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In this Issue

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Report of the Delegation of Indian Farmers on their visit to German Democratic Republic

A delegation of six Indian farm leaders visited the German Democratic Republic in September 1965 at the invitation of the Farmers Mutual Aid Association of the German Democratic Republic. The delegation consisted of Shri and Smt. J. Kamalakannan (Madras), Shri B. G. Bhagwan (Mysore), Shri N. S. Watane, Shri B. S. Patil (Maharashtra) and Shri Lade Sanyasi (Orissa). The group's report is reproduced below :

"The delegation of six members of the Bharat Krishak Samaj which left on 17th September, 1965 for the G.D.R , on the invitation of the Farmers Mutual Aid Association of the German Democratic Republic (reported in Krishak Samachar, September 1965), returned to India on the 6th October, 1965 after the completion of their interesting and instructive tour.

The delegation toured extensively in the country and covered nearly 2,700 kilometers. They visited many institutions connected with agriculture and studied the agricultural life and cropping methods in that country.

The farming in G.D.R. is done co-operatively and collectively, though the land ownership is maintained. The profits are distributed according to the land contributed by a member and performed work. Land ceiling is enforced strictly. Due to large areas of land pooled together by cooperative farms, the farming is mechanised upto about 90 per cent. Animal husbandry and cattle breeding are very well planned and harnessed to the production of agriculture. Artificial insemination centres are provided all over. There is no problem of stray and useless animals anywhere in the State.

Forty per cent of the total land in the State is under fodder cultivation and pastures. Due to the well-devised pattern of crops and rotations, soil fertility is well maintained. Soil analysis is done every four years and is compulsory. The prices of agricultural produce in the State are fixed by the Agricultural Boards and Commissions.

Kindergartens and nurseries for the children and canteens for adults are provided on almost all co-operative farms and factories. There is no individual farming except kitchen gardening. Week-end homes and holiday homes are provided for the recreation of the families of the farm workers and peasants. The expenses for running these centres are borne by the State and the Trade Unions.

Social security is ensured by way of compulsory insurance. Medical aid and education are free.

Special courses are provided for the adult farmers at the

(*Continued onpage 7*)

PUBLISHED MONTHLY BY BHARAT KRISHAK SAMAJ—FARMERS' FORUM, INDIA

New Strategy for Indian Agriculture

At the State Chief Ministers' and Agriculture Ministers' Conference, held on 9th and 10th April, 1966 at Vigyan Bhawan, New Delhi, Shri C. Subramaniam, Union Minister for Food and Agriculture, Community Development and Co-operation, gave the essential features of the programme to exploit to the maximum the outstanding performance and promise shown by the new strains of important food crops like hybrid *jowar*, hybrid *bajra*. dwarf varieties of Mexican wheat, and hybrid maize. These crop varieties have been found to give high responses to fertilizer application and thereby produce three to four times higher yields than the varieties commonly grown. The new strategy consists in concentration of all efforts, within the next 5 years, on selected areas, to cover 32.5 million acres of landwith these new high yielding strains of food crops and provide them with a package of all the other practices, including adequate amounts of fertilizers and pesticides.

It is proposed, for the emergency programme, to select within the existing I A.D.P. and Intensive Agricultural Areas, a suitable number of blocks with assured rainfall and irrigation facilities. The distribution of area under the different crops out of 32.5 million acres will be (in million acres) : paddy 12.5, wheat 8.0 and 4.0 each for maize, *jowar* and *bajra*. The new high-yielding varieties to be used for this purpose are : paddy-Taichung Native I and Tainan 3 ; wheat-Mexican dwarf varieties Sonora 63, Sonora 64 and Lerma Rojo; and for maize, *jowar* and *bajra*; new hybrid varieties which have been recently evolved. The per acre fertiliser doses proposed to be applied to the crops are : for rice 100 lb. N + 30 lb. P_2O_5 + 30 lb. K_2O; for wheat 100 lb N + 40 lb. P_2O_5 + 40 lb. K_2O ; for maize and *jowar* 80 lb. N + 40 lb. P_2O_5; for *bajra* a dose of only 40 lb. N is proposed It has been estimated that the growing of the high-yielding varieties in conjunction with other inputs would produce an additional yield of 25.5 million tonnes of foodgrains by the end of the Fourth Plan.

