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A note on the melon cultivation at Sidhout.

By A. RAGHAVAN, B. Sc., Ag.

Agricultural Demonstrator, Sidhout.

Introduction. "Grow more fruit" and "eat more fruit" have become the slogan of the day. Fruit culture is becoming popular not only because of the increased money return it gives to the cultivator but because many have begun to realise the nutritive value of fruits. The old fallacy, that fruit is an article of luxury, is slowly giving ground. In this short note an attempt is made to give an idea of the cultivation of melon—a cheap, luscious and nutritious fruit which belongs to the family of cucurbitaceae.

When we talk of melons, we are reminded of Sidhout, since Sidhout melons are reputed to be the best in S. India. We can also reasonably suppose that melons were first raised in these parts, though this crop is now grown in many places.

Soil and temperature. Soil plays an important part in the cultivation of melons. Since the cultivation of this crop is done in only certain river beds it shows that certain special conditions of soil and temperature are essential for the growth of this plant. River beds with gravelly sand are not quite suited—fine sand with a very slight admixture of river silt is the best. Coarse sandy soil is often rectified by the addition of fine silt. The problem of drainage does not arise in river beds, but there must exist a sufficient subsoil moisture for the successful growth of this crop.

This being a summer crop, raised in Cuddapah district, it goes without saying that a fairly high temperature is essential. This crop comes up well in river beds of fine sand with plentiful underground water supply and a high atmospheric temperature. This plant is often spoken of as one "with a cool foot and a hot head".

Season and duration. This crop is purely a summer crop raised from the month of January onwards. Usually the cultivation is taken up after Pongal festivals. Even a slight shower or a cloudy weather is detrimental to the plant. The creepers present a sickly appearance if showers are received during the growing period; the fruits lose their normal taste if showers are received during the fruiting season. Hence bright weather is absolutely essential during the entire season. The duration of the crop is about 70 to 80 days.

Preparatory cultivation. Since melon cultivation is not assessed by the Government on the ground that it is a precarious crop, the right of cultivating a particular plot is decided by the priority in selection by the ryots themselves. When the water level in the river goes down the selection of plots is done. Usually the ryot raises his melon garden on the same place year after year unless three is a change in the course of the river. Gardens are laid out close to one another without leaving space between them. By

this method the gardener fences only three sides leaving the fourth to be fenced by his neighbour.

The preparation of the plot consists in levelling the sand and digging pits about 8" in diameter and 3' apart in the row, and rows four feet apart. The depth to which pits are dug depends on the layer where moisture is reached—since sites are selected close to the water course, the pits are generally shallow. Digging of the pits is done either with a mammatti or a sand scoop.

Seeds and Sowing. Seeds: Melon seeds generally keep their viability only for about an year. The practice is to collect good seeds from selected fruits and preserve them in ash. This is done by mixing the wet seeds with ashes and the whole mass is made into a cake and preserved by drying.

Nursery :— The seeds are not directly sown but only sprouted seedlings are transplanted in the prepared pits. Very near the water source, sand is excavated till the moist layer is reached. Melon seeds which were soaked overnight are thickly sown in these shallow plots and covered with moist sand; usually these nursery plots will not be more than a square yard. About the 4th or 5th day the seedlings which may measure about 2 inches in length will be ready for transplanting. These seedlings are transplanted in doubles in the prepared pits. A few cultivators prefer to spread a piece of cloth over the seeds sown in these pits and then cover the pits by putting a moist layer of sand of about an inch or two in depth. This is supposed to facilitate the easy removal of seedlings for transplanting without damage to the seedlings. When these seedlings are transplanted no watering is necessary since their roots are placed at such a depth where moisture is present.

Seed rate :— About 950 seeds go to an ounce. Twenty ounces will suffice for an acre.

Manures and Manuring :— The manures that are usually applied to this crop are farm yard manure, oil cakes, and birds droppings — The use of artificials is not known.

