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Results of the experiments carried on in the Hospet Sugar Factory area for improvement of yield.

By

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The recent sugar scarcity and the consequent high price for sugar variously described as the "Sugar Muddle", "Sugar Racket" etc., has brought the sugar industry prominently into public attention and criticism. The main target of criticism has been the high price of Indian sugar compared to sugar produced in other countries. The Industrialists say that it is mainly due to the high price fixed for the cane as the cane price accounts for nearly 60% of the sugar price and there is no possibility of reducing the sugar price unless the cane price is reduced. The champions of the ryots, however, say that the cane price cannot be reduced without risk of the area under cane being reduced, because of the better return a ryot gets on alternative crops. So the whole question boils down to this, as to, how is it possible to reduce the cane price without reducing the return the ryot gets. There is only one answer to it, to increase the yield per acre and the sugar content of the cane.

Various suggestions have been made to achieve these objects. In this connection it may be of some interest to those who are interested in the sugar industry to know that the yield in our factory area has gone up from 18 to 20 tons in 1945—'46 to 30 to 32 tons this year. Before I state the steps taken to achieve this result I shall state briefly the conditions obtaining in 1945—'46.

Hospet is in the north west corner of the Madras Province on the banks of the Tungabhadra river. The three canals constructed by the rulers of the Vizianagaram Empire taking off from the river, supply water for irrigation. The climate is the same as obtains in the Deccan Sugar Factories in Bombay Province viz., 20 - 25 inches of rain; the major portion being received during the South-West Monsoon and the maximum and minimum temperatures being 104° F. in May—June and 60 to 65° F. in November — December. The factory was erected in 1934 and for the first few years the only variety of cane available a local variety, called "*Pundia*".

"*Pundia*" was a cane well suited for jaggery manufacture as it was soft and easy for clarification. It was not suited for the sugar factory as it deteriorated early and the quantity of begass not sufficient for the

boilers. So it was replaced by CO. 290 and by 1938—'39 the "*Pundia*" variety was no more grown. CO 290 is a hardy early cane, and ratoons well, but is susceptible to red-rot and smut. In 1945 it was found that there was hardly a field which was not affected by red-rot and smut was also on the increase. It was also noted that ratoons were mostly affected. So the factory applied to the Government to ban ratooning. The Government acted with commendable promptness. The then Director of Agriculture, Dr. B. V. Nath, inspected the cane area and was satisfied that something should be done immediately before the situation got out of control. As a result ratooning was banned in 1947, for four years under the Pest Act.

The factory took this opportunity to root out CO. 290 altogether and substitute it with CO. 419. It was not possible to replace it immediatly, as sufficient seed material was not available. Consistent with the total requirments of the factory it refused to accept CO. 290 for crushing and to help the ryots to plant the new variety increased the loans and also helped them to obtain seed material of the new variety CO. 419. By these methods CO. 290 was completely replaced by CO. 419 this year.

The second step taken by the factory was to see that the CO. 419 was planted in the months of January and February, contrary to the usual practice of planting in the months of March—April. Due to the closure of the channel for various periods from January to March for repairs and silt clearance, a continuous supply of water was not available for planting cane earlier than March—April. So the factory had to arrange for silt clearance in the months of December — January. Even though the factory's efforts have not been quite successful in this direction, yet the P. W. D. made arrangements to clean the channels is such a way that water is made available to ryots who plant sugarcane in January — February.

It may be of interest to readers to know that January/February planted cane is not attacked by the top borers while the cane planted in March/April is invariably attacked by borers.

Another step taken was to increase the quantity of manure and apply it in two doses. The usual dose of manure given is one bag (224 lbs) of ammonium sulphate and 4 bags (560 lbs) of ground-nut oil cake per acre, but for the last two years the Government have supplied to the factory sufficient quantities of ammonium sulphate to enable them to supply 2 bags (448 lbs) per acre in addition to the usual quantity of groundnut oil cake. Ammonium sulphate was applied in two doses one cwt. at the time of planting and the balance with groundnut oil cake at the time of earthing up. The first dose helped towards a vigorous growth of the shoot and early tillering.

So with these four changes viz., banning of ratoons, replacement of the diseased variety, early planting and proper manuring in time, we have been able to push up the yield from 18 tons to 30 tons per acre. The sucrose content of cane has also been increased.

Thus by banning ratooning and taking precautions regarding the purity of the seed material used for planting, the yield can be improved by at least 6 to 8 tons per acre. Any arguments regarding the increase in the cost of cultivation due to banning of ratoons do not stand, as the ryot is more than compensated by the increase in yield. It is expected that next year the yield will be still better, because the area planted in the month of January and February would be about 150 acres against 500 acres this year. There is, of course nothing new in the methods adopted, but they show what can be achieved by persuading the ryots to give up his old accepted practices.

Observation on the "Bud Take and Scion Growth of Peach trees as influenced by rootstocks"

By

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Among the numerous fruits tried at Coonoor, some varieties of peach were found to be promising, though like all introduced fruits, the peach has yet to be studied in respect of nursery and orchard practices. Till now shield budding has been the rule in peaches under Coonoor conditions, the common peach being the only rootstock employed for the purpose. The optimum age of common peach seedlings for bud insertion and the relative rate of growth made by different peach scion varieties when worked on rootstock of different sizes or ages are not yet known and there has been a great deal of diversity in the prevailing nursery practices. The tendency to prefer large plants for planting is also based on the belief that large plant size at planting time will mean earlier and better yields in the orchard. The initial advantage ascribed to plants of large size is a subject well worth study from the standpoint of the peach grower. To the peach nurseryman, such a study would enable him to restrict his propagational activities to the production of the optimum plant size and also reducing the large variation that is met with in regard to nursery tree size. With these ends in view a small-scale trial was started in 1948 at the Pomological Statoin, Coonoor.