

Lime cultivation at Kadayam.

BY P. KANNAPPA PILLAI.

General. Kadayam is a village in the Tinnevely District situated midway between Ambasamudram and Courtalam and is noted for lime cultivation. There are a number of gardens which vary in extent from half to one acre and which are reported to be very profitable. In addition to limes, other fruit trees such as mangos, papayas and pomegranates are also grown, as also are roses. Lime trees do not thrive well in Courtalam which is close to the ghats even though it enjoys a cool climate. Possibly the strong monsoon winds near the ghats prove detrimental to the healthy growth of these plants and a considerable shedding of flowers has been observed which accounts for the trees not bearing well. Kadayam, being situated about fifteen miles from Courtalam, is not subject to the heavy winds of the ghats, while it is in possession of a mild climate and receives light showers at convenient intervals, being benefited by both the South West and North East monsoons. The fruit growers in this village are agriculturists owning both wet and garden lands and fruit growing is only a part of their occupation.

Soil. The soil is a red loam about a foot deep, below which there is a sub-stratum of fine gravel. This gravelly sub-soil is considered best suited for the growth of the lime tree. It facilitates good drainage, and favours a lateral spreading of the root system.

Seed and Seedlings. Well-developed seeds from good mature fallen fruits are dibbled in pots. It is the experience of gardeners that seeds which have been allowed to dry do not germinate well. When the seedlings are about a year old they are planted three feet apart in a nursery plot adjoining a well. In two years the seedlings attain a height of about two and a half feet and the main stems are about the thickness of a finger. At this stage the seedlings are fit for retransplantation. Generally the seedlings are planted in the months of September and October when the monsoon sets in. The price of the seedlings varies with age and one-year-old seedlings are charged a

rupee each. The space generally allowed between the plants is about 20 feet either way.

Preparation of the ground for planting. The plots close to the village are preferred, as they command efficient supervision. The plots selected are roughly levelled. Pits four feet square and four feet deep are dug at distances about 20 feet apart either way. This spacing is however found insufficient; for when there is strong wind, the branches of the trees rub against one another causing a considerable shedding of flowers and young fruits. Experienced gardeners are of opinion that a spacing of 25 to 30 feet is necessary between the plants.

After-cultivation. This is chiefly hoeing with mammutty at intervals. The gardener takes special care to keep the soil always loose and not to allow weeds to grow.

Irrigation. Lime requires not less than two waterings a week. A mhote driven by a pair of cattle irrigates about 25 trees a day. The tract has the advantage of both the monsoons. For practical purposes the garden will need to be irrigated only for seven months during the year.

Manuring. Much attention is paid in manuring the trees carefully and systematically. The trees are manured twice a year about the time when the monsoons are about to set in. They are manured first in June with 2 or 3 head-loads of Kolinji leaf per tree, (a head load costing 8 annas) and for a second time in September with four basketfuls of sheep dung. The cost of sheep dung (each basketful equals 15 M. M.) per tree is Rs 1—8—0.

Harvest. Generally the lime trees begin to yield when about five years old. They begin to flower three weeks after manuring. As both the monsoons favour the tract, the trees are in bearing throughout the year. The heavy season, however, is March to May. The annual sale proceeds of 30 lime trees have in some instances amounted even to Rs. 1,200/-. There are also exceptional cases in which an individual tree has yielded over Rs. 55/- worth of fruits. The average yield of a tree is never less than 2500 fruits a year. The average price of the fruits is a Rupee per hundred.

An attempt is made to detail below the *actual cost of running an average garden* so as to ascertain whether lime cultivation is really a profitable business.

1. The plants are generally 20 feet apart. A half-acre plot will contain 50 trees and a well.

2. Two irrigations are reported to be necessary during a week, and the crop stands in need of watering during 7 months in a year. The total number of irrigations is therefore $2 \times 4 \times 7 = 56$.

3. One pair of cattle can irrigate 25 trees a day and therefore two pairs are necessary to irrigate the plot once. The total number of pairs required to irrigate the crop during the year is $2 \times 4 \times 7 \times 2 = 112$.

4. The average hire of cattle for a day is Rs. 1—8—0 which includes the wages of a cooly also.

5. Hence the actual irrigation charges on 50 trees amount to Rs. 1—8—0 $\times 112 =$ Rs. 168/-

6. A boy on Rs. 7 a month is necessary throughout the year to help in irrigating the crop, in collecting and marketing the produce and in other miscellaneous kinds of work.

| Particulars. | Expen- diture. | Receipts. |
|---|-------------------|-----------|
| | Rs. A. P. | Rs. A. P. |
| 1. Annual irrigation and cooly charges on a tree—Rs. 168 plus Rs. 84 i. e. Rs. 252/50 | 5 0 0 | |
| Manuring:—Cost of kolinji leaf applied per tree | 1 0 0 | |
| Cost of sheep-dung per tree | 1 0 0 | |
| Details of investment:— | | |
| Half an acre of land @ Rs. 250 per acre | 125 0 0 | |
| Cost of digging a well with mhote fittings, buildings, cistern and main channels | 533 5 0 | |
| Cost of 50 seedlings a-year-old | 50 0 0 | |

| | | | |
|--|------|-----------|-----------|
| 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