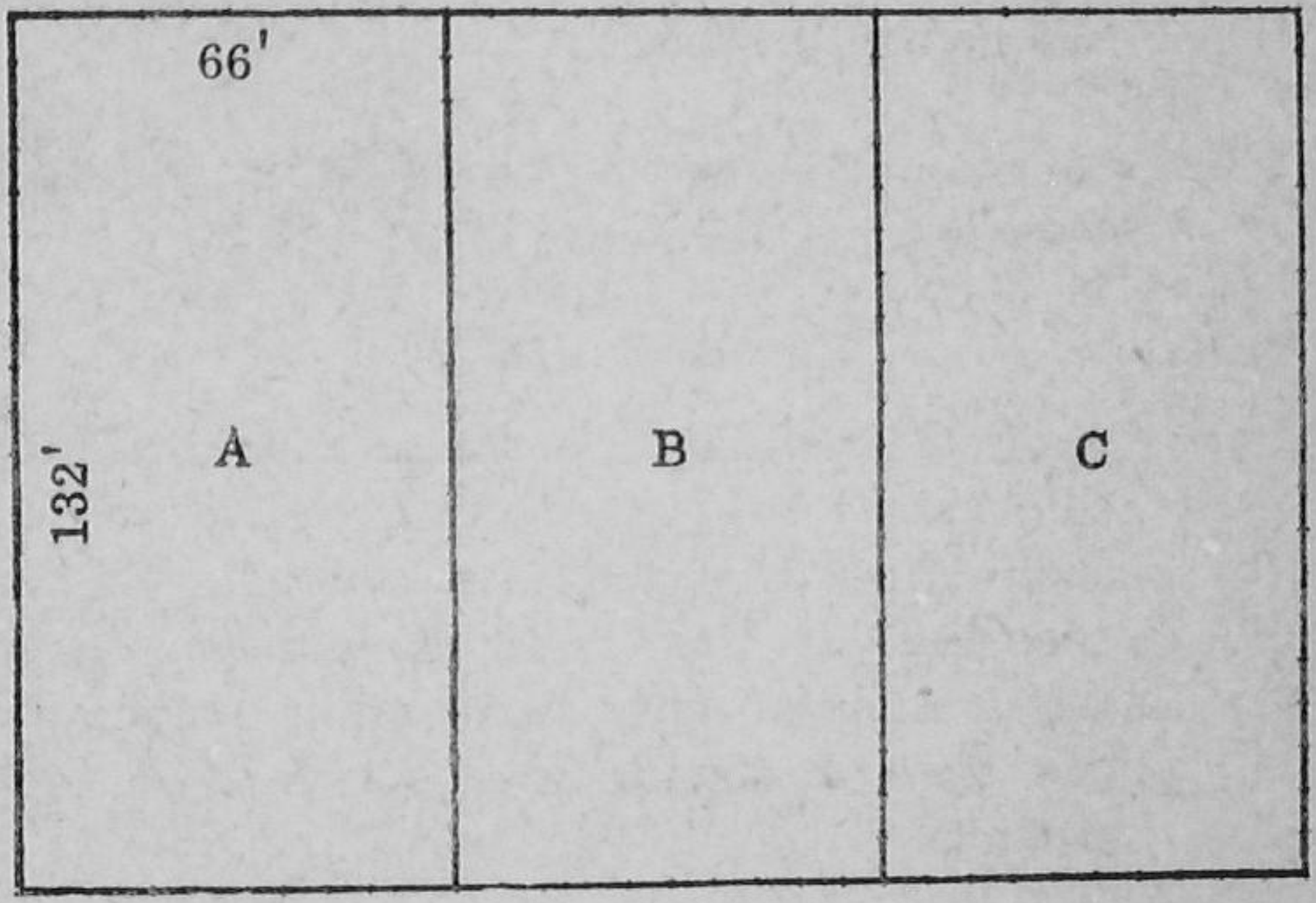
Each demonstration was established in three plots, each of 1/5 acre, and represented the following treatments:

A. The new variety grown according to improved practices listed above.

B. The farmer's chosen variety grown according to improved practices.

C. The farmer's chosen variety grown according to local method.

The plots were measured correctly in order to ensure that the area under each treatment was the same. The layout of the demonstration was as given in the plan below:



One demonstration was established in each of the 70 villages of the Block. The results could be collected only from 37 villages, the demonstrations in the remaining villages having been damaged on account of hail storm. The average yields from the three treatments were as follows:

(A) 1,722 lb. per acre
(B) 1,623 lb. " "
(C) 1,490 lb. " "

The additional cost involved on account of seed treatment, BHC, weedicide and fertilizers and their application was Rs. 37.46 per acre. The additional yield resulted in a profit of Rs. 29 per acre. This was in addition to the saving in the seed due to reduction in the seed-rate.

The impact of the demonstrations on the farmers has been considerable. The new variety, N. P. 823, attracted attention of the farmers on a much larger scale than would have been possible without the demonstrations and a large quantity of seed of this variety was immediately demanded by the farmers for the next season's sowing. The demand was communicated to the Indian Agricultural Research Institute which was able to frame its seed production programme accordingly so that the demand created by the demonstrations could be adequately met. The farmers were happy also because besides getting information on a profitable variety and improved methods of cultivation, they could count on saving substantial quantities of seed by using the recommended seed-rate.

PLANNING OF DEMONSTRATIONS

The above example of a composite or package demonstration illustrates the type of programme which should be developed. It is apparent that this would require a cooperative effort on the part of the research specialists representing different fields of agriculture. Therefore, each season it would be necessary for the top extension officers and top research personnel to meet together in order to prepare a suitable demonstration programme. Following points should be considered for convening the meeting.

1. It is clear that the programme should take into account only the results already established. The demonstrations are not meant for collecting research data but for popularising recommended practices.

2. It is appropriate that the Joint Director of Extension is authorised by executive orders

to convene a meeting of the top research specialists and extension personnel at the appropriate time.

3. Such a meeting should be convened at least three months before the time of sowing operations of each season, for example, end of June with regard to rabi sowings in October. For the kharif, as the sowings vary from May to July, the meeting should take place in February or March as may be convenient.

4. It follows that the appropriate research institutions should be continuously processing results of research so that the approved results are considered in the meetings for inclusion in package demonstrations, i.e., demonstrations in which a number of production factors are combined.

5. The results of research will be processed in advance by institutions, like (i) state research institutions, (ii) agricultural and veterinary colleges, (iii) research sectional heads, (iv) officers concerned with centrally sponsored schemes such as those of the ICAR and the Commodity Committees in operation in the States, (v) all officers concerned with the research programmes in operation in the State sponsored by central research institutions like the Indian Agricultural Research Institute, Central Rice Research Institute, Central Potato Research Institute, etc. Only conclusions based on research, and which have been definitely established, should be considered.

6. Officers to be invited to such a meeting should represent the interests or subject matter fields mentioned.

7. There should be a clear statement of the objectives of the meeting and what the meeting proposes to achieve.

8. It is necessary that these technical meetings should go into specific details instead of making general suggestions.

9. The objective should be to design a suitable package demonstration based on approved results for the principal crops in regions or areas where the same demonstration would more or less apply to a large number of villages. The Committee should then endeavour to draw up detailed plans of the demonstration giving attention in great details to the specific steps to be taken. For instance, the Japanese method of cultivation can be an example for designing approved demonstrations for other crops. If rice is taken then the design should include, with necessary additions or alterations, the following steps:

(i) Variety suitable to the area should be specified.

(ii) Methods of getting healthy seeds such as flotation, and treatment of seeds against seed-borne diseases, should be indicated.

(iii) Preparation of seed-beds (raised seed-beds wherever necessary), application of

manure according to recommended doses, etc.

(iv) Time of sowing: The time of sowing will vary according to the variety and the season for which it is most suitable. Emphasis will have to be placed on the need for so timing the sowing and transplanting as to give the crop the greatest benefit from the length of the available season. For example, early sowing and transplanting seedlings 20 to 21 days old is important for the first crop in the double cropped areas where the first crop varieties are of short duration. For long duration varieties the seedlings may be 30 to 35 days old at the time of transplanting. The transplanting should coincide with the onset of the monsoon season, except where the crop has to depend entirely on irrigation.

