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# THE CULTIVATION OF ALLOTMENTS BY TAMIL LABOURERS

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# THE CULTIVATION OF ALLOTMENTS BY TAMIL LABOURERS.

The majority of Tamil labourers usually have opportunities for cultivating small allotments. In the following pages instructions are given as to how allotments should be laid out, the treatment of the soil, and what crops may easily be grown.

## SITUATION OF ALLOTMENTS.

1. The manager must first approve the proposed site.

2. The allotments ought to be near the lines, so as to avoid waste of time in visiting them and transporting manure and produce.

3. The area selected should be level or gently sloping, and if possible adjacent to a stream or pond to provide a water supply.

4. On sloping land, the beds or ridges should be constructed on level terraces dug on contour.

5. A good friable soil and a sheltered position are required. Shelter may be obtained by fencing the allotment with jungle *ataps*.

When the allotment is a permanent one, arecanut palms may be planted to define the boundaries. A suitable size of allotment is ½ to 1 square chain per family.

## SOILS.

Food crops and garden vegetables yield maximum returns when grown in soil containing a large amount of humus. The soil should also contain a fair proportion of sand. The presence of sand makes the soil friable and porous, thus allowing beneficial air and water to penetrate more readily. Should the soil be heavy and liable to cake, it may be made lighter by applications of sand or manure.

## MANURES.

Well-rotted cattle dung is the most important manure. Other good manures which may be obtained locally are: goat manure, pig manure, poultry droppings, bat guano collected from caves, rotted oil-palm bunch refuse, and ashes.

These manures may be applied to the land at the rate of 50 to 100 lbs. per bed of 100 sq. ft., ashes at the rate of 4 to 5 lbs. per bed of 100 sq. ft.

*Green Manuring.*—This consists of the cultivation of quick-growing crops producing a large quantity of foliage, for the purpose of digging into the soil while still in a green state. Plants belonging to the pea and bean family are specially valuable for this purpose. In certain instances the crop of beans may be harvested before the remainder of the green matter is dug into the land.

*Lime.*—Freshly burnt lime, after it has been allowed to become air-slaked, may be added to the land with beneficial results. It should be applied at the rate of 5 to 10 lbs. per bed of 100 sq. ft. and thoroughly worked into the soil.

*Phosphate.*—Most Malayan soils are deficient in phosphates. A dressing of about 1 lb. of rock phosphate per bed of 100 sq. ft. may be applied and thoroughly worked into the soil.

## CULTIVATION.

After a crop has been removed all vegetable refuse should be returned to the land together with such cattle or other manure as may be available for adding to the soil. The land should then be well changkolled, incorporating all weeds and other vegetable matter and manure below the surface of the soil.

Final preparation of the land should be deferred for a week or so to enable the surface soil to weather down.

Some crops grow best if planted on ridges, but most vegetables succeed best if grown upon beds raised a few inches above the normal ground level.

These beds vary in size to suit particular conditions. A useful size is 66 feet long and 4 feet wide with 1 foot paths between the beds. These beds are conveniently made by lining for the paths at 4 foot intervals, and then digging the earth from the paths to a depth of about 6 inches and spreading this earth evenly over the beds.

All crops succeed best if planted during rainy weather. Before sowing seeds or transplanting seedlings, the surface of the bed should be worked to a fine tilth.

Small seeded plants, such as brinjals and chillies, should be raised in boxes of fine soil kept moist in a sheltered position, or in a well-prepared bed in a corner of the allotment sheltered

by an *atap* roof. The seedlings are transplanted when 3 to 4 inches high. Most young seedlings and all transplanted plants succeed best if given temporary overhead shade until established.

Growing vegetables require ample moisture, hence during dry weather daily watering is necessary. On no account should watering be undertaken during the heat of the day. The best time for watering is in the evening after work.

Watering is best performed through a mulch of vegetable matter, such as cut grass, spread about 2 inches deep around the growing plants and covering the whole surface soil of the beds.