Some extracts of Shri Subramaniam's address to the above Conference, outlining the programme for 1966-67 under this project, are given hereunder :-

"The high yielding varieties programme for 1966-67 for foodgrains covers primarily paddy, wheat, maize, *bajra* and *jowar* new strains of which would be sown over 5.9 million acres. 1966-67 is the first year in which this programme is being mounted on a large scale. In regard to paddy, the programme is to be taken up in about 2.62 million acres. Out of this, 1.5 million acres will be under *kharif* and the balance under *rabi*. A number of varieties like Taichung Native I. Taichung-65, Tainan-3 and ADT-27 will be tried during 1966-67 and they can stand comparatively heavy dosages of fertilisers which the existing varieties cannot. The basic advantage of these new varieties is that their yield is high under fertilisation. This new programme is based on the realisation that in order to wrest larger yields from nature one cannot continue to depend on the tried old strains which cannot respond adequately to the new chemical fertilisers. As you are aware, some of the exotic strains like Taichung Native I, Taichung-65 etc. are prolific yielders giving as high a crop as two to three tonnes per acre. I am aware that these varieties have to be carefully protected against likely diseases and that their fertiliser requirement is high. To meet the risk of infection from pests and diseases, an adequate programme of plant protection is being undertaken. When this programme goes through, our expectation is that we will have an additional production of at least 2.6 million tonnes of paddy on this account alone. Our scientists claim, based on the experience gained during last year, that these new varieties give a higher response to fertiliseres tonne for tonne and to that extent we would be using our scare resource of fertilisers to better advantage. Our programme for the Fourth Plan is to bring nearly 12.5 million acres under these new varieties of paddy. In respect of the Mexican strains of wheat, we expect to cover 0.6 million acres in the current year. Even this will require an import of nearly 10,000 tonnes of Dwarf Mexican wheat seeds. The programme for maize, *jowar* and *bajra* would cover 2.72 million acres. I would like to sound one note of caution, however. While we are starting with a number of new strains, our scientists' efforts should be to evolve from these varieties those which are more and more suited to Indian conditions. The scientists of India should be encouraged to adopt the new tools of geneties to evolve newer strains which whilst retaining the fertiliser response characteristics of the exotics, absorb the disease resistance and adaptability to the Indian condition.

"The administrative implications of the high yielding varieties programme have been brought out in the papers before you. Arrangements for seed for the area to be taken up in 1966-67 have already been made. The production of adequate seed for the large area we are undertaking to cover in future years is a still more challenging task. The National Seeds Corporation will take a leading role in the production of nucleus seed and foundation seed for the various varieties. It is also important that at this stage we should not allow any of the seed to get wasted. Our attempts should be to procure every seed grain that is suitable for further multiplication in the coming years. I hope that in the coming months, suitable arrangements can be worked out between the Government of States, the cultivators and the National Seeds Corporation for this purpose so that out of the relatively large area we cover in 1966-67, we get adequate seed for the programme in 1967-68."

(*Continued on page 8*)

State of Food and Agriculture--1965

The Food and Agriculture Organisation of the United Nations has published its "State of Food and Agriculture—1965". The following excerpts from this report are devoted to the outlook for the years ahead :—

'DEVELOPED COUNTRIES' FARM PROBLEMS

".....Governments in the developed countries (unlike those in the centrally-planned economies as well as the developing countries) have more often had to take measures to restrict the expansion of production than to stimulate a more rapid increase.

Yet they have been reluctant to reduce farm prices in order to avoid still wider disparities between farm incomes and those in the rest of the economy, even though these prices encouraged further increases in production.

This problem is seen in its most acute form in the United States, where several different policy approaches have been tried, so far with limited success. It is coming increasingly to be felt that, whereas the more efficient farmers have no need of price support, no amount to support can turn the in-efficient ones with uneconomic holdings into efficient producers. A growing body of opinion is therefore beginning to consider that farm supports should be regarded primarily as social welfare measures to be directed specifically at those in need of them, although this attitude is not yet reflected in price legislation.

It is maintained that supports mainly aimed at the marginal farms for social purposes would be much less costly than the present comprehensive programs of price support embracing all producers, and be less likely to encourage unwanted surpluses.