The first manuring is done while transplanting the seedlings when only a handful of well rotten cattle manure is put in each pit and mixed with the soil before planting the seedlings. After a week a mixture of birds droppings and farm yard manure is applied. The quantity applied is about a handful of the mixture for each plant. The manuring is done by scooping out the sand about 2 or 3 inches away from the plant on opposite sides and the manure put in. After another fortnight a third manuring is done as in the previous occasion but on the remaining two sides with a mixture of farm yard manure and oil cake. Still a fortnight later, a final manuring with farm yard manure and cake is repeated but with double the quantity used on the previous occasion.

Irrigation. This item of expenditure in the cultivation of melons is altogether absent due to the presence of the underground water supply. At

the time of transplanting the roots are placed at such a depth where moisture is present and so the necessity of watering at the time of planting does not arise. Subsequently, as the water table in the river bed goes down, the roots get deeper and thus there is a natural adjustment by the plant in procuring its water requirements. In this connection it is worth while remarking that melon cultivation will be successful only in river beds where the water level goes down very gradually. In other words, if the rate of downward movement of moisture in the river bed is high, the root development of the plant may not be possible to that extent to keep the roots in contact with the moist layer, the ultimate result being the drying up of the creepers.

After cultivation. This consists of earthing up and guiding the creepers. A week after planting, earthing up is usually done when manuring is carried out. This operation is repeated when the final application of manure is finished. After this, guiding of the creepers is attended to. Guiding is effected by burying one or two leaves in the sand and thus preventing the creepers getting blown by the wind. Fencing of the melon garden is another important item of work. This is usually carried out as an after cultivation after the creepers have flowered although it is done earlier, at times.

Flowering and fruiting. Melon creepers begin to flower by about the seventh week after planting. The flowers are small and axillary and are yellow in colour. Only a few flowers develop into fruits. Normally one or two fruits per creeper can be expected. But where more than one fruit is got, they are usually undersized. The fruits will be ready for picking in about a month from the date of flowering.

Varieties. More than a dozen varieties are locally known but no effort seems to have been made for the maintenance of the varietal purity. Many of the reputed varieties with very desirable qualities are sadly neglected for want of an encouraging market. The following few varieties are locally cultivated on a commercial basis.

Hingan. This is a good commercial variety the fruit is spindle shaped, orange red in colour when ripe, with coarse white netting and indistinctly ribbed. Hence the fruit is rough to feel. This usually measures 9 inches long and 5 inches in diameter. An average fruit will weigh about 4 lb. The variety stands transport best since it has a thick skin.

"*Laddukirni*". This is a small sized variety. The fruits are very sweet and hence its name. The fruits are round and smooth, usually greenish in colour even when ripe—The good sized ones will be about 4 inches in diameter. The only defect in this variety is its poor keeping quality and so does not stand long transport—These fruits are usually picked when half ripe for distant markets.

Jalbudamo. This is the variety that produces very large sized fruits. They are spherical with rough skin having coarse netting. An average fruit measures 9 inches in diameter and weighs about 6 to 7 lbs. Generally this variety is not tasty and is usually put in where quantity and not quality

is required. The variety responds to nitrogenous manure as seen by the development of fruits.

The following are a few varieties that are also grown on a very small scale. They are Bathaskirni, Jamkirni, Burkaikirni, Thellakirni, Pappoye and Adamsha.

Darbija. This is a water melon grown on a commercial scale. The fruits are large and long in shape. They are dark green, smooth skinned and weigh about 10 to 15 lbs. Unlike in the musk melon the water melon is characterised by deeply lobed thin leaves, and the fruits have fleshy red pulp and black seeds when ripe.

Harvesting and Marketing :— In Melon gardens when the fruits ripen a watchman becomes necessary to reduce the damage to the fruits by jackals during nights, not to speak of the pilfering by the neighbouring gardeners. This part of the year being summer the whole family of the gardener prefers to sleep the night in the garden itself.