## ROTATION OF CROPS.

The same type of plants should not be planted in succession. Deep rooting crops such as yams assist in opening up the lower layers of the soil. Plants of the pea or bean family enrich the soil if dug in after cropping. A change of crops assists in keeping down insect pests and helps to prevent the spread of plant diseases.

## PESTS AND DISEASES.

Damage from pests and diseases is usually most frequent when the crops are weakly owing to poor soil conditions. Therefore, at all times, apply plenty of manure.

Snails, caterpillars and beetles should be collected and destroyed. If beetles are particularly troublesome they should be searched for at night with the aid of a lamp. An *atap* fence surrounding the allotment assists in keeping away flying insects.

All badly diseased plants should be lifted from the soil and burnt, care being taken to collect all diseased leaves that have fallen from the plants.

## SELECTION OF CROPS.

The comparatively wide range of food crops now to be described gives the labourer ample opportunity of selecting those most suited to his particular requirements and taste. It is not possible to lay down hard and fast rules in this respect, but it may be of some guidance to report that on the request of the Controller of Labour a committee of Indians, who had studied the question of allotments, recently suggested that the best all round results were to be expected from the following crops:—

Sword Bean. Avarakai.
Cucumber. Vellari-kai.
Ceylon Spinach. Pasali-kirai.
Chekor Manis. Thavasai Murungay.
Banana. Varlai Palam.
Brinjal. Kathiri-kai.
Chillies. Kochi-kai (Milagai).
Coriander. Kotthamallie.
Lady's Fingers. Vendai-kai.
Onion. Vengayam.

## I. BEANS AND PEAS.

Beans and peas enrich the soil and thus benefit the succeeding crops. The stalks and leaves should be dug into the soil after cropping. In addition to those described below the following pulses may be grown when sufficient land is available—green gram, pachapayru; black gram, ulundu; horse gram, kollu.

### CLUSTER BEAN. Kottavarai.

*Propagation.* Seed.
*Cultivation.* Sown in rows 2 feet apart, seeds spaced 1½ to 2 feet in the rows. Crop matures in 4 to 5 months.
*Uses.* The tender pods and seeds are eaten. The green matter forms a useful fodder for cattle, or green manure when turned into the land.

### COW PEA. Paythenkai, thattapayru.

*Propagation.* Seed.
*Cultivation.* Two types are grown (*a*) twining (*b*) dwarf. The twining type is sown on ridges 3 feet apart, seeds sown in double rows 2 feet apart. Sticks 7 to 8 feet long should be provided for the plants to climb up. The dwarf type is sown in rows 2 feet apart, seeds spaced 6 inches apart in rows. The climbing type matures in 2 to 2½ months. The erect type matures in 3 months.
*Uses.* The pods are boiled and used in curries. The peas also may be boiled.

### EGYPTIAN KIDNEY BEAN. Motchai, thattambai.

*Propagation.* Seed.
*Cultivation.* Usually grown over a trellis, each plant spaced 3 feet apart. Matures 3 to 5 months from sowing.
*Uses.* The pods are boiled in the green state. The beans also are eaten.

## FOUR-ANGLED BEAN. Murukowai.

*Propagation.* Seed.
*Cultivation.* Seed sown in rows 4 feet apart, spaced 2 feet apart in rows. Stakes are necessary for the plants to climb over. Matures in 3 to 5 months.
*Uses.* Pods picked in young state, sliced and boiled.

## GROUND NUT. Nella-Kadalai, verkadalai.

*Propagation.* Seed.
*Cultivation.* Shelled seed is sown in rows 18 inches apart, 2 to 3 seeds in each hole, 12 inches apart in the rows. Good crops are obtained by planting on ridges. Crop matures in 100 days from sowing.
*Uses.* Nuts eaten either raw or roasted.