Also in a number of Western European countries there has been much discussion of the treatment of farm incomes as a social problem, and it may well be that this will be one of the central features of agricultural policies in developed countries during the coming decade. While the development of the common agricultural policy of the European Economic Community has so far mainly concerned trade questions, it also includes a common social policy for agriculture as one of the objectives.

In the long run it seems likely that the agricultural problems of the developed countries can be solved only by further reductions in the farm population, making possible larger and more viable farms. Several countries in Western Europe are taking steps to encourage and assist this development, by facilitating the movement of the less efficient farmers out of agriculture and promoting the amalgamation of small holdings into units of economic size.

This is another direction in which considerable activity may be expected in the next few years.

This is not to say that there may not be still a limited place for small farms, such as those devoted to specialised production with a high labour input not readily adapted to mechanization. Nevertheless, rapid mechanization and the growth of vertical integration and contract farming have recently brought about a substantial transformation in the agricultural structure of many of the developed countries. In the countries where this transformation has gone farthest, the family farm, which in many countries has long been the basis of rural life, may be unable to continue as the main type of enterprise in anything like its present form, unless special measures, again largely of a social nature, are taken to preserve it. This is a controversial matter which may lie at the heart of policy decisions during the next decade.

FARM OUTPUT IN DEVELOPING NATIONS

Spectacular as have been the achivements of agricultural technology in the last decade, they have as yet had little impact in the developing countries.

This is partly because of the inadequancy of the government services engaged in transmitting to farmers the necessary knowledge of improved methods. In the coming years, much will depend on the speed of which trained staff can be provided for the research, education, extension and related agricultural services in these countries. Assistance in training personnel for such services will continue to be one of FAO's most important activities.

Probably the main need in planning the expansion of the agricultural services will be to organize them in such a way as to make the fullest and most economical use possible of the limited numbers of trained personnel available. In agricultural research, which in many developing countries is not yet sufficiently oriented to the practical needs of farmers, there should be considerable scope for the pooling of resources between countries in some ecological zone.....

In extension, it may often be advisable to concentrate limited resources on the more advanced or more promising areas, rather than to spread them thinly over the whole country. The effectiveness of extension services could often be enhanced by freeing extension workers from administrative and related duties so as to give them more time for productive work among farmers.....

Systems of agricultural education in developing countries are frequently modelled closely on those

(*Contd. on page* 8)

Celebration of National Farmers Day

The National Farmers Day, on 3rd April, was celebrated in many parts of the country by the Bharat Krishak Samaj, jointly with the India Productivity Year, 1966. The National Productivity Council kindly sanctioned Rs. 1000/- as their contribution towards the expenditure that may be incurred in celebrating the National Farmers Day in conjunction with the India Productivity Year, 1966. This amount has been allocated among the State Units of the Samaj. The Samaj gratefully acknowledges the generous contribution of the National Productivity Council. Special meetings were convened at various places where prominent persons and farmers of each area gathered and attended the function. A brief account of the celebrations in some places is given below. Reports of celebrations from other places are awaited and will be published in the subsequent issues of Krishak Samachar.

Delhi Krishak Samaj

The Delhi Krishak Samaj, in collaboration with the Delhi Productivity Council, celebrated the National Farmers Day on 3rd April 1966 at 3 P. M. at village Nangloi (Delhi). Large number of farmers from the Union territory attended the function. Ch. Brahm Parkash, M. P., Chairman of the Delhi Krishak Samaj, presided over the meeting. Many farmer-leaders addressed the gathering and laid stress on the Government to better the lot of peasantry by providing them with :

(i) irrigation facilities;

(ii) better seeds and fertilizers;

(iii) modern agricultural implements;

(vi) grants for purchase of tractors etc; and

(v) getting reasonable price for their products ;

otherwise production may suffer.

Ch. Rizaq Ram, Irrigation and Power Minister, Punjab Government, who was also present at the function, was kind enough to consider the demand of farmers regarding irrigation facilities.

A small exhibition of agricultural implements, seeds, vegetables, fertilizers and other products was also held on this occasion, which was much appreciated.

The whole programme was covered by All India Radio (Rural Section) which was relayed on 4th April, 1966, from the Delhi Station of All India Radio.

