

Rice Production in Japan

By

DR. SHINGO MITSUI

The Coimbatore Agricultural Institute had recently the privilege of hearing, under the auspices of the Students' Club on the 25th August, a lecture on Rice Production in Japan by Dr. Shingo Mitsui, Professor of Plant Nutrition, in the Tokyo University.

The lecture was a model of brevity, clarity and completeness and it reviewed in a masterly manner how Japan, in the course of the last sixty years, succeeded in doubling her rice production, from 4.5 million to 9.5 million tons at present. This achievement was possible, first by a widespread system of mass education, coupled with a high level of scientific training to the gifted few, next by a systematic and steady progress in improving the methods of rice culture, including fertilisers, and thirdly by a systematic development of the fertiliser industry by which organic manure like compost, soybean cake and green manures, were replaced by heavy dosages of inorganic fertilisers like ammonium sulphate, and superphosphate. A fourth reason was the thoroughness with which the results of research were made available to the farmers, by an efficient and widespread extension service. For instance, more than 90 per cent of the rice varieties grown by the average Japanese farmer, were improved seeds. Rice varieties that showed definite responses to fertiliser applications, that were more resistant to insect and disease attack, and those that were more tolerant to cold, have been systematically tested over many years and systematically distributed to the farmers. Even in the northern-most parts of Japan, where the winter temperatures fall below 30° C, they could grow rice during the summer months, by using the cold-tolerant varieties.

In fertiliser application, farmers who were using organic manures sixty years back, are now applying nearly three times the dosage of nitrogen, phosphates and potash in the form of inorganic fertilisers that they were using sixty years back. The farmers are now fully convinced of the greater efficacy of chemical fertilisers, as compared to organic manures like soybean cake and compost.

Another factor, was the development of the fertiliser industry itself in Japan, so as to be self-sufficient in fertilisers. The first world war stimulated Japan to establish her own factories to produce ammonium sulphate, and gradually inorganic fertilisers have now replaced organic manures, specially for rice. The quantity of fertilisers applied to the rice crop has increased year by year, until in 1940, the total annual consumption of chemical fertilisers amounted to nearly 3.6 million tons. The fertiliser industry was reduced to nearly one-fifth at the end of the Second World War, but it has now recovered and has even exceeded the prewar level. The most recent figures indicate that 2.2 million tons of ammonium sulphate and 1.6 million tons of supersulphate are being produced by some forty fertiliser firms, controlling about two hundred factories.

Further, improvements were effected not only in the quantity of chemical fertilisers used but also in the manner of using them; for instance, "deep placement" of ammonium sulphate, as deep as possible in the furrow slices of paddy fields has improved yields by 10 per cent. Also, the timely application of nitrogenous fertilisers as top dressings to paddy plants, has improved yields still further. The average Japanese farmer is now-a-days fully aware of the benefit of both these measures.

Dr. Mitsui, continuing, observed that although rice production had been doubled in Japan, the population too, had more than doubled itself, so that there is at the moment of gap of nearly 15 % to be bridged between rice production and consumption.

This, the lecturer, felt confident of achieving, by an intensification of their efforts on the scientific and extension aspects. In conclusion he emphasised that the future in both Japan and India, so far as agriculture was concerned, lay in the hands of the student population, as they were the scientists and extension workers of the future.

In this context, one cannot help contrasting the cool and robust optimism of the Japanese people, with the doubts and hesitations of our Indian counterparts. Whereas they are confident, even after doubling their yields within sixty years, of achieving another fifteen percent increase in their rice production, we in India are still unable so far to increase our average yields of rice, in spite of the fact that it is the lowest in the world.