## LIMA BEAN. Peithanga.

*Propagation.* Seed.
*Cultivation.* Two types grown (*a*) twining (*b*) dwarf. Seed sown in rows 2 feet apart, spaced 1 foot apart in rows. Twining type requires staking. Crop matures in 3 months.
*Uses.* Beans are boiled.

## PIGEON PEA. Thovaray.

*Propagation.* Seed.
*Cultivation.* Seeds sown in rows 5 feet apart, seeds spaced 3 feet apart in rows. Crop matures in 8 months, continuing for several months.
*Uses.* Split-peas for soups and curries.

## SOYA BEAN. Kadalai (Malai Thuvarai).

*Propagation.* Seed.
*Cultivation.* Seeds sown in rows 2 feet apart, spaced 1 foot apart in rows. Crop matures in 3 months from sowing.
*Uses.* Beans ground or boiled whole.

## SWORD BEAN. Avarakai.

*Propagation.* Seed.
*Cultivation.* Two types are grown (*a*) climbing (*b*) dwarf. Seeds sown in rows 3 feet apart, 2 to 3 feet apart in rows. The climbing

form requires to be staked. Matures 4 to 5 months from sowing. A heavy yielder.
*Uses.* Immature pods sliced and boiled. Mature beans are *not* eaten as they are sometimes poisonous.

## II. TUBEROUS AND ROOT VEGETABLES.

The plants under this heading are deep rooting and therefore deep cultivation is necessary. The tubers penetrate the lower layers of the land and assist in breaking up the soil for the succeeding crop.

### ELEPHANT YAM. Karak-kavanai.

*Propagation.* Small corms.
*Cultivation.* The seed corms are planted in deeply cultivated soil, 3 feet apart each way. Crop matures in 9 to 12 months.
*Uses.* The mature roots are eaten in a similar manner to yams. The immature petiole is peeled and boiled.

### GINGER. Ingi.

*Propagation.* Pieces of rhizomes.
*Cultivation.* Portions of rhizomes are planted on ridges, 1 foot high and 3 feet apart, the rhizomes spaced 18 inches apart. Matures in 10 months from planting. Turmeric is sometimes interplanted.
*Uses.* Condiment in curries.

### GREATER YAM. Valli-kelangu. (Vattali Kilangu).

*Propagation.* Upper portions of mature tubers.
*Cultivation.* Sets planted on ridges 4 feet apart, spaced 2 feet apart on the ridges. Poles 10 feet high are required for the plants to climb. Crop matures in 10 months.
*Uses.* Tubers are eaten boiled or baked.

### LESSER YAM. Kodi-kelenga.

*Propagation.* Upper portions of mature tubers.
*Cultivation.* Sets planted on ridges 4 feet apart, spaced 2 feet apart on the ridges. Stakes 10 feet high are required for the plants to climb. Crop matures in 10 months.
*Uses.* Tubers are eaten either boiled or baked.

## JERUSALEM ARTICHOKE.

*Propagation* Tubers.
*Cultivation.* Although not commonly grown by Indian labourers, this is a valuable vegetable. The tubers are planted in rows 2 feet apart, tubers spaced 2 feet apart in the rows. Crop matures in 4 to 5 months. The tubers do not keep well and are lifted as required.
*Uses.* The tubers are eaten boiled or fried.

## SWEET POTATO. Cheni-kelenga, vathalang-kelenga.

*Propagation.* Cuttings of semi-mature portions of the stem.
*Cultivation.* Cuttings planted on ridges 2 feet apart, spaced 18 inches on the ridges. Crop matures in 3 to 6 months according to variety.
*Uses.* Tubers are eaten boiled or baked.

## TAPIOCA. Maravali-kelenga.

*Propagation.* Stem cuttings 6 inches long.
*Cultivation.* Cuttings spaced 3 feet apart either way. Crop matures in 1 year from planting.
*Uses.* Tuberous roots are boiled and eaten or sliced at harvesting and the flour made into cakes. When eaten as a vegetable the tubers should be used immediately after lifting from the soil, since when kept for several days certain varieties become poisonous.