The Secretary of Bharat Krishak Samaj also participated in the function.

District Krishak Samaj, Jalgaon, (Maharashtra)

The National Farmers Day was celebrated at Jalgaon in conjunction with the India Productivity Year 1966, with Sri Kalyanrao Patil, Deputy Home Minister, Maharashtra state, in the chair, All the life members from Jalgaon and Aurangabad districts were invited. Similarly, all the Government officials of Agricultural Department were also invited. The meeting was largely attended. The great importance of the farmers day was explained to the audience. In the meeting some progressive farmers placed their experience regarding the yield of improved seeds of new high yielding varieties of wheat, maize, jowar and bajra on their farms.

District Krishak Samaj, Amravati (Maharashtra)

The National Farmers Day was celebrated in the famous grape garden 'Anantwadi', near Amravati, with Smt. Vimlabai Deshmukh, M.P. in the chair. The meeting was attended by several prominent persons and farmers in the area and was addressed by Smt. Vimlabai Deshmukh, Shri Narayanrao Watane, Shri B. S. Patil. President and Secretary Amravati Distt., Krishak Samaj respectively, and others. The importance of the National Farmers Day and the problems facing the nation in attaining self-sufficieny in food were explained to the gathering.

Pathroat Taluqa Achalpur, Distt. Amravati

The National Farmers Day was observed with gusto by the Sewa Sahakari Society of Pathroat with Shri Gawande in the chair. The meeting was addressed by prominent persons and progressive farmers who explained the importance of the Day and the urgent need for accelerating food production.

Pandhari

The Day was observed by opening a "Gur Production Plant" costing Rs. 40,000/- by Shri Din Dayal Gupta, ex-Miniister. The meeting was attended by progressive farmers of the area.

District Farmers Forum, Akola (Maharashtra)

The Day was observed by convening a meeting in the Zila Parishad Hall, under the chairmanship of Shri Maniklal Somani, President Akola District Farmers Forum. The meeting was attended by Samaj workers and many progressive farmers in the district. Several prominent persons addressed the gathering. The Chairman in his address explainned the importance of the National Farmers Day and the great work done by the Bharat Krishak Samaj in the past eleven years in the service of the farmers all over the country. He urged the farmers to strengthen this organisation by enrolling themselves as members of the Samaj.

Farmers' Forum Utkal Branch, Bhubaneswar (Orissa)

The Day was celebrated by holding a meeting of the local farmers at village Narangarh in Puri district, under the chairmanship of Shri Raghunath Chotaray, Khurda Panchayat Samiti Chairman. At this meeting, Shri M. C. Routaroy, Asstt. State Organizer, explained the aims and objects of celebrating this auspicious day and explained the Five

Mr. James Patton Retires

Mr. James G. Patton, one of the founders of the International Federation of Agricultural Producers and President of the National Farmers Union of U.S.A., officially retired on March 17, 1966.

Mr. Patton had been President of the National Farmers Union for 25 years. He was Vice-President of IFAP for two years before being elected as President in 1958 and 1959. He was born on a Kansas farm and taught in school and in 1932 helped to organise a Cooperative Insurance Co. for the Colorado Farmers Union. In addition to serving as President of National Farmers Union. Mr. Patton participated in many other International Conferences and served as a member on innumerable U.S. Government committees.

Mr. Patton was the President of the IFAP when the 11th General Conference of IFAP was held in New Delhi, from November 27 to December 5, 1959, at the invitation of the Bharat Krishak Samaj, which is a member of IFAP, almost since the latter's inception. In his Presidential address, Mr. Patton said :

"It is my privilege to have the opportunity to thank our Indian associates in the IFAP for their generous invitation to meet here in the great Metropolis of New Delhi. India became an independent nation in August 1947 and the IFAP officially began its work four months earlier the same year. While the IFAP and India are young in relation to the life of a farm organisation in IFAP and the country's representative in the Federation, it is abundantly clear in each case that the structure is sound and that the future is promising. It is a significant and historic event when the IFAP., a relatively young and still pioneering an organisation of farmers meets in a new and vital India which is directing the pattern of democracy in Asia. I am especially pleased to bring greetings to the officers and men of our very fine Indian colleagues in Farmers' Forum. I take this opportunity to congratulate the Farmers' Forum on their very competent sponsorhip of a most outstanding event, the "World Agriculture Fair." It seems significant to me that an organisation of farmers is so responsibly and capably sponsoring such an important event as the "World Agriculture Fair". This may well be a pattern for future conferences. I am especially proud to be identified with our very fine statesmanlike colleagues in the Farmers' Forum."

