Egypt is in a fairly good position as regards insects, but Boll-worm is known. Government intervention controls it to some extent. According to the law of the land no more old plants should remain after 31st December. Pink Boll-worm was an introduction from India. The cotton worm lays its eggs on the leaves and the remedy was to pick those leaves and burn them. Defaulters had to pay the cost of labour as the Government will get the picking done when the ryots fail to do it. Non-payment of such amounts meant imprisonment and the prisoners were given the work of picking affected leaves in another man's field and thus the pest was efficiently controlled. The Soudan crop is another smaller lot but of good quality and with great prospects. Government control the sale of seed as its monopoly, send officers round to eliminate rogue plants in any field and police men to look to clean picking. The sale was also a Government business. The result was that the price of Soudan cotton in the Liverpool market stood very high. Therefore there was justification for Government interference.

Plantain cultivation near Madras.

Sothuperumbedu is a village some 12 miles N. W. ofMadras. The cultivation of Plantain is a special feature of this village, a large area being under it every year. The cultivation of plantain in this or in the surrounding villages is said to have been unknown some 20 years back and the first introduction of systematic cultivation appears to have been made by Messrs. T. R. Tawker & Sons of Madras into the adjacent village Surapet, and thence copied into Sothuperumbedu; it has since made good progress and the cultivation is now done in a very careful manner. Most of the lands in this village depend upon lift irrigation, from wells or the tank channel and the present confinement of plantain cultivation mostly to this village is perhaps largely due to its immunity from water logging, which during the heavy north-east monsoon is inevitable in the neighbouring villages.

The variety cultivated is mostly 'bontha,' or the curry plantain. This fetches a very high price in Madras at certain times of the year, when no stock comes down from Erode or the southern districts and cultivators in Sothuperumbedu are very particular of forcing their crops to be ready just in those months—July, August and September—when plantain are most scarce in Madras. Plantain is grown in rotation with paddy not oftener than once in 3 or 4 years, and treated as an annual, no ratooning being done. After the harvest of the previous crop of paddy, the land is thoroughly ploughed and weathered. Sheep are sometimes penned on the land. In the Tamil month of Adi (July—August) small pits, just enough to hold the sucker are dug out in places marked out with the plough by running it first in one direction and across again at a distance of about 6 to 8 ft. The suckers which are usually topped at a height of 2 ft. are put into these pits and filled round. They are then watered by pot and a day or two afterwards pressed round to consolidate the earth. If there is no rain, they are occasionally (about twice a week) watered by pot till the plants establish themselves. It is considered advisable to water the plants overhead, and asked as to the object of so doing, the ryots argue that the entry of water between the leaf sheaths has a beneficial effect. It is curious that the opposite view is held in some places—the Godavari District for instance—where to avoid danger of rain topping is not done in the case of suckers planted in June—July (i.e.,) at the beginning of the S. W. monsoon while those planted in November—December are usually topped. [This opposite view is shared also by the Cuddalore ryot who plants the suckers of green plantain (Paccha Vazhai.) Ed.]. Even in the case of those planted at the end of the South West monsoon a sloping cut is given in topping them so that the water may not stand on the cut surface even if any rain falls after planting. It is sometimes the practice to pen sheep immediately after planting, if this was not done before planting.

If there be no rain even after the plants establish themselves, the garden is irrigated by leading water from plant to plant in channels taking care to apply as little water as possible. The garden is also occasionally interploughed till the plants grow too tall to allow

of it. Now (i.e.,) about the end of the 3rd month manure is applied, a basketful round each tree and covered over. If now there be no rain, the whole garden is irrigated. Till the end of the rainy season the garden is, whenever the condition of the soil permits it, hoed with mammatties, the usual number of hoeings being 3. Any suckers that may be shooting forth are removed at the time of hoeing. Towards the end of the N. E. monsoon another application of manure is given. This time it is spread over the whole surface and not applied to each plant, as the roots by this time are expected to have occupied the whole space. The manure in the 1st as well as in the 2nd application is usually well-decayed farm yard manure. Though night soil (from Madras) is largely used for paddy it is not applied to plantain gardens. But it is the experience that its application to the previous paddy crop is very beneficial to the succeeding plantain garden.