## TARO. Shepang-kelenga.

*Propagation.* Seed tubers and portions of mature tubers.
*Cultivation.* Planted in rows 3 feet apart, the sets spaced 2 feet apart in the rows. Crop matures in 9 months. Succeeds best on damp land.
*Uses.* Tubers eaten baked or boiled.

## YAM BEAN. Tani-uttankai.

*Propagation.* Seed.
*Cultivation.* Seeds sown in rows 3 feet apart, seeds spaced 18 inches in the rows. Tubers may be lifted in 6 months from sowing. Sticks are required for the plants to climb over.
*Uses.* The tubers are sliced into small pieces and eaten boiled.

## III. GOURDS AND PUMPKINS.

The plants require heavy manuring and copious supplies of water. Gourds and pumpkins thrive well in Malaya.

### BITTER CUCUMBER. Pava-kai.

*Propagation.* Seed.
*Cultivation.* Seeds are planted in rows 2 feet apart, spaced 1 foot apart in the rows. The plants climb by tendrils and should be supported by sticks. Fruiting commences 3 months from sowing seed. The fruit are much attacked by fruit flies and should be protected by paper bags.
*Uses.* The young fruits are eaten boiled or steamed.

### BOTTLE GOURD. Sura-kai.

*Propagation.* Seed.
*Cultivation.* A large climbing gourd which should be grown over a trellis. Heavy manuring with cattle dung is necessary to obtain good crops.
*Uses.* The young fruit is cut into pieces and boiled.

### CUCUMBER. Vellari-kai.

*Propagation.* Seed.
*Cultivation.* The Chinese cucumber is a most useful and prolific vegetable. Seeds are planted in raised beds, in rows 2 feet apart, each seed being spaced 18 inches apart in the rows. Two weeks after germination the plants require staking. Fruiting commences 6 weeks after germination and a crop of 2 to 3 lbs. of cucumbers per plant is obtained.
*Uses.* The young fruits are either eaten raw or boiled.

### LOOFAR. Pĕkan-kai.

*Propagation.* Seed.
*Cultivation.* There are two varieties cultivated, one with ridged fruit and the other with smooth skin. The seeds are sown on ridges of prepared soil, being spaced 18 inches apart in the rows. The plants require to be staked when a few inches high. Cropping commences about 6 weeks from sowing and continues for a month or so.
*Uses.* The young fruits are sliced and boiled or steamed.

### PUMPKIN. Parengi-kai.

*Propagation.* Seed.
*Cultivation.* The seeds are sown in holes filled with a mixture of good soil and cattle manure. The vines ramble over the ground and commence fruiting 3 months from sowing. The pumpkin is not suitable for the ordinary allotment as it takes up too much space; it may be grown on any spare land.
*Uses.* The fruits, which often attain a great size, are either eaten young, boiled or steamed, or allowed to mature. In the latter state the fruits may be kept for many months.

### SNAKE GOURD. Podalan-kai.

*Propagation.* Seed.
*Cultivation.* The seeds are sown in well-manured soil and allowed to grow over a trellis thus allowing the fruits to hang free. A small stone is suspended from the end of the long fruit to induce it to grow straight.
*Uses.* The young fruits are cut into pieces and boiled.

### WAX GOURD. Vella Pusani-kai (Kalyana Pusani).

*Propagation.* Seed.
*Cultivation.* The seeds should be sown on mounds of prepared soil and trained up a stout trellis. The first gourds may be cut in about 3 months from sowing seed.
*Uses.* The unripe fruit is cut into pieces and boiled.

## IV. SALAD VEGETABLES.

In addition to the salad vegetables described there are others grown by Chinese gardeners. Those described, however, are the most suitable for Tamil allotments. Salad vegetables are readily grown provided the soil is well tilled and manured.

