https://doi.org/10.29321/MAJ.10.A04678

crop with green manure and bone-meal and top dressing with Ammonium sulphate to get an increased yield of 1,200 lb. of grain per acre. The actual doses of the above manures recommended for application to Tanjore rice fields are 4,000 lb of green manure costing Rs. 2, 50 lb. of bone-meal costing Rs. 1-8-0 and 40 lb of Ammonium sulphate costing Rs. 4-14-0, or Rs. 8—6—0 on the whole; in round figure Rs. 9 per acre. In view of these facts, it is problematical whether molasses would ever be a popular manure for paddy crop, so long as it is available in the liquid state only. If it could be put on the market as a dry powder packed in gunnies, just as any other concentrated manure, by treatment with quicklime or any other chemical means, then the cost of packing, transport and of application to the fields could be considerably reduced.

A Simple Method of Preserving Seed Coconuts*

By C. M. JOHN,

Oil Seeds Specialist, Coimbatore

AND

G. V. NARAYANA

Superintendent, Agricultural Research Station, Kasaragod.

Seed coconuts harvested during the summer months from February to May alone are considered suitable for raising seedlings. They are sown in the nursery either at the commencement of the south-west monsoon rains in June or in some places with the north-east monsoon rains in October. During this interval, they generally get over-dry losing the water ('milk') inside and thereby become unfit for sowing. If the nuts are sown immediately after the harvest in summer, the watering charges will be high. Therefore it is necessary to preserve the seed nuts properly for some months till they are sown in the seed bed.

Usually no particular method is adopted or special care taken by *ryots* for preserving their seed coconuts. They are generally dumped in some odd place in the house or the holding till they are required for sowing. Since the seed nuts are harvested only when they are dead-ripe and the nuts have to pass through the hot summer months they become too dry and lose their germination capacity unless they are properly preserved.

A simple method for preserving seed nuts is as follows:—

As soon as the nuts are harvested or as early as possible after harvest, they are removed to a shed or verandah protected from direct sunlight. A layer of dry sand about three inches thick is spread on the floor and the seed nuts are placed on the sand close to one another with the base or stalk-end up. They are then covered up completely with dry sand till it fills up all inter-spaces among the nuts and stands some three inches above the nuts. The nuts are left in the sand till they are required for sowing; and they keep quite well without the milk or water in the nut drying up even for a period of five to nine months.

* Contribution No. 18 of the Oil Seeds Section of the Madras Department of Agriculture.

Trials at Kasaragod. In March 1938 the first trials on the preservation of seed nuts in sand were conducted at the Coconut Research Station, Kasaragod. One hundred seed nuts taken at random were preserved in sand as explained above Another set of 100 seed nuts picked at random and not preserved in sand but simply exposed on the floor of the shed formed the control.

Five months after the trials were started, the nuts were examined. In the sand-preserved lot all the nuts were in perfect condition but in the control only 62% of nuts were fit for sowing, the rest being over dry and unfit for sowing. The nuts were examined again four months later, i. e., nine months after the trials were started. It was then found that among the sand preserved lot only 9% of the nuts became dry while in the exposed control all the nuts became dry and unfit for sowing. Good germination—90% was obtained by sowing the seed nuts preserved in sand. This method of preserving seed nuts in sand has been extensively tried during the last three years at the Coconut Research Stations and found quite successful.

Trials at Tindivanam. The above findings were further verified under East Coast conditions at the Agricultural Research Station, Tindivanam (South Arcot District) where the summer is very severe with the maximum temperature going up to even 112°F. Seed nuts from Kasaragod, harvested during 1939 and 1940 seasons were utilised for the trials. Lots of 100 seed nuts were preserved in sand in shade with control as at Kasaragod. It was found that the seed nuts preserved in sand for five months from April to August gave 63% of germination while in the control not preserved in sand the percentage of germination was only one.

Conclusion. These trials clearly show that seed coconuts can be preserved in sand for a period of five to nine months without much deterioration in their germination capacity. This method of preserving seed nuts is being regularly adopted at the Coconut Research Stations where the nuts have to be stored for a maximum period of five months from January to May. The method is now, therefore, advocated for the use of the public interested in the proper preservation of seed nuts.

Incidentally it was also found that oranges (loose jacket), lime fruits, ginger, etc., could be preserved in sand without deterioration for appreciably longer periods than when they are exposed to the air and stored in the ordinary way.