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Some years back there was considerable demand for these leaves from Northern India, but now-a-days those far off markets, have been reported to be captured by the betel vine growers of Sankaridrug (Salem District) and other places.

Pests and Diseases. The betel vines of these parts do not suffer from any insect pest, but the wilt disease is causing considerable damage. About 20 years ago each garden is reported to have fared well up to six years. Gradually, due to wilt disease, the life has been reduced and the gardener must now consider himself lucky if it survives for full three years. Recently, cases have been noticed where the vines have begun to wither even in the second year. The main cause of wilt disease is reported to be due to (i) cultivation of vine in the same land without adopting any rotation, or (ii) keeping the trenches always moist, a condition much favourable to the growth of the fungus. The ryots abandon the gardens when the disease has advanced to a fair extent.

The *agathi* 'standards' have been found to suffer from two insect pests, (a) Agathi stem borer, (*Azygophleps scalarids*) and (b) Agathi weevil (*Alcides bubo*). Generally these appear only as minor pests, but some times the attack may be severe. When the *agathi* plants are very young, if these pests appear on a large scale, the plants never grow above two feet, and in such cases also, the ryots abandon the garden and start afresh.

Phaseolus sublobatus Roxb. A new green manure and forage plant.

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A specimen of a leguminous plant (*Phaseolus sublobatus* Roxb.) known in Tamil as *Karum payar* was received from Sri. C. S. Seshagiri Ayyar, Agricultural Demonstrator, Perambalur, Trichinopoly District, for identification and on requisition he has given the following information regarding its cultivation in the Trichinopoly taluq.

An area of about 10,000 acres is grown under this plant in the Trichinopoly taluq as a mixture with irrigated *Cumbu* (*Pennisetum typhoides* Stapf and Hubbard) from April-May to July-August. After the harvest of the *cumbu* crop, the *Karum payar* crop is allowed to be grazed by cattle or used as green manure by puddling *in situ* for the next paddy crop. The plants which are grazed by cattle will soon shoot up and give sufficient quantity of green manure. The crop is also raised as a mixture in dry lands with cholam (*Sorghum* sp.) red gram (*Cajanus Cajan* (Linn) Millsp.), etc., and from this crop seeds are gathered for sowing in the next season. Seeds are not collected when it is grown in the wetlands. This green manure crop is preferred by the ryots first because it does not smother *cumbu* like

Daincha (*Sesbania bispinosa* (Jacq.) Fawcett and Rendle) and secondly it readily decomposes when puddled unlike *Daincha* which develops much wood if the paddy sowing season is delayed.

Phaseolus sublobatus Roxb. (Tam: *Karum payar*; *Mukani*, *Mataki*, Bombay; *Ghora Mung*, (Assam) is very closely allied to *Phaseolus aureus* Roxb. (green gram), of which it may be the wild form. It is also allied to *Pillipesara* (*Phaseolus trilobus* Ait.,) the famous green manure plant of the Telugu area. *Phaseolus sublobatus* Roxb. is more robust than *Pillipesara*.

It is found in the hills of Deccan and Western Ghats up to 6,000 feet altitude. It also occurs in the Konkhan, Bihar, Bengal and Ceylon.

The seed is rich in protein and is largely used as food in the Deccan during famine periods.

William Roxburgh in *Flora Indica* describes it as an annual while J. D. Hooker in *The Flora of British India* and T. Cooke in *The Flora of the Presidency of Bombay* describe this plant as a perennial herb. The following description of the plant will be helpful for its identification. Stems twining when meeting support, sometimes suberect, slender, clothed with spreading or deflexed reddish-brown hairs. Leaves three-foliolate; petioles 6—9·5 cm. long, channelled, very hairy; stipules 8 mm.-1·5 cm. long, ovate-oblong, hairy, slightly ciliate, attached a little below the middle. Leaflets, the terminal the larger and ovate or rhomboid-ovate, equal-sided, with cuneate base, 4·5—8·5 cm. long, usually as broad; the lateral ovate-acute, inequilateral, with rounded or truncate base, 3-8 cm. long, usually as broad, acute, silky-hairy on both sides, occasionally somewhat three-lobed, conspicuously three-nerved from the base; petioles, middle one, 1·8—2·2 cm. long, the lateral ones 3-5 mm. long, hairy; stipels linear-subulate. Flowers in short close 6-12 flowered recemes with swollen nodes; peduncles 1-3 cm. long, hairy; pedicels very short, 2 mm. long; bracts ovate, nearly 2 mm. long acute, ciliate, deciduous; bracteoles 3 mm. long, linear-subulate, ciliate, prominently nerved, deciduous. Calyx 3 mm. long, glabrous, shortly ciliate; teeth, shorter than the tube, deltoid.

Phaseolus sublobatus, Roxb.

Corolla 8 mm-1.2 cm. long, yellow. Pods 5 5 cm. long, slightly compressed straight, clothed with short reddish-brown hairs. Seeds 8-12, oblong with truncate ends, 2-3 mm. long, dark-brown and mottled.

This promises to be a very useful green manure plant suitable to be grown both in dry and wet lands. Cattle readily graze this even though it is beset with hairs. It therefore deserves to be tried under diverse conditions of soil and climate.

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Better Methods of Virginia Tobacco Cultivation in Guntur District.

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Introduction. Guntur district has nearly 50 per cent of the total area under tobacco in the Madras Presidency. During the past decade, as a result of persistent efforts of the India Leaf Tobacco Development Company, ryots have taken to the cultivation of Virginia tobacco and its curing in barns. The present area extends over 1,00,000 acres, fetching a return of about one and a half to two crores of rupees to the District. The country tobacco (*Natu*) extends over 50,000 acres and it may fetch another half a crore of rupees every year. Virginia tobacco produced in the Guntur, Kistna and Godavari districts forms the bulk of cigarette tobacco produced in and exported from India. With proper methods of cultivation, curing and marketing, it is possible in course of time to find a steady market in foreign countries especially the United kingdom for a fairly large quantity of high class leaf. Tobacco is at present the main 'money' crop in the Guntur district. Unless proper steps are taken to increase the yield and improve the quality of leaf and rectify some defects in other respects, the trade is likely to suffer in a very short time.

Importance of quality in Virginia Tobacco. Unlike other agricultural commodities, and other varieties of tobacco, the range of variation in the market price of Virginia tobacco, even on the same day, may be anywhere between Rs. 10 to 350 per candy of 500 lb. This indicates the extent to which quality is important in the crop. The aim of the Virginia tobacco grower should therefore be to produce as much of the high grade leaf as