THE ADAPTATION OF SHORT CROPPING OF SUGARCANE TO THE LOCAL CONDITIONS IN THE VIZAGAPATAM DIST.

Though attempts were being made during the past 5 years to popularise short cropping among the ryots of the Vizagapatam District, they have not yet adopted the system to any large extent, the area under short cropping even after five years' advocacy having been not more than 167 acres as shown below:—

1931—32	...	...	2 acres.
1932—33	...	...	27 ,,
1933—34	...	...	60 ,,
1934—35	...	...	90 ,,
1935—36	...	...	167 ,,

September-October was originally advocated as the time best suited for planting short crops as they can then follow a 'punasa' (early)' crop of gante (*Pennesetum typhodeum*) or gingelly. But this was in practice, often found impossible owing to the lack of timely and favourable conditions for preparing the land and planting the crops in time. They were therefore recommended to be planted in ragi (*Eleusine coracana*) and gante seed beds after the removal of seedlings. In some years even this was found impracticable on account of heavy rains preventing the preparation of the land. Even in years when the land was ready, heavy rains at the time of or subsequent to, planting affected germination of the young crop so much that it had often to be abandoned. Earlier planting, in August, July or even in June was found more successful. In the case of arrowing varieties like Co. 213 planting has however to be deferred at least to the last week of June or early part of July to prevent the crop from arrowing in the usual season (November).

Though early planting was more successful and gave a higher tonnage of seed material it required the allotment of a separate plot for the whole year as in the case of the ordinary crop and this rendered short cropping less popular.

The intensive propaganda work done though not successful in enhancing the area under short crops to any considerable extent, has resulted however in convincing the ryots of the advantages of using tender material for seed. While, with late and nonarrowing varieties like J. 247 which are usually harvested at or shortly before, the time of planting, the use of tops (Vadu davva) or top halves has become popular, the same could not be practised with early and arrowing canes like Co. 213. In such cases, an alternative method was adopted by some ryots of the Bobbili taluk. This consists in leaving

out at the time of harvest in December—January all promising and tender side shoots not fit for milling and giving a ploughing and an irrigation if possible. This not only results in the rapid growth of the shoots thus left, but also stimulates a fresh flush of shoots some of which grow sufficiently well to give 3 or 4 setts by the time of planting (March—May). Even shoots which do not form sufficient nodes for being cut into setts but vigorous enough are found fit enough for planting. Sufficient shoots could thus be obtained for double or treble the area thus treated. Even under adverse conditions sufficient seed material to plant an equal area can easily be got. In areas where Co. 213 is largely grown this method has of late become rapidly popular, obviating the necessity for a separate short crop altogether, and the practice is well worth copying in other districts where similar conditions prevail.

PRACTICAL HINTS ON BEE-KEEPING*

BY M. C. CHERIAN & S. RAMACHANDRAN

I. **Introduction.** In these days of economic depression the income from agriculture is poor and the ryot, therefore, has to look to other sources to enhance his earnings. Taking into consideration the poverty of the average Indian ryot and his consequent inability to invest large sums on new ventures, bee-keeping on improved lines can be safely recommended as a paying cottage industry, as it involves only a small outlay. Moreover there is no dearth of bees or of bee-pasturage crops in this Presidency. Preliminary trials have shown that a colony of bees, under favourable conditions, is capable of yielding a net profit of about Rs. 10 to 15 per annum and as such there are great possibilities for this new industry.

II. **Selection of Bees for rearing.** Enormous profits are derived in the temperate regions by rearing the European bees, but their progress, apart from the prohibitive cost of importing them, has not been very encouraging in this country. Of the indigenous bees, the 'Rock' bee which is the biggest of the Indian honey bees and found mostly on the hilly regions, is unfit for domestication, because of its peculiar comb-building and migratory habits and ferocious temper. The 'Little' bee also has been found unfit for rearing, as it is migratory in habits and a poor honey gatherer. The Dammar bee, the smallest of the indigenous bees, is also not reared because of its poor honey gathering capacity. The only bee that can, with advantage be domesticated is the 'Indian bee'. It is smaller in size than the Rock bee and constructs its combs in parrallel rows inside natural hollows in tree trunks and in the ground, cracks and crevices in buildings, old pots etc. It is a fairly good honey gatherer and is comparatively mild in temper. The present paper therefore deals only with the Indian bee.

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