

supplemented by protection of the surface of the soil and by green manuring. Green manuring leads to the formation of humus which increases the water, retaining capacity of the soil, to the aggregation of soil particles by flocculation, and to the production of tilth.

The fertility value of the eroded and transported soil particles is considered to be sufficiently great to render their return to the area under cultivation extremely desirable. The accumulations in silt pits, contour trenches, drains, etc. render this easily possible after the water that was in them has been disseminated through percolation, absorption, etc.

The regular return of this soil to the cultivation area will enable these silt traps to be maintained in an effective condition. The location or silting of them in the necessary places will reduce the distance this eroded soil has to be transported back and thus save a considerable amount of labour and expenses.

Agricultural Fottings

BY THE DEPARTMENT OF AGRICULTURE, MADRAS

Coconut nurseries and the selection of seedlings. The importance of raising a nursery for many agricultural crops is well recognised. It is particularly important for the coconut.

Seed nuts should not be planted in the field direct, but a nursery should be raised. This would facilitate easy selection of desirable seedlings, proper watering, control over pests and would prove not only convenient but economical.

A suitable piece of land with good drainage and close to a water source should be selected for the nursery. Sandy soil at least a foot deep is to be preferred. Besides the good drainage facilities it affords, it keeps off white ant attack commonly reported in the coconut nurseries.

The best time to start a nursery is the end of May or beginning of June so as to take advantage of the south west monsoon rains. Also it should be remembered that the seednuts which are harvested during the summer months should not get too dry.

The nut with the husk intact is buried in the soil to a depth of three-fourths of its length or flush with the soil, with the stalk end upwards. From various experiments conducted by the Agricultural Department it appears that the best position for planting is the vertical one, in which the germination is the quickest. The spacing to be given in the nursery depends upon the age of the seedling required, i.e., the length of the period for which the seedlings will be retained in the nursery. For obtaining 9 to 12 months old seedlings the nuts may be planted one to one and a half feet apart. Manuring of any sort is not necessary. Germination will commence in about two months and will extend to the fifth or sixth month. Watering is very necessary when the rains fail and during the hot season. While in loamy soils watering twice a week will suffice, in sandy soils it should be done every alternate day. The seedlings should be examined periodically for beetle and white ant attack. If the sun is too hot and scorching, partial shading by way of thatch may be provided so as to avoid scorching of young leaves.

The seedlings will be ready for transplanting by the commencement of the following year's south west monsoon rains. Where the soils are light and easily drained, planting may be done at the beginning of the monsoon. In heavy soils and in places where the rains are heavy it is desirable that the transplanting is

done at the close of the monsoon as otherwise, water collects in the pits and dislodges the seedlings, due to the persisting nut which easily floats on water. The usual practice is to transplant a year old seedlings. But in some parts of the Presidency three to four months old seedlings are transplanted in the north-east monsoon. This is undesirable for it is not possible to make a proper selection in very young seedlings.

The importance of proper seed selection in a perennial crop like the coconut is well known to all planters. But the selection should not stop with the seed alone. It should be done in the seedlings as well. The question is often asked whether it is possible to judge the bearing capacity of a coconut tree from the nature of the seedlings from which it is raised. This problem is obviously of utmost economic importance to the planter, for the coconut comes to bearing only in ten to twelve years after planting. Intensive studies carried out at the Agricultural Research Stations (Coconut) on the west coast have shown that certain characters of the seedlings are related to the future performance of the palm. Based on this knowledge, it is recommended that seedlings with characters mentioned below should be selected, as they would ensure early and high yield.

1. Early germination of seed.
2. Large number of leaves in the seedlings.
3. The leaflets in the seedlings are united together unlike in the older palms. The united leaflets begin to split or separate at varying ages of the seedling. The earlier the separation the better is the seedling.
4. Short and strong leaf-stalks and closely set leaflets.
5. Thick stem and
6. Large number of roots.

Sugarcane cultivation in Tanjore District. Paddy is the main crop of the Tanjore delta. Due to fall in prices, its cultivation at present is not so paying as it was some years ago. Even under the present conditions, it would not be replaced by other remunerative crops on a large scale due to various causes limiting their introduction and cultivation. However, with the fall in prices of paddy, extension of cane cultivation has become an economic necessity. Therefore wherever conditions permit, sugarcane cultivation has been advocated and introduced with success and the area under the improved varieties is extending year after year. About 33 per cent. of the total area under canes last year was under the varieties advocated by the Department.