### AMARANTH. Kiray.

*Propagation.* Seed.
*Cultivation.* A number of varieties may be grown as spinach. The seed is sown broadcast on prepared soil and the tops cut before the plants commence flowering.
*Uses.* The tops are boiled.

### CEYLON SPINACH. Pasali-kirai.

*Propagation.* Cuttings, seeds germinate readily.
*Cultivation.* The cuttings are planted about 1 foot apart in rows. The first leaves are ready for cutting a few weeks after planting. Two varieties are grown, one with red leaves and the other green.
*Uses.* The succulent leaves are boiled as spinach.

### ROSELLE. Pulie-kai.

*Propagation.* Seed or cuttings.
*Cultivation.* Seed or cuttings are planted about 6 inches apart in rows. The plant requires no particular care and grows in any ordinary garden soil.
*Uses.* The young tops and leaves are boiled. The fleshy fruit can be made into jam.

### CHEKOR MANIS (SAYOR MANIS). Thavasai murungay.

*Propagation.* Cuttings.
*Cultivation.* A small shrub. Cuttings 18 inches long are planted on a slant about 2 feet apart. Harvesting may be commenced after about 4 months and continued for a year or two.
*Uses.* The leaves and young shoots are boiled.

### WEST INDIAN PEA TREE. Agati.

*Propagation.* Seed.
*Cultivation.* This quick-growing tree is valuable not only as a vegetable but also as a shade for the garden. Seeds are usually sown 10 to 20 feet apart and the plants allowed to look after themselves. They may be grown in small beds and transplanted when about 1 foot high.
*Uses.* The young leaves and pods are boiled. The large flowers of the white flowering variety also are eaten.

## V. GRAIN CROPS.

With the exception of maize, the grain crops described are not ordinarily suitable for cultivation in small allotments. Other grain crops that may be cultivated are:—Italian millet, tenai; common millet, kadaikanni; little millet, sharnai; kado millet, varagu. Grain crops should be sown only during rainy weather.

### BULRUSH MILLET. Kambu.

*Propagation.* Seed.
*Cultivation.* The seed is either sown broadcast or in nursery beds for subsequent transplanting. The crop is ready for harvesting in 3½ months from sowing.
*Uses.* The grain may be ground and made into flour.

### MAIZE. Makka cholam.

*Propagation.* Seed.
*Cultivation.* The seed is sown in rows 2 feet apart, the seed spaced 1½ feet apart in the rows. About 1 lb. seed is required to sow a square chain. The cobs are ready to harvest in 2 to 3 months from sowing.
*Uses.* The immature cobs when boiled or roasted form an excellent vegetable. The mature grain is ground and made into flour.

### RAGI. Kelvaragu.

*Propagation.* Seed.
*Cultivation.* The seed is either sown broadcast or in nursery beds for transplanting. The latter method has proved to be the most satisfactory. About 50 square feet of land provide sufficient seedlings to plant a square chain. The crop matures in 3½ months. This and other small grain crops are very liable to suffer damage from birds and to secure a maximum crop steps must be taken to scare birds away during harvest.
*Uses.* The grain is ground into flour.

### SORGHUM. Cholam.

*Propagation.* Seed.
*Cultivation.* Many varieties are cultivated. The seeds are sown broadcast or in nursery beds for transplanting. The crop matures in 5 months from sowing the seed.
*Uses.* The grain is ground and the flour used in making bread and cakes.

## VI. MISCELLANEOUS.

### BANANA. Varlai palam.

*Propagation.* Cuttings.
*Cultivation.* Strong suckers, about 18 inches long, are planted about 10 feet apart in holes dug 2 feet deep, which are partly filled with well-rotted manure.

Compared with other crops bananas occupy relatively large areas for the amount of food produced, and they cast a dense shade. Planting should therefore be limited to large allotments and there confined to one part. When the bunches are harvested the stems are cut down to ground level and the trash thus obtained forms a valuable mulch.