Mr. Patton has been taking keen interest in the Samaj and contributed a very fine article on 'Freedom and Security of Land' for the Bharat Krishak Samaj Year Book-1964. The late President, Dr. Panjabrao S. Deshmukh, while referring to Mr. Patton, used to say that 'Mr. Patton is a great friend of ours'. The late President, during his visit to USA in 1962, was honoured by the National Farmers Union by making him its Honorary Life Member. This is a very rare and unique honour.

In his letter dated March 7, 1966, addressed to Secretary, Bharat Krishak, Mr. Patton writes:

"As you know, I have announced my 'official' retirement as President of National Farmers Union after serving in this position for 25 years. This will become effective at our annual convention in Denver, at the Denver-Hilton Hotel, on March 17th.

Actually, I do not intend to fade away—my contract with National Farmers Union runs through December 31, 1967— and as I said in my statement, I will be available as one of the "Elder Statesmen" for council, advice and assistance at any time I am asked.

As I officially leave the Farmers Union I do so with a heart full of gratitude and satisfaction. The freedom given me by our Board of Directors to lead, speak out and pioneer certainly gave me a feeling of confidence and loyalty.

I have also truly valued your friendship, support and assistance over the years. Without your help, and that of my other friends in the international agriculture I do not believe we would be where we are today in so many vital areas.

I hope your years ahead are bountiful.

Best personal regards."

In acknowledging Mr. Patton's letter, Secretary wrote :

"On behalf of the Farmers Forum and my own, I wish you a very long life and well earned rest, and while doing so, earnestly hope that you will maintain your contact with us and that your advice and wise counsel will be available to us for many many years to come."

Point Programme launched by the Samaj. At this meeting many prominenr persons and life members of the Samaj requested all to take pledge on this occasion to carry forward the unfinished tasks initiated by the late revered President, Dr. Panjabrao Deshmukh.

The Chairman, in his speech called upon everyone to give fullest cooperation to all Government and private agencies in the current drive for stepping up food production in the country.

Madhya Pradesh Krishak Samaj, Bhopal

The Day was celebrated in conjunction with the celebration of India Productivity Year, 1966 by the M. P. Krishak Samaj by holding a meeting under the chairmanship of Shri S. S. N. Mishran. He explained the objects of organizing the Farmers' Day and discussed various problems relating to agricultural production. The State Director of Agriculture Dr. Lamba, explained the various schemes for increasing the agricultural production in the State. Some other prominent persons also participated in the discussions and emphasized the need of cooperation of the Bharat Krishak Samaj in various activities relating to agricultural production.

Manipur Krishak Samaj, Imphal

The National Farmers Day and India Productivity Year. 1966 were celebrated at Imphal at a meeting under the chairmanship of Shri S. Angon Singh, Development Minister and President of the Manipur Krishak Samaj. Shri Singh explained the great importance of the Farmers' Day. He also paid glowing tributes to late revered President, Dr. P. S. Deshmukh. He appealed to the farmers to adopt the latest scientific methods of cultivation and double cropping in Manipur. Several members of the Manipur Krishak Samaj addressed the meeting.

Top Dressing of Paddy

(From a paper by Roy L.Donahue, Consultant on Soils and Fertilisers, The Ford Foundation, New Delhi, in Fertilizer News, Vol. 10, No. 10, October, 1965, p.p: 16-18).

When farmers were satisfied with yields of 500 lb. of paddy per acre, most soils were able to supply the essential nutrients from the break-down of added farmyard manure and from soil minerals. Now the more progressive farmers expect yields of 3000 lb or more of paddy per acre. To attain these, the soil must be supplemented by green leaf manure, compost, and especially chemical fertilizers.

