

The
Tropical Agriculturist
 JULY TO SEPTEMBER, 1949

EDITORIAL

Cotton in Ceylon

THERE has been sporadic interest in cotton growing in Ceylon for many years and small-scale experiments are recorded at various times from 1903 onwards, though introduction of New World cottons occurred earlier. The indigenous cottons were varieties of *Gossypium arboreum* grown mainly in the North-Western Province. This is the common species of the Old World to which the main cottons of India, Burma, Indo-China, Siam and South China belong. It is usually a small, hardy plant giving a moderate yield of short staple, rather coarse lint. Even when improved by breeding the lint length rarely exceeds one inch and yields seldom reach those of which the New World cottons are capable. Not much interest has ever been displayed in this group of cottons in Ceylon. The initial interest appears to have been in the growing of a very high quality cotton, such as Sea Island, for export to the Lancashire market but as McCall pointed out in 1909 the market for this type was even then a limited one, so that any extension of the production could only be followed by a ruinous reduction in price. Trials were undertaken with New World cottons such as Upland or Egyptian at the Maha Illuppallama Farm from 1903 onwards with a certain amount of success, though the very discursive reports and absence of precision in the experiments make it difficult to ascertain exactly what the results were. McCall recommended that Indian varieties should be given up "because they serve no Imperial purpose and are unprofitable to the grower". Egyptian cottons apparently yielded 130 lb. of lint, equivalent to about 4 cwt. of seed cotton per acre, a yield we would consider fairly satisfactory for that area to-day, and the opinion was expressed that it could be doubled with improved cultivation methods. Emphasis was placed on the need for line sowing and implemental tillage instead of haphazard planting in *chenas*, and proposals for irrigating the crop in *yala* were considered. The tendency for cottons to run to rot in wet seasons or with excessive irrigations was noted, a fact with which

still have to contend. Reporting to Lord Crewe, Secretary of State for the Colonies in 1910, the Governor, Sir H. E. McCallum, stated that in the view of Dr. Willis cotton might be profitably grown anywhere in the area north of a line extending from Negombo to Trincomalee or South of one extending from Matara to Batticaloa, areas which we know to-day from more extensive trials to be the most promising ones for this crop, "despite the great variations in the incidence of the monsoons during the last few years" as the Governor remarked in 1910 and many people continue to remark to-day. Later, in 1910, Dr. Willis, the Director of the Royal Botanic Gardens, took a rather pessimistic view of the prospects of cotton as a commercial enterprise because of the uncertainty of the weather.

In 1908 it appears the North-Western Province grew 245 acres of cotton, according to Ferguson's Directory. This cotton was probably the indigenous Asiatic species known to have been grown for a very long time in the Puttalam-Chilaw area, though it is possible some imported Western Hemisphere cotton may have been grown also. Specimens in the Herbarium of the Royal Botanic Gardens, Peradeniya, include one of "*Peruvian Cotton*" (*Gossypium barbadense* Linn.) from an old garden at Anuradhapura, dated 1883, Sea Island from Jaffna Kachcheri compound dated 1900, one noted as grown in the Gardens from seed from Florida dated 1888, and one of *Gossypium hirsutum* var. *punctatum* (Schum.) J. B. Hutch. dated 1889. There is therefore a possibility that some of these varieties had already been taken into cultivation by 1908.

The interest in cotton seems to have waned after the first experiments but the crop was never wholly abandoned and some trials continue to have been made at various times. Between the first and second World Wars the area, all in *chenas*, seems to have reached as much as 400 acres at times but poor prices made it an unattractive cash crop. The *chena* cultivator is only interested in cotton for the money it will bring to him and it therefore follows that if he cannot find an easy and ready market when he wants it cotton will not suit his purpose. It is absolutely essential that the price be reasonably attractive and that there exist some purchasing organisation which will take the produce off his hands without trouble to him and without the purchase price suffering too much attrition before it reaches the grower. Pieris in this number describes the Agricultural Department's cotton purchasing work in the South-Eastern Division. It is on such schemes that the future expansion of cotton growing must largely depend because the farmers can easily change to alternative cash crops if they find cotton unattractive.

The cotton crop must pass through two separate processing centres before it reaches the consumer as cloth. The seed cotton must be ginned to remove the lint from the seed and the lint must be spun and woven. The requirements of the consuming public are mainly for a medium quality cloth suitable for everyday wear as shirts and sarongs, with a fairly large demand also for coarser cloth, such as towels, &c. Very fine cloth, such as lawn, finds only a limited market prepared to pay high prices. In selecting a variety for Ceylon attention has been given first to its agricultural suitability and secondly to its commercial uses. Out of a number of imported selections the Department of Agriculture has chosen the Uganda variety BP 79 for its present purpose. This cotton spins well and has less tendency to run to leaf in wet seasons. Although this cotton is suitable it is anticipated that

still better ones can be bred for Ceylon conditions and the Department of Agriculture is opening a Cotton Research Laboratory on Wirawila Farm (Hambantota District) where the main cotton breeding programme is carried out. The provision of ginneries to provide pure seed is also being undertaken. A peculiarity of the cotton crop is that when the grower sells his produce he parts with his seed at the same time. The seed required for the next crop must be returned to him from the ginnery. In commercial ginneries various lots become mixed and since cotton is freely cross-pollinated, the crop can deteriorate rapidly if precautions are not taken to provide a supply of good seed from plots specially grown and ginned to provide it. In a sense this is an advantage because full control of the seed supply can be obtained and any improved variety can be issued through the normal seed-distributing machinery. Pure seed to give a crop up to standard quality is more important than for paddy because the spinning machinery cannot handle mixed cotton successfully.

The cotton acreage in *Maha* in 1948-49 was about 2,600 acres. A crop of about 3,700 acres is expected in 1949-50, weather being favourable. Except for the areas on Government farms, which may amount to about 300 acres, all this will be a *chena* crop. Future expansion of cotton on a large scale will depend on the development of a system of dry, rotational farming as an alternative to the shifting cultivation at present practised in cotton-growing areas. There being few or no farmers conversant with a stabilized system of rotation the task of training men to adopt implemental tillage (incidentally training the bullocks and providing suitable implements also) will be a long one. It is clear, however, that only a limited expansion as a *chena* crop is possible without seriously interfering with food production. That cotton can be successfully introduced as one crop in such a system of rotation is certain, though it is a crop which permits a good deal of surface erosion if the tillage operations are not skilfully done. Cotton is usually not a crop giving a high monetary return per acre. It is suited to extensive cultivation rather than intensive, but in the hands of small owner-cultivators it is a useful money crop.

The requirement of the Island is about $12\frac{1}{2}$ million pounds of yarn equivalent to about 50 million yards of cloth. The ratio of yarn to seed cotton is about 22 to 100, so the total seed cotton requirement would be about 200,000 cwt. which, at 5 cwt. per acre, would require 40,000 acres each year or 160,000 acres in a 4-year rotation. Our present production is sufficient for only about 9 per cent. of requirements.