(v) Indication of how the supplies, if they are meant to be free, would be arranged and who would be responsible and by what time the supplies should reach particular locations.

Another example of a composite or package demonstration could be the Poona method of jowar cultivation. The following steps should receive emphasis and be included in the demonstration instructions:

(i) Preparation of good seed-bed; deep cultivation not necessary; three to four harrow-

ings may be enough.

(ii) Proper manuring, five to ten cart-loads of cattle manure per acre in lighter soils, 15 to 20 cart-loads in case of irrigated areas. Superphosphate to be applied at 120 lb. per acre.

(iii) Manure should be applied in deep furrows instead of spreading it on the surface and then harrowed. Furrows to be at the same distances where the lines of Jowar would be sown.

(iv) Suitable variety to be named for particular areas.

(v) Sowing to be done by dibbling, 18 inches x 18 inches or 24 inches x 24 inches apart, respectively in lighter or heavier soils, 8 to 10 seeds being sown in a circle at each hill. Care should be taken to see that there is enough moisture in the soil.

(vi) Thinning of the crop by removing the weaker seedlings early enough (first thinning 10 to 15 days of sowing and second thinning a week after), leaving only 3 to 4 seedlings per hole.

(vii) Top-dressing at the rate of 20 lb. N for the dry crop and 40 lb. N for the irrigated crop, preferably half the dose in inorganic form, such as ammonium sulphate, and half as an oil-cake. Time of application should be 1/3 of the dose at the time of second thinning and the remaining 2/3 after 1-1/2 months.

(viii) Two to three intercultivations to be given, specially after irrigation.

(ix) Adequate plant protection measures.

For demonstrating improved methods of wheat cultivation, the following items may be specified in the programme.

(i) Summer cultivation.

(ii) Raising green manure by sowing about 12 lb. of early mung, or 40 lb. of guar or 60 lb. of sunnhemp.

(iii) Turning in the green manure crop about the middle of August.

(iv) In the absence of green manuring, it will be necessary to apply 6,000 to 8,000 lb. of farmyard manure per acre.

(v) Proper preparation of seed-bed.

(vi) Application of 80 lb. superphosphate and 10 to 15 lb. N per acre in green manured field. In case only farmyard manure has been applied then the quantity of N may be doubled. Time of application is important. FYM is to be applied six to eight weeks before sowing, superphosphate at sowing. Apply nitrogen at sowing, preferably at first irrigation as top-dressing.

(vii) Use of BHC five per cent at the rate of eight pounds per acre.

(viii) Seed treatment with `Agrosan GN' 1-1/2 oz. per 80 lb. of seed.

(ix) Suitable variety, according to results of trials in the past.

(x) Seed-rate to be 50 to 60 lb. per acre (as per recommendation).

(xi) Irrigation - time and frequency should be stated.

The above three examples are illustrative and are given here to emphasise the need for specific details about the steps to be taken and practices to be followed being included in the instructions to be issued to the field workers.

10. Officers at the field level who will be responsible for selecting the farmers and arranging the demonstrations under their personal supervision, should be specified.

11. If the village level workers and extension officers are not sufficient, other staff belonging to agricultural colleges, extension training centres and research institutions should be mobilised for the purpose for a short period.

12. The period during which the demonstrations should be completed may be indicated.

13. Arrangements should be made for a sample check by the senior-most officers to ascertain whether the field operations are taking

place strictly in conformity with the instructions laid down. The number of demonstrations which must be inspected by the various categories of supervisory officers should be specified, so that they make it a point to see them and determine how far they are according to the programme, what weaknesses they show, what improvements are needed and how far they are serving the purpose for which they are meant. To enable the supervisory officers to do this job effectively it would be necessary to prescribe the records to be maintained by the village level workers and the other officials charged with the establishment of the demonstrations, and the inspection notes must invariably be written on the records for the use of the field staff and supervisory officers.