The difference between the plant nutrient needs of a 500 lb. yield and a 3000 lb yield of padds, including straw is :

55 lb. N. (Equivalent to 275 lb of amonium sulphate)

25 lb. P_2O_5 (Equivalent to 156 lb of single super phosphate)

90 lbs. K_20 (Equivalent to 150 lb of 60 per cent muriate of potash).

Some of the additional plant nutrients will come from farm-yard manure, and some from green manure. To some extent, even though the organic material may not result in a net "gain" of nutrients, their decomposition in the soil does help to make the nutrients already in the soil more readily available. The use of chemical fertilizers always results in a net "gain" of plant nutrients to the paddy fields.

Fertilizing Paddy

The commonly recommended practice in India is to apply all of the phosphorus and potassium and half of the nitrogen as a basal dressing a few days prior to planting paddy, and the other half of the nitrogen approximately 40 to 50 days after planting (30 to 35 days before heading), depending upon the variety.

The amounts of fertilizer applied by Indian farmers on paddy varies from none to amounts that produce maximum returns per acre. In most areas in India the most enlightened farmers apply a total of 60 lb of nitrogen (equivalent to approximately 300 lb of ammonium sulphate) and 30 lb. of P_2O_5 (equivalent to approximately 200 lb of 16 per cent superphosphate). In a few places where the available potassium level in the soil is low, potassium fertilizer gives a response on paddy.

In the Intensive Agricultural District Programme, the generalised fertilizer recommendation varies from 30 lb of N and 30 lb of P_2O_5 to 40 lb of N and 40 lb of P_2O_5. A more efficient and economic fertilizer recommendation can be made after an inventory of the soil fertility has been taken.

To obtain an inventory of the soil fertility upon which to base a scientific fertilizer recommendation, farmers in India, and specially in the IADP, can have the soil in their paddy fields tested without charge. If the soil tests "low" in phosphorus, for example, larger doses of superphosphate are recommended than indicated by the generalised recommendations.

Kind of Fertilizers for Top-dressing

On the Indian market today, a farmer usually has the option to purchase ammonium sulphate, calcium ammonium nitrate, or urea. At certain times and in selected areas, he may also be able to buy ammonium chloride or ammonium sulphate nitrate.

Ammonium sulphate is best known among Indian farmers because it has been on the market for many years and because it gives a good response when used on paddy either as a basal dressing or as a top dressing.

Not as well known to the farmer is urea, a nitrogenous fertilizer that is the most concentrated of any in India. It also can be used satisfactorily either as a basal dressing or as a top-dressing on paddy and it gives almost equal response per pound of nitrogen to that of ammonium sulphate.

Calcium ammonium nitrate is now being manufactured in large quantities in India and its use is being vigorously promoted. For use as a top-dressing on paddy it is almost as effective as ammonium sulphate and urea. It should not, however, be used as a basal dressing on paddy because half of the nitrogen is in the nitrate form which, in flooded paddy fields, soon changes to gaseous nitrogen and is lost to the atmosphere.

Ammonium chloride is made in India in small quantities and its use on paddy may be expected to give equal response as a basal and top-dressing to that of ammonium sulphate and urea.

Ammonium sulphate nitrate has three-fourth of its nitrogen in the ammonium form and one-fourth in the nitrate form. For this reason it should not be used as a basal dressing but should give a good response when used as a top-dressing.

Costs of Fertilizers for Top-dressing

Of the fertilizers available to the farmer, the response expected and the cost per unit of the nitrogen are the two most important factors to be considered in deciding what nitrogenous fertiliser to use for top-dressing paddy. Other factors are the physical condition of the fertilizers, the distance it must be hauled by the farmer, and the kind and size of the bag used as a container.

Ammonium sulphate and urea give equal response on paddy, when used either as a basal or as a top-dressing. Since ammonium sulphate costs Re. 0.79 per lb of N and urea costs Re. 0.62 lb per of N, urea is preferred because it is 21.5 per cent cheaper. Calcium ammonium nitrate gives almost equal response as other nitrogenous fertilizers when used as a top-dressing on paddy. Since the price per pound of nitrogen is less than that of ammonium sulphate

nitrate, ammonium sulphate, and ammonium chloride, calcium ammonium nitrate is preferred for use as a top-dressing. But urea is cheaper than calcium ammonium nitrate and urea is, therefore, preferred for use as a top-dressing for paddy.

