

Agricultural News-Letter — Madras

Mixed Cropping of Groundnut and Cotton. Experiments conducted at the Agricultural Research Station, Lam, Guntur District, on mixed cropping of groundnut and cotton in the proportion of eight of the former to one of the latter showed that the yield of bunch groundnuts was not affected and that cotton recorded yields ranging from 260—380 lbs. of seed cotton per acre. Both cotton and groundnut were sown on July 22, 1948 and groundnut was lifted on November 12, 1948. Among the various varieties of cotton tested for mixed cropping, cotton types from U. P. happened to be the earliest and the next in order being 197—3 from East Khandesh and 881 F. from Adoni. U. P. types being early, shed flowers and bolls, while the others escaped this defect by their late maturity and are of better quality and ginning outturn. Farmers of the Ceded Districts, the Circars and Nellore are advised to give this mixed cropping a trial. Even at a modest estimated average production of 50 lbs., of lint per acre, it should be possible to produce two lakhs bales extra.

Pre-sowing Treatment to Wild Indigo Seed. Wild indigo (*Tephrosia Purpurea*) is a useful green manure crop for sandy and laterite soils, and the stand of the crop depends upon the quality of seed. Usually, the seed is procured indifferently and stocks are carried over from season to season. Further, the seed coat is hard. In order to increase the percentage of germination, the seed requires pre-sowing treatment. Wild Indigo seeds giving normally 25 to 40 per cent protracted germination, under untreated condition, record 75 per cent in about 4 or 5 days by steeping the seed in hot water of 80—90°C for five minutes. This method is preferable to the usual practice of pounding the seed with sand. However, old seeds which have lost their vitality do not respond to this treatment.

Co. 473. A New Variety of Cane. Co. 419 has been popular with the growers and sugar-mills for the past ten years, owing to its wide adaptability. It has been reported that in the Kirlampudi area Co. 419 was so highly infested with scale insects that ryots have been actively considering the replace Co. 419 with a better type of cane.

Among the varieties under trial at the Agricultural Research Station, Samalkot, Co. 473 has been marked out as a very promising cane, to replace Co. 419. Co. 473 has given 58—4 tons on an average for the past two seasons against an yield of 42·2 tons by Co. 419. Even in the month of March, the sucrose percentage of Co. 473 mounts to 20·95 per cent, as compared to 17·30 % in Co. 419. It is a greenish yellow cane with medium sized internodes. It can be distinguished by prominent triangular buds. Its rind is thick and does not form pith and hollowness. The rich sweet cane, POJ. 2878, the wonder cane of the world, being one of the parents, should afford sufficient confidence of its good performance to the cane-growers.

Seeds from Pods Prosopis Juliflora. *Prosopis Juliflora*, a fence plant, possesses a thick leathery pericarp, which impedes easy and quick extraction of seeds. The pericarp gets softened by moistening the pods with 1·4 sulphuric acid. In about 12 hours, the dilute acid acts on the pericarp. The disintegrated pods are then washed with water and dried in the sun. The dried stuff is pounded to extract the seed.

Co. 25 and 26. Blast Resistant Paddy Strains. In the 1948—49 season, the Taladi (Second) crop in the districts of South Arcot and Tanjore was observed to be severely attacked by *Stem-borer* and *Helminthosporium*. In the middle of these affected areas, plots planted to Co. 25 and Co. 26 were found to be comparatively resistant to the pest and disease. These are recommended for a large scale cultivation in the Southern and Central Districts. Arrangements are being made to stock large quantities of seed for distribution in the next crop season.

Ideal Table Mangoes. A large number of crosses in the farm seedlings of mangoes has been produced at the Agricultural Station, Kodur, with a view to breed ideal table or juicy mango variety, with economic characters which are now dispersed in a number of commercial varieties. A study of the performance of such of the hybrid progenies as have now come to bearing, resulted in the making out of four hybrids, namely K. O. 3/9, K. O. 9/3, K. O. 9/3, K. O. 7/5, K. O. 11/13 for outstanding merit. A limited number of colonial progenies of the above are now under production at the Fruit Research Station, Kodur, for distribution.

Ducks for Combating Pests. A severe attack of the striped bug was noted on a compact block of 13 acres, at Kattuputtur in the Tiruchirapalli District. A flock of about 1,000 ducks was let into the field as an experimental measure. The result was astounding. Each duck was capable of accounting for about 500 insects in the course of a day. The whole field, infested with the insect, was cleared of the pest in the course of five days. There was no need for treating the field with chemical insecticides.