14. Periodical inspection by specified officers will have to be ensured. Unless this is done, field workers may not be able to develop a sustained interest in the work. The inspecting officers should help them realize that the efforts they are putting in to establish and to successfully complete the demonstration are worth while. Unless the demonstrations are inspected in the field, or the data and their interpretation demanded from the field workers, they may fail to attach importance to this programme. The indifference of the supervisory officer to the results of the demonstrations and their impact on the farmers would be the surest way of spelling the failure of the programme.

15. Approximate dates should be decided on which follow-up action should be undertaken for bringing neighbouring farmers to the plot and explaining the salient features.

16. Appropriate plant protection measures to be recommended should be arranged in time.

17. When the package demonstration succeeds, the second step would be to take the farmer's entire holding , if he is convinced of the superiority of the methods recommended, and induce him to cover his entire acreage by the new practices with necessary assistance to get the required agricultural credit. At this stage he would require assistance to determine the cost of his total operations to the expected yield and the income he could have. But in case the farmer decides not to adopt the demonstrated practice or method on his entire holding- the causes for this should be analysed. It is possible that what was feasible on a small scale may appear too difficult for adoption on a large scale; or the needed supplies or means of production are not available in sufficient volume to enable the farmer to adopt the practice wholesale. An analysis of the situation would help in discovering the weaknesses, if any, in the item demonstrated or in the supply situation.

18. Demonstration is only a means to an end; it is a way of conveying new knowledge or imparting new skill to the farmer to help him improve his farming. Therefore, the

success of the demonstration programme should be judged not on the basis of thoroughness with which the demonstration was conducted, the records maintained and the data compiled, but on the basis of the extent of diffusion of the idea or item demonstrated among the farmers. Unless demonstrations enable the farmers to take decisions to change over from traditional ways to better and improved methods of farming the demonstration programme would have failed in its objective. And once the programme has brought about the desired change among the farmers, to continue to demonstrate the particular idea or item would be a waste of time and effort. Therefore, the field workers as well as the supervisory officers should constantly assess the programme and keep moving forward instead of treating the proper conduct of demonstration as the be all and end all of the programme.

19. While establishing and conducting the demonstrations, the field staff may observe some points which were not obvious during the programme planning stage or which are peculiar to a particular set of conditions and which, unexpectedly, help or hinder the successful implementation of the programme. These points must be recorded and brought to the notice of the higher authorities so that the information could be appropriately utilized in further extension or research efforts. For example, if the demonstration of a new variety of wheat, recommended on account of superior yielding capacity and rust resistance, brings out the fact that it

has a poorer acceptance in the market in a particular district, and that this has discouraged farmers from adopting it, then the shortcoming in the variety must be brought to the notice of the higher authorities who must communicate the information to the source of supply of the new variety so that a better alternative variety couldbe suggested, or research intensified to breed a variety suitable for the district in case no alternative variety can be suggested. Since market and consumer perferences vary from place to place, such information will be useful for planning the extension and research programmes. On the other hand, a variety may be found to stand dry conditions better than the local variety, a fact about which the research station, which had developed the variety, had remained ignorant because the variety was bred under irrigated conditions and was meant for irrigated areas. It may so happen that it was demonstrated in some fields where irrigation was not available or was very scanty, and its excellence in admirably resisting dry conditions was revealed in the demonstration. This information would greatly help the research workers to develop a testing programme to assess its suitability to other likely areas and situations. Similarly a demonstration may reveal that whereas the recommendedvariety, when sown at the normal time is only moderately superior to the local variety, it is very markedly superior in very delayed sowing, a fact which had perhaps not been investigated in the research programme. Any such points noticed must be recorded and conveyed

to higher quarters, because some of them are unknown and may consitute valuable information.

20. It is desirable to constitute an evaluation team for every district which should visit a few villages in every Block to assess the progress of the demonstration programme and its benefits. The team may consist of the Joint Director of Agriculture (Extension) or the Deputy Director of Agriculture, the Deputy Development Commissioner or the Planning Officer, the District Agricultural Officer and two or three representatives of the Zila Parishad of the district. The team should interview the demonstrating farmers and the field workers and assess whether or not the demonstrations have been effective and purposeful in extending new and useful knowledge of improved farming among the farmers to such an extent as to leadthem, in substiantial numbers, to change over from traditional to newer and more profitable farming practices.

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