When and How to Top-dressing

Assuming that half of the total nitrogen requirement was given as a basal dressing the other half should be used as a top-dressing 40 to 50 days after transplanting (30 to 35 days before heading), depending upon the duration of the variety. It is very important to apply the fertilizer as uniformly as possible so that each paddy plant may get its share and a uniform high yield will be obtained. To be more certain of a uniform application, divide each paddy field into three equal parts in one direction and into three equal parts at right angles to the first direction. This will produce a checker-board effect. Now divide the fertilizer for top-dressing one field into six equal parts. (This can be done quickly with the aid of a small tin such as a cigarette tin). With one-sixth of the fertilizer walk across one-third of the field and spread the fertilizer on top of the paddy plants. This may require several trips across the field, as one person can uniformly spread fertiliser over a width of about 10 feet at one time. Take a second sixth of the fertilizer and spread it over another third of the field. In turn, take each remaining one-sixth portion across at right angles and spread it uniformly over one of the remaining three strips. In effect this method of application covers the ground twice.

If line planting is practised, an alternate method of top-dressing is to divide the total fertilizer for each field into sufficient equal portions so that one portion is sufficient to cover three rows. Then walk down the three rows, straddling the middle row, and spread the fertiliser down the two middles between the three rows. This is perhaps the most accurate method.

Top-dressing should be done only when the air is relatively calm, as on a windy day the fertilizer may be blown from the field.

Results to be Expected from Top-dressing

Research comparing the results of applying all of the nitrogen as a basal dressing or applying half of it as a basal dressing and half as a top-dressing, shows that if done on time, precisely, and with the required quantities of fertilizer, an increase of 10-20 per cent in paddy yields may be expected as a result of top-dressing with nitrogen.

Top-dressing a paddy crop, even when done properly, will not assure a successful crop neither will an adequate basal dressing plus top-dressing guarantee a good crop. Other factors of production must also be present such as a high-quality and high-yielding seed, a good seed bed ; proper water management ; weeding ; and adequate plant protection from such hazards as insects, diseases, birds, rats, and stray cattle.

(*Continued from page 1*)

agricultural schools and institutions. Special attention is paid to the problems of tropical and sub-tropical agriculture in these studies. The members of the Delegation were pleasantly surprised to see some Indian herbs and medicinal plants in the Leipzig Botanical Gardens.

Housing in the State is both private and nationalised. All big hotels are nationalised. There are no housing and rent problems in the country. The house rents range between 8 and 12 per cent of the salaries of individual workers and employees and are not permitted to be higher than in 1941.

The wages of farm workers are fixed on the basis of working units. Sufficient incentives are provided for fulfilling the targets in advance.

The State is endeavouring to reduce the agricultural population, which is about 16 per cent at present, by devising intensive mechanisation of agriculture.

The main crop of the State is potato. Beet is grown for sugar and fodder. The waste material of beets, after the extraction of juice for sugar manufacture, is processed into useful feed for cattle.

The State is self-sufficient in food on the whole. Certain produce like butter and some fruits like grapes are imported from other countries.

As regards industrial production, G.D.R. rates as the fifth state in the continent of Europe and is the eighth in the whole of the world. Heavy as well as light industries are located in the State. The delegation had an opportunity of seeing the big works of Nordhausen and housing conditions of the workers at Sehwedt.

Inspite of the heavy destruction caused by World War II, G.D.R. has marched both in the field of agriculture and industry. The tempo of progress continues. There are a number of things that have played an important role in the agricultural advancement of that country which can be usefully adopted in Indian Agriculture.

This tour helped to promote friendly relations between our two countries especially at peasants' level.

Before concluding this brief report the Delegation wishes to express its deep gratitude for the Farmers Mutual Aid Association, the Government and the people of G.D.R. for the splendid opportunity afforded to it to visit G.D.R."

The First Death Anniversary of our late revered President, Dr. Panjabrao S. Deshmukh, was observed solemnly on April 10, 1966 by the Bharat Krishak Samaj and its branches all over the country. The life members of the Samaj and farmers took a renewed pledge to continue the unfinished work, started by the late President with devotion and determination.

