

I N T R O D U C T I O N

The 1922 precipitous fall in the production of cacao which had for a long time been the staple product of the Island of Trinidad, and the steady decline in production following this fall in subsequent years, has been a source of great concern to both the people and the Government of Trinidad. The total production in 1922 was 50,000,000 lbs. as opposed to 75,000,000 lbs. in 1921, a decline of 15,000,000 lbs. or 20%. This fall, as Prof. Shephard explains (1) is however, exaggerated by the fact that the previous year's production was abnormally high, and that the export figures had been calculated on a basis of the calendar year instead of the usual seasonal year .

The fall in production had immediately followed an abrupt fall in cacao prices in 1921 from \$23.92 (£4 19. 8d.) to \$10.00 (£2 1. 8d.) and for that reason many casual observers naturally attributed the fall in production to the fall in prices; but if so, one would expect that the reduction in production due to the price fall would itself cause a rise in prices and therefore, a