Gammexane Saves Paddy from Caterpillar. During the month of January, reports were received of the appearance of the swarming Caterpillar (*Spodoptera mauritia*) pest in the second crop (dalva) paddy seed-beds in the Bhimavaram taluks of the W. Godavari District and Amalapuram and Razole taluks of the East Godavari District. Due to the remedies of flooding kerosination and letting in ducks approximately 60 acres of seed-beds distributed in small patches over the area, were saved. But the pest re-appeared in the broadcasted and transplanted fields. The usual mechanical methods could not be adopted in the transplanted crop, because the bunds were not high. To meet this rapid spread of the pest in the transplanted fields, Gammexane D. 025 was rushed to the area. The success with the use of Gammexane D. 025 against swarming caterpillars was so telling that ryots regretted that this was not tried earlier. A total area of 600 acres was estimated to have been treated with the insecticides (Gammexane). It is effective on young caterpillars. It was used at the rate of 12 to 20 lbs., per acre, costing Rs. 1-14-0 to Rs. 3-2-0 for the insecticide and Rs. 3 for manual labour to dust. It is estimated that on an average $7\frac{1}{2}$ bags of paddy, costing Rs. 80/- per acre, was saved by spending Rs. 5/- to 6 in the control of the pest. In addition to the direct saving of the affected crop, a considerable area has been saved by this timely action, in checking the spread of the caterpillar marching from field to field, till they are stopped by control measures or the setting in of the pupation stage. The total paddy crop saved from this dreaded pest on paddy in the second crop season of 1949 in the Godavari Delta can be estimated at 3,000 acres and the value of the produce of the crop so saved may be computed at a very modest estimate to the tune of Rs. 2,40,000.

Sunbeam Mix-Master. At the Fruit Product Research Laboratory, Kodur, an elegant machine has been recently obtained for extracting orange juice. It is a power driven (AC, DC) unit, working a revolving bar and having glass bowls for holding the juice. It is called the Sunbeam Mix-Master and is an American machine, costing about Rs. 320/-. It is very useful for institutions, hospitals, clubs, ice cream parlours, hotels and restaurants.

Improved Dry Farming Practices. Owing to the failure and very often ill-distributed nature of rains in Bellary District in the taluks of Uruvakonda and Gooty of Anantapur District and Pattikonda of Kurnool District, which form the "dry farming zone" of the Province, famines are frequent. As a result of the research work that has been in progress for some years past at the Agricultural Research Station, Hagari, the following improvements in dry farming practices are recommended for adoption:— (1) Growing of quick maturing and high yielding strains: Cotton H. 1, Sorgham M. 47-3, Setaria H. 1 and Setaria H. 2. (2) Adoption of wider spacing of 18" for Sorghum and 36" for cotton. (3) At the last preliminary cultivation operation, bunds are to be formed, with

the bundforming implement, dividing up the field, in compartments of 5 to 10 cents. The bunds help to hold up the rain water for a longer period, thereby resulting in greater absorption of the rain water by the soil. Owing to the extra moisture, so made available, crop yield are increased. An investment of As. 12 per acre is this operation results in an increase in the produce worth Rs. 5/-.

Cattle Inoculation. During the period ending April 30, 1949, 51502 inoculations were done by the Animal Husbandry Department for animals against the various contagious diseases, as against 44,677 in the previous two months.



Gleanings

Pressure cooking does not destroy vitamins. Dietitians study a tricky problem: Changes in diet can have unforeseen and serious consequences. In the East, beri-beri has in the course of centuries destroyed millions of lives merely because polished rice — which lacks the husk in which vitamin B of the grain is stored — came to be considered more palatable than unpolished rice.

Today, the rapidly increasing popularity of pressure cookers is setting dietitians a serious problem: they are busy finding out what effect this new kind of cooking has on the nutritional value of food. This research is of the greatest practical importance for it would be a disastrous paradox if one branch of applied science — the use of high pressure steam to speed up cooking and made it cheaper — conflicted with another — the maintenance of health by properly balanced diets.

Fortunately, however, it seems that, rather unexpectedly, this danger will not materialise. Indeed, thanks to this research, the protagonists of pressure cooking can claim as a point in its favour that it enhances the vitamin content of food, rather than reduces it. Thus in seeking to expose a possible danger the dietetic experts seem to have brought to light a real advantage.

Simple principle: The principle of the pressure cooker is very simple. The temperature at which water boils depends on pressure. At ordinary pressures, it boils at 212°F (100°C). At lower pressures, on high mountains or in high-flying aircraft for example it may boil at a much lower temperature. Under such conditions it may be impossible to make an egg set by boiling it and meat is difficult to make tender however long it is stewed. To overcome such difficulties pressure cooking has long been resorted to. During the last few years, however, the pressure cooker has become very popular for ordinary domestic use under quite normal conditions. By heating water in a sealed container at quite a moderate and safe pressure — often 15 lbs. per square inch — it can be boiled at 252°F (122°C) instead of the normal boiling temperature. This extra 40° makes a lot of difference — food cooks in a fraction of the time usually needed and much less fuel is needed. There is an obvious danger in this method however. Two important vitamins — vitamin C, whose lack causes scurvy, and vitamin B whose lack causes beri-beri — are both slowly destroyed by heating. Consequently, it was feared that as quite substantial amounts are lost by ordinary boiling, the even higher temperatures reached in pressure cooking might cause almost all of both these vitamins to disappear before the food reached the table. In families which relied entirely on pressure cooking this might eventually lead to the appearance of both scurvy and beri-beri.

Exhaustive experiments: Exhaustive experiments recently carried out at King's College of Household and Social Science — a part of London University — have confirmed that this new method of cooking is safe in this respect. Over 5,000 tests were

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