Before the introduction of the departmental strains there were two main varieties viz., 'Rasthali' and 'Nanal' under cultivation in principal sugarcane growing regions of the district. Thick exotic canes were introduced to replace Rasthali, while medium canes of the Imperial Cane-breeding Station, Coimbatore have been advocated in Nanal tracts. The spread of the thick canes has been far below expectation due to the fact that they are not only of longer duration but also require plenty of moisture and manuring and do not withstand water logging conditions. The spread of the Coimbatore medium canes, Co. 281 and 285 has been more rapid and the ryots have taken to their cultivation more enthusiastically and these varieties do not suffer the disadvantages of thick canes. These are of short duration requiring less cultivation expenses and capable of withstanding drought and water logging conditions. With Co. 281 good jaggery is obtained in 8 to 9 months amounting to about 6000 lb. per acre on an average and it ratoons satisfactorily. This variety is replacing the exotic canes and also the local Rasthali in places where it is not grown for chewing purposes.

The other improvements in cane cultivation such as planting in trenches to prevent lodging as far as possible, manuring the crop economically and better preparation of good jaggery have been introduced. About 33 per cent. of the

total area was under trench planting in the last season. Iron mills have been demonstrated and introduced for better extraction and Scindvahi furnaces have been constructed to save fuel; for better germination, short cropping is being advocated. Many ryots prefer to sell their canes to the factory. This saves them the trouble of milling but the net gain obtained is almost similar to their milling and disposal of the produce as jaggery.

Green manuring and application of phosphatic manures to paddy crop in Tanjore District. It is well known that organic manures are necessary for increasing the yield of paddy; of these, those readily available in the country are cattle manure and green leaves. The former is not sufficient to manure even the one-twenty-fifth of the area, and the latter is not available in any large quantity due to lack of large forest areas in the district. Therefore the Agricultural Department has been advocating the growing of green manure crops in paddy lands. Although the system of growing green manure crops is spreading, it has not as yet become a general practice throughout the delta. Due to high prices obtained for paddy in pre-depression days, much heed was not paid on manurial side. But with the reduction in prices with little hope of recovery in the near future, Tanjore mirasdars, as their fellow cultivators in other districts, are faced with the situation to increase the outturn, so that, what is lost in prices may be made up to some extent by enhanced yield. Towards this situation, the cheapest way of manuring i. e. raising of green manure crops in paddy fields and applying the same with phosphatic manures like bone-meal, has been advocated as in the past and the response received to this propaganda work has been fairly satisfactory. In various parts of the district, demonstration plots were laid out in the last season and the yields obtained in almost all the cases not only paid the cost of manuring but also left a fair margin of profit amounting to about Rs. 2 per acre on an average while in some individual cases it amounted to as much as Rs. 7 to 8.

The present area under green manure crops is about 32,917 acres and during the last season 2,30,918 lbs. of green manure seeds were distributed by the combined efforts of the department and other agencies such as Co-operative Societies and Agricultural Associations. The persistent propaganda to prevent cattle trespass in case of raising Daincha and Indigo is having its effect and successful crops are now being raised on lands where Kolinji does not fare well or fails. The economic depression, which is compelling the mirasdars to increase the cultivation by cheap manuring, acts as a factor to guard against the cattle trespass and raise other kinds of green manure crops for which a response has been made.

College News and Notes.

The college reopened on the 15th June 1937 after the summer holidays for the students of B. Sc. Ag., classes II and III.

Weather Review (APRIL 1937).

The unsettled conditions in the Bay of Bengal have developed into a depression which later moved rapidly and centred close to the coast between Madras and Nellore. There has been nearly general rain associated with thunderstorms in south east Madras, Malabar, and local rains on the Madras coast, with a few falls in the Madras, Deccan, Mysore, Lower Burma and the Punjab hills.

The weather during the month was characterised by thunder showers and local rains in the Peninsula. Rainfall was above normal throughout the Peninsula.