The period of harvest will extend over a fortnight. The fruits come to harvest at one time, so much so the marketing is found difficult. Unless the prices are favourable, the cultivator is put to loss since the produce has to be disposed of soon after harvest. The adjoining taluks like Badvel, Rajampet and Cuddapah are the usual market. The cultivators themselves cart the fruits to the market and effect the sale. Sometimes wagon loads of fruits are sent to Madras market but this is being slowly given up for fear of incurring loss. Marketing facilities through co-operative movement for better prices do not exist and individual enterprising gardeners occasionally effect sales in distant markets.

Pest and diseases. There are not many pests and diseases for this crop. Rust on leaves is noticed but damage is not much. The pests that really do damage are the plant lice. Spraying or dusting is uneconomical considering the value of the creeper. Very badly infested leaves are removed.

Due to the application of oil cakes to the creepers, fly breeding is accelerated. The manure, due to the presence of moisture rots emitting an offensive smell. Attracted by the smell the flies breed by laying eggs in the rotting cake. These flies attack the cattle. They have long proboscis and cause annoyance by puncturing the skin. These flies are identified to be '*Stomaxys calcitraus*'. The cattle become restless. Usually the field operations during this period cannot be carried out during the daytime. The mhoting is done at nights.

Conclusion. We find that the area under melons is slowly dwindling down year after year due to various factors. The most important of these is the glut in the market and consequent low price. Gardens are raised at different periods to overcome this but the practice of raising gardens throughout the summer to have a continuous supply to the market is not in vogue ; the floods are expected at any time from the month of April onwards and the damage of submergence of the crop then always exists.

Since the fruit is a delicate one, which easily gets damaged during transit to distant market, air conditioned wagons for quick and safe transport have to be provided by the railway authorities. Also, investigation and later on propaganda work in the direction of preservation of fruits either by canning or preparing products like squashes, have to be made, since the fruits are available in plenty and are cheap.

The economics of melon cultivation.

Details of expenditure (for 1000 plants in 10 cents)

1.	Preparatory cultivation:—			
	(a) Levelling the sandy bed and making small pits at a contract rate of 0—2—6 for 100 pits—for 1000 pits.	Rs.	1	8 0
2.	Manures and manuring:—			
	(a) About 2 cartloads of Farm yard manure at 1—8—0 per cartload.	Rs.	3	0 0
	(b) About 200 lbs of birds dropping.	Rs.	3	8 0
	(c) 10 maunds of oil cakes at 12 as. a md.	Rs	7	8 0
	(d) Labour charges for manuring:—			
	i. Manuring at the time of of transplanting the seedlings.	Rs.	0	8 0
	ii. Manuring with birds droppings a week after transplanting.	Rs.	0	8 0
	iii. Third manuring with a mixture of cattle manure and oil cake.	Rs.	1	0 0
	iv. Final manuring (same as in iii)	Rs.	1	0 0
3.	Seeds and sowing:—			
	(a) Cost of seeds—(local rate) L. S.	Rs.	0	7 0
	(b) The cost of raising nursery and transplanting the seedlings.	Rs.	0	8 0
4.	After cultivation:—			
	(*a) Labour charge for earthing up a week after a planting.	Rs.	0	8 0
	(b) Second and final earthing up.	Rs.	1	0 0
	(c) Providing thorn fence—cost of thorn and labour.	Rs.	1	0 0
	(d) Night watchman during fruiting season.	Rs.	4	0 0
5.	Harvesting:—			
	This includes the marketing charges also. Local practice is to sell the garden and the purchaser does the harvesting. Hence under this item L. S. is provided.	Rs.	3	0 0
		Rs.	29	0 0

Details of income.

	The cost of 1500 fruits at 2—8—0 per 100 (local delivery).	Rs.	37	8 0
	Profit.	Rs.	8	8 0

N.B.—1. A family of four with one male member can manage a garden of 1000 plants.

2. In the case of private gardeners items 2-(a), 3-(a) and 4-(c) are not to be included. The seed is collected and preserved from the previous crop and the watching is done by the members of his family. The cattle manure is got from his farm.

3. The profit in the case of private gardeners will be (7—9—0+8—8—0) 16—1—0 in addition to providing labour for the entire family.