After the rains cease another hoeing is given and after the soil is well dried, beds and channels are formed for irrigation. The beds are usually about 14'×7' and are formed by throwing earth along the lines of the trees, this also serving the purpose of earthing up. At first an irrigation every 15 or 20 days is given but as the sun's heat increases, it is more frequent, and in the hot summer, the garden needs irrigation once a week. A further hoeing or two are given after the re-commencement of irrigation and before the throwing out of bunches, which generally begins in the tenth month if the garden is well cared after. Cutting of bunches may be begun in the twelfth month and completed in the thirteenth, but it is not unusual that some gardens, owing to insufficient manure, hoeing or irrigation, stand over for 18 months even or more.

If the bunches are all cut in July—August (i. e.,) before the end of the 10th month a very high price is realised for the produce, the usual rate at this time in Madras being 1½ to 2 Rs. per 100 plantains. There will be about 900 trees to the acre if the average distance is assumed to be 7 ft. and about 800 of these may be expected to bear saleable bunches. Each bunch may consist of 50 plantains on the average and if the price is taken to be 1½ Rs. per

100, an amount of Rs. 600 can be realised by the sale of plantains alone.

Shortly before the trees begin to bunch two suckers are allowed to grow in each stool and the leaves of these fetch about Rs. 100. In fact the right to cut leaves from suckers is sometimes leased out for a higher amount. The flowers (infertile portions of the inflorescenses) stalks of inflorescenses within the leaf sheaths fetch another 20 to 30 Rs. The suckers if there is demand fetch another 20 or 30 Rs., the total income for all items in the case of a well grown garden thus reaching Rs. 750. The expenses of cultivation may be estimated at Rs. 250 per acre and there will therefore be a net profit of Rs. 500.

If however there is delay in the bunches being ready, the rapid fall in prices, due to the flooding of the market from other centres seriously affects the receipts. After the end of September only half the amount can be realised for the plantain, even if the yield is equally good but as the yield is also generally poor the margin of profit is often reduced to Rs. 100 or 150. It is therefore only the cultivator that can command the necessary labour, manure, and water facilities *in time* and thereby force an early crop, can reap the full advantage of the high rates in the Madras market.

The attention and care which some of the well to do land lords of the village pay to their plantain garden and the perfect method of cultivation evolved within about 15 or 16 years by local experience, are very remarkable. In the northern circars the system of planting plantain closely and treating it as an annual crop like sugarcane is unknown. The usual distance of planting there is 14 ft and two suckers are planted in each place. By occasional interploughing and irrigation the garden is kept on for 3, 4 or over a larger number of years. The yield is generally good in the second year but the average for the whole period is generally poor and the annual profits do not amount to more than a hundred Rupees. The system of close planting may advantageously be tried in the circars. It was tried in the Pittapuram Estate farm by the writer in a modified form some years ago and found a success.

It may also be noted that the 'Bontha' plantain generally useful only as curry stuff, is more paying in places near Madras, than the Poovan and other varieties used as fruit, for there is greater import of the latter from the mofussil, at all seasons.

It is also to be pointed out that in Sothuperumbedu no necessity for propping trees in bunch is generally felt, the trees, perhaps owing to their being single, not growing very tall, and the constant watering in summer maintaining the rigidity of the so called sten.

G. JOGIRAJU.

Notes.

Tobacco curing in Java.—Experiments were carried out in a drier, heated by a wood stove and aerated by a horizontal electric-fan. In spite of the provisional plant, it has been shown that if the temperature and moisture are well regulated in the interior of the drier the curing proceeds normally and the flexibility of the leaf is maintained to the end; the chief condition of success appeard to be the hermetic closing of the drying shed. It was found that the air could be kept moist by passing it through a series of pieces of sufficiently thick cloth continuously steeped in water; sprayers gave no results. The experiments will be repeated in a more scientific manner to discover whether it is possible to regulate the process of tobacco curing.

It was to be expected that during the first period of curing (while assimilation and respiration are still going on in the detached leaf) light would have some effect upon the process, and consequently upon the product and during the second period (while the leaf is changing colour) light might also play an important part in the little known alterations that take place. Very careful experiments, however, made both in the ordinary drier and in the laboratory have revealed no difference in the quality or colour between leaves dried in darkness or those dried