Regd. No. D-1092

(*Continued from page 3*)

traditional in developed countries and are often not well adapted to local circumstances. General education in these countries usually shows little recognition of the fact that their economies are preponderantly agricultural and that for a long time to come most of the population will be employed in some branch of agriculture.....

The implementation of measures (such as land tenure, price policies, credit and marketing) in developing countries has so far proved very difficult not only because of political pressures and established interest, but also because of the weakness of the administrative structures available to carry them out. In many countries little seems likely to be achieved without a much greater sense of urgency than is apparent at present .....

An important lesson of the past decade is the close interdependence of measures in such fields as price stabilization, credit, marketing and the provision of farm requisties. More and more countries have come to recognize the need for suitable *multipurpose farmers' organizations, frequently but not necessarily co-operative* in form, as a vehicle for improvements in all these related fields. This has been emphasized by a recent survey mission organized under the Freedom from Hunger Campaign. Here too, a few countries (for example, Japan) have been outstandingly successful and the organizations they have evolved merit careful study to determine their applicability elsewhere.

Too many such organizations in developing countries, however, have been copied directly from institutions in developed countries and are too restricted in scope, too complicated administratively or otherwise unsuitable for the conditions in developing countries.''

[From IFAP News, Vol. 14, No. 11, Nov. 1965.]

Israel First in Africa-Asia Food Production

Isreal has been evaluated as first in food production among a list of 26 developing nations in Asia and Africa according to a recent report of the U.S. Department of Agriculture made available to the White House Conference on International Co-operation.

In the period between 1948 and 1963 Isreal had the highest annual compound change in total crop output, the highest agricultural output per farm worker, the highest increase in crop output per acre of crop.

During the period 12 of the 26 developing nations attained compunded rates of increase in crop output of more than 4 per cent per year which surpasses the record of economically advanced nations during comparable periods of time. These 12 countries were : Isreal, Sudan, Mexico, Costa Rica, Philippines, Tanganyika, Yogoslavia, Taiwan, Turkey, Venezuela, Thailand and Brazil.

During the same period, crop output failed to keep up with population growth in five countries, Nigeria, Egypt, Pakistan, Tunisia and Jordan.

The report emphasizes that food consumption levels are below desirable levels in 11 of the 26 countries : Colombia, Sudan, Tunisia, Egypt, Tanganyika, Iran, Jordan, India, Pakistan, Philippines, and Thailand.

The report shows that the per capita food consumption deficit per day was : Sudan, 186 calories, Tunisia, 450, Egypt, 200, India, 240 Iran, 330, Jordan 250, Pakistan 180, Philippines, 350, and Thailand 230,

[News from Israel, Vol. XIII, No. 2, January 15, 1966.]

Minimizing Spoilage losses in Oranges during transit

The studies made by the Market Research Section of the Directorate of Agriculture, West Bengal, have shown that proper care in plucking, packing and transporting of fruits can easily keep down the spoilage losses in transit.

Such losses in the case of Darjeeling oranges alone amount to Rs. 16 lakhs a year. The reasons for such losses, the study points out, could be bad plucking, careless packing, faulty grading and bad transportation by growers.

These losses can be minimized by clipping oranges instead of twisting them out while plucking, plucking only mature fruits, packing them in ventilated boxes and using quicker methods of transport ,such as trucks.

[Farm News 9/65]

Second National Ploughing Contest

The Second National Ploughing Contest was held at the campus of the U.P. Agriclutural University. Pant nagar, District Nainital, U.P., from 2nd to 4th April, 1966.

Shri H.S. Gill, winner of the third position of the 22nd International Ploughing Contest, in Northern Ireland in 1965, secured the first place. The second was secured by Shri R M.R. Cameron.

Among the bullock driven implements the first prize was awarded to Shri Bishamber Singh of Rudrapur village, district Nainital.

The trophies were awarded to the winners by Shri Genda Singh, Minister for Agriculture U.P.

The contest was organised by the Agricultural Machinery Association of India, New Delhi.

(*Continued from page 2*)

Apart from this commendable emphasis on the rapid extension of acreage under the new high-yielding varieties of these cereals, no efforts towards self-sufficiency in foodgrains will be considered adequate unless the farmers receive remunerative and incentive prices for their produce. The Bharat Krishak Samaj has since long been urging Government on this point of vital importance to farmers.

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