Besides well known dessert varieties, such as *Embun*, there are some popular cooking varieties, such as *Rajah*, which yield a heavy crop.

### BETEL LEAF. Vettilai.

*Propagation.* Cuttings.
*Cultivation.* The soil selected should be moist and contain plenty of cow manure. A sheltered shaded situation is necessary. Cuttings 18 inches long are planted in 2 rows, 3 feet apart, each cutting being spaced 1 foot apart in the rows. Proper staking is necessary. Plucking the leaves commences 5 months from planting the cuttings. Plants properly attended to continue cropping for 6 years or more.

### BRINJAL. Kathiri-kai.

*Propagation.* Seed.
*Cultivation.* The seeds are sown in beds and the seedlings transplanted when 3 to 4 inches high. The seedlings may be planted in rows 2 feet apart, being spaced 2 feet apart in the rows. Cropping commences in 2 months from planting the seedlings and continues for several months. An average crop of about 10 fruits per plant is obtained.

### CAPSICUM. Karri kochi-kai (Oasi melagai).

*Propagation.* Seed.
*Cultivation.* The seeds should be sown in prepared beds and transplanted when the seedlings are 6 weeks old. The seedlings are planted in rows 2 feet apart and spaced 18 inches apart in the rows. Fruiting commences when the plants are about 3 months old and continues for some months.

### CHILLIES. Kochi-kai (Milagai).

*Propagation.* Seed.
*Cultivation.* The most useful variety is that imported in the dried state from India in large quantities. The seeds are sown in well prepared nursery beds and are ready for transplanting when 4 to

6 weeks old. The seedlings are planted in rows 2½ feet apart and spaced 2 feet apart in the rows. Cropping commences 3 to 4 months from germination and continues for as much as a year, under satisfactory conditions.

### CORIANDER. Kotthamallie.

*Propagation.* Imported seed (this plant does not normally bear seed in Malaya).
*Cultivation.* An annual herb. Seed is sown in rows or broadcast on prepared beds.
*Uses.* Leaves are used for flavouring curries and soups. Seeds are used in curries and medicines.

### DRUM-STICK. Murunga-kai.

*Propagation.* Seed or cuttings.
*Cultivation.* This small tree is useful in the allotment both as a vegetable and as a shade tree. When it becomes too tall it should be pruned back.
*Uses.* The leaves and young fruits are boiled and eaten.

### LADY'S FINGERS. Vendai-kai.

*Propagation.* Seed.
*Cultivation.* The seeds are sown in rows 2 feet apart and spaced 18 inches apart in the rows. A rich well-manured soil is necessary to obtain good results. Cropping commences 2 months from germination and continues for some weeks.

### ONION. Vengayam.

*Propagation.* Seed.
*Cultivation.* This vegetable is commonly grown by Chinese market gardeners. The seed is sown in rows 6 inches apart and the seedlings thinned out, finally being spaced 3 inches apart in the rows. The crop is ready for use in 3 months from sowing. A fine tilth and heavy manuring is necessary to obtain success.

### SHALLOT. Sinna Vengayam.

*Propagation.* Off-shoots.
*Cultivation.* The shallot is imported into Malaya in large quantities. The bulbs should be planted in rows 9 inches apart and spaced 6 inches apart in the rows. The best results are obtained during dry weather.

## SUGER CANE. Karumbu.

*Propagation.* Cuttings.
*Cultivation.* The best variety for garden cultivation is the yellow cane grown by Chinese. Cuttings obtained from the top part of the plant, about 1 foot in length, are planted in furrows 3 feet apart, spaced 2 feet apart in the furrow. As the canes grow the surrounding soil is banked round the base of the stem to form a ridge. The canes may be cut one year from planting. Heavy manuring is necessary to secure a large crop.

## TURMERIC. Manchal.

*Propagation.* Rhizomes.
*Cultivation.* This condiment is imported in the dried state from India in large quantities. The rhizomes should be planted on ridges. The crop matures in 10 months from planting.