

Table III.
Earhead Analyses of Parents.

	Average length of earhead.	Average thickness of earhead.	Average weight of earhead.	Average No. of Grains.	Average weight of Grains.
	cm.	mm.	gm.		gm.
S. I. 1646—Tall	18.8	16.2	7.6	2104	6.71
„ 2485—Short	10.1	12.8	3.5	1212	3.02
Difference between the averages of the parents.	8.7	3.4	4.1	892	3.69
't' value*	12.49	3.16	15.94	2.88	4.62

* 't' value for $P=0.05$ and $n=8$ as per Fisher's table = 2.306

It will be noted that the earheads of the tall plants are longer, thicker, denser with a larger number of grains and with a heavier seed weight when compared with those of the short parent. The differences are statistically significant as measured by the 't' test.

Summary. In *Setaria italica*, tall plants with an average height of about 111 cm. proved a simple dominant to short plants with an average height of 75 cm. The segregation was monofactorial.

Both the parents had about the same number of internodes but differed in the lengths of the internodes. This internodal length which affected total plant height had its effect on the length, thickness and weight of the main earhead with corresponding increase in grain number and weight.

Literature cited.

1. Rangaswami Ayyangar, G. N., et. al. 1937. The Inheritance of Height—*cum*—Duration in Sorghum. *Madras Agric. J.* Vol. 25 No. 4. Pp. 107.
2. Rangaswami Ayyangar, G. N. and Hariharan, P. V. 1935. The Tillers of the Pearl Millet. *Madras Agric. J.* Vol. 23 No. 12. Pp. 474—477.

CULTIVATION OF CORIANDER (*Coriandrum sativum*) IN TINNEVELLY DISTRICT

Introduction. Coriander is one of the commonest condiments found in every Indian household as it is largely used for culinary purposes. It is also used in preparing confectionery. As it possesses medicinal properties, coriander decoction is the cheapest and the most commonly prescribed specific in every household for biliousness. Coriander is valued for the oil contained in the seeds.

Tinnevely is one of the principal districts where coriander is largely grown. It occupies an important place in the system of cultivation in the black soil tracts of this district, and practically stands next to cotton as a money-crop. The income though small, proves handy to the ryot at a particular period of the year when no other money-crop is available to enable him to meet his sundry expenses

and to pay off the assessment on his land. Thus it plays a prominent role in the economic position of the black soil ryot and therefore, an attempt is made in this short note to describe the method of its cultivation as practised in this district.

Soil and rotation. Heavy black soils which generally crack deep in hot weather, are found to be well suited for growing coriander. In such soils, there is a regular practice of cultivating this crop in rotation with a crop of cumbu (*Pennisetum typhoides*) while in some places, it is also rotated with a crop of cotton (mixture of *Gossypium indicum* and *G. herbaceum*). But in light black soils, coriander is mostly grown as a subsidiary crop along with a main crop of cotton. In recent years, ryots in certain villages have also taken to a new method of mixed cropping of coriander and black gram (*Phaseolus mungo*-L.) in the same field.

Preliminary cultivation. The land intended for growing coriander, is ploughed with a country plough twice or thrice between April and August. The first ploughing is as a rule commenced in the month of Chittirai (April—May) as there is a popular belief built up by tradition and experience that a preliminary ploughing given to the land during this month, tends to give a high out-turn. Then in the month of Avani (August—September) an additional ploughing is done to a very shallow depth with the main object of catching early rains.

Manuring. Generally, no manure is applied to the coriander crop. The dryland ryot with a limited quantity of cattle manure at his disposal, manures his food-crop of cumbu in preference to any other crop. However, once in four or five years, some well-to-do ryots do manure coriander.

Sowing. When the north east monsoon sets in at about the month of Purattasi (September—October), seeds are sown broadcast and covered with a country plough. Generally coriander and Irungucholam (*Sorghum dochna*,—Snowden) are the two crops to be sown first at the commencement of the monsoon. If rains are delayed, sowing is pushed through in the dry soil with a hope of getting rains late. But such dry sowings are rare and are not usually adopted. About 3 to 5 M. M. (Madras measure) of seed are sown in an acre while in a mixed cropping with cotton, the seed rate of coriander varies from $\frac{1}{2}$ to 2 M. M. The seeds take 10 to 15 days to germinate depending upon the moisture present in the soil.

After-Cultivation. After sowing, no intercultivation is needed except hand-weeding. This is done once or twice and sometimes thrice if the land has not been given proper preliminary cultivation.

Harvesting and threshing. The crop begins to flower during the month of Karthigai (November—December) and becomes ready for harvest during the month of Thai (January—February). Plants are

pulled out usually in the mornings and taken to the threshing floor either on the same day or the next morning. They are allowed to dry for a day or two and then threshed. But, if the ryot has to attend to other agricultural operations at that time, he stacks the harvested plants in a dry state and threshes them later at his convenience. Threshing is done either by making cattle to tread on the plants or by beating with long sticks. The seeds are then cleaned by winnowing and finally stored after drying. It may be mentioned that cattle-threshing is favoured much as the final produce looks cleaner than that obtained by the other method. In some places ryots prefer to have their crop harvested and threshed on a system of contract in order to avoid personal supervision over labour employed.

Yield. The yield depends upon factors like type of soil, seasonal conditions, previous cropping in the field and incidence of insect pests and diseases. It varies from $2\frac{1}{2}$ to 6 kottahs (240 to 576 M. M.) per acre in fields which had a crop of cumbu in the previous year and from 2 to 3 kottahs (192 to 288 M. M.) on fields where cotton was the preceding crop; in the case of mixed cropping with cotton, the out-turn of coriander is $\frac{1}{2}$ to $1\frac{1}{2}$ kottahs (48 to 144 M. M.) per acre.

Pests and diseases. Coriander is subject to a few diseases which in certain seasons, may assume very serious magnitude, causing great damage or even complete loss of the crop. During the flowering period, if it happens to rain and the mornings are misty, mildew sets in and flowers present a scorched up appearance and are shed. This disease is locally called 'Pumari' or flower-disease. If an ashy appearance is visible on any vegetative part of the plant, it goes by a local name of 'Samble-noi' or ash disease. By an attack of mildew the fruits also get discoloured with the result that the final produce fails to command a proper sale in the market. Further, this crop is susceptible to wilt disease, popularly called *Kanjura-noi* which causes sudden death of the plants. Again at the fruiting stage the fruits are bored by a caterpillar-pest locally known as *Kudavan* which eats away the contents leaving only the outer skin. These are the chief evils that may occasionally upset the fortunes of a coriander-grower before he enjoys the fruits of his labour.

Economics of growing coriander. It is to be particularly noted that ryots do not spend any amount in cash to meet the cultivation charges but pay in kind. However, the approximate cost of labour required per acre has been worked out under each item as shown below. Further, the item of manuring is not included as it is not a regular practice to manure the crop. It may also be noted that the value of the produce fluctuates very widely whereas the cultivation charges practically remain constant and hence the margin of profit is subject to a considerable fluctuation.

I. Cost of Cultivation

Details of operations	Kind of payment made as wages	Calculated Labour required per acre			Calculated cost per acre Rs. A. P.	Remarks
		Pairs of cattle	Men	Women		
1. Preliminary Cultivation.	Cumbu grain & food.	4	4	—	4-0-0	A man with a pair of cattle can plough half an acre a day. He is paid 3 M. M. of cumbu grain and one meal a day. A pair is charged at As 12 a day.
a) Two summer ploughings.	Do.	1	1	—	1-0-0	Very shallow ploughing.
b) 3rd ploughing just before the break of the monsoon.	Do.	1	1	—	1-4-0	Labour is costly at this time of the year.
2. Sowing.	Do.	1	1	—	0-4-0	
a) Broadcasting & covering with country plough.	—	—	—	—	0-4-0	
b) Cost of 4 M. M. of coriander seeds used.	—	—	—	—	0-4-0	
3. After cultivation. Two weedings.	Cumbu grain only.	—	—	8	1-0-0	2 to 6 women per acre. About 1½ M. M. of cumbu grain per cooly per day.
4. Harvesting.	Do.	½	1	4	1-1-0	About 8 M. M. of cumbu grain for pulling out plants and ½ pair cattle for carting.
a) Pulling out plants and carting to the threshing floor.	Do.	1	1½	—	1-1-0	A man is paid 2½ M. M. of cumbu grain per day.
b) Threshing.	—	—	—	—	1-8-0	
5. Assessment on land.	—	—	—	—	1-8-0	
Total.	—	7½	8½	12	11-2-0	

II. Out-turn from an acre.

Value of 3 Kottahs of coriander at Rs. 5-12-0 per

Kottah of 96 M. M. ... Rs. 17-4-0

Less cultivation charges, as calculated above ... „ 11-2-0

Profit per acre ... Rs. 6-2-0

Trade and market. Indian coriander is exported chiefly to the Straits Settlements and Ceylon. The Tinnevely coriander is sent via Tuticorin port to Ceylon. At present, coriander is experiencing a great slump in the market due partly to the recent general economic depression all over the world and partly to the keen competition in foreign markets especially in Ceylon with Moroccan and Russian coriander.