

Cost of rough levelling and planting the seedlings		Rs. A. P.	Rs. A. P.
	25	0	0
Cost of maintaining the plantation during the subsequent four years	600	0	0
Total Rs.	1333	5	4

Interest per tree on the capital of Rs. 1333-5-4  
invested at 6% per annum (bearing in 5th year) 8 0 0  
The average yield of a tree is 2500 fruits and the  
average rate is Re. 1 for every 100 fruits. Therefore  
the cost of 2500 fruits at Re. 1/- for  
every 100 is

	25	0	0
	15	0	0
Profit per tree	10	0	0

Therefore the annual net profit from a tree is Rs. 10/- It may be assured that the profit will not in any way be less than the figures given above.

Lime fruits and roses are supplied on contract to towns like Tinnevely, Quilon and Tuticorin, but the total demand does not always rise in proportion to the increased production so that the market is sometimes glutted, leading to a reduction in the profits.

### Coconut Topes.

REGULAR CULTIVATION ENSURES INCREASED YIELD.

BY M. GOVINDA KIDAVU.

The provision of sufficient soil moisture is, as every ryot knows, one of the essential requirements for a growing crop. While it may be possible to supply this need by irrigation, it is obvious that this procedure involves a certain amount of expense: and it is clearly much cheaper to take greater advantage of the natural rainfall. Moisture is lost from the soil in two ways. Firstly by direct evaporation from the deeper layers by capillary attraction and secondly by transpiration by

way of leaves of weeds. Loss of soil moisture in these two ways can be remedied, by hoeing the soil surface and thus preserving the soil-mulch and at the same time destroying the weeds. A preparation of the ground before the rains will at the same time help the rainwater to soak into the ground and prevent loss by drainage.

Coconut trees require an enormous quantity of water to enable them to maintain a good growth. It has been found out that as much as 2,250 gallons (22,500 lbs.) of water would be required for transpiration alone per tree per year. In Malabar intercultivation of a sort is given in coconut gardens; in some localities the operation is done very carefully, while in other places it is attended to only in a perfunctory way. Watering is seldom done except perhaps in parts bordering on Coimbatore, even then only when they are very young. In South Kanara, on the contrary, which enjoys the same amount of rain-fall if not more, and where coconut cultivation is comparatively of recent introduction, no cultivation of any sort is given to the gardens, but the trees are copiously watered in the hot weather for about six months.

On the Government Coconut Station at Kasargod, culture experiments were started in 1917 to study the effects of intercultivation and to find out whether watering could be completely done away with. One plot was left as it was without cultivation of any sort, while all the surrounding plots were properly cultivated. Every year they were ploughed twice with the monsoon plough, once in the beginning of South West Monsoon and the other just towards the close of North East monsoon. This latter was intended more to facilitate subsequent operations.

In addition to the above main and deep ploughings, the whole area was worked with shovel cultivator or Guntakah three or four times, according to the nature of the conditions of the soil at the time of operation; shovel cultivator was worked if it was hard and weedy, otherwise Guntakah was passed over. The operation was repeated so that the surface was always kept loose and free of weeds. The corners and bases of coconut trees were carefully dug over with mamotty. None of the trees—even the annually planted seedlings

--was watered on the Farm. The result of the experiments was as shown below:—

Average yield per tree.

Year.	II-Cultivated.	III-Uncultivated.	IV-Cultivated.
1918	17.59 nuts.	17.52 nuts.	22.94 nuts.
1919	34.56 nuts.	16.13 nuts.	30.01 nuts.
1920	37.50 nuts.	10.15 nuts.	51.31 nuts.

The condition of the trees in the uncultivated plots is as expected very unsatisfactory, except perhaps in the case of those bordering on the cultivated plots and whose roots were partly benefited by the operations done in them, whereas all the trees in the test plots are in a flourishing condition. Before the acquisition of the garden, it had never been dug or ploughed, but the trees had been copiously watered even though most of them were over 20 years old. The net extra income due to the cultivation works out at Rs. 55/- per acre, reckoning at the rate of 60 trees to an acre, whereas the average number per acre in the district is more than 100.

## Lessons in Nature Study.

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#### Water plants—(Contd.).

P. S. JIVANNA RAO.

*Aponogeton monostachyon.* A common plant of wide occurrence growing in tanks and ponds and more generally in shallow water. There is a tuberous root-stock sunk in mud and of the several leaves the lower are submerged and the upper ones are floating. The latter are of an oblong shape with considerable variations in size and the leaf stalks also vary much in length according to the depth of water. The flowers are small and pink (rarely white) and crowded into spikes which are raised conspicuously above the surface of water. There are two sepals and six stamens and the ovary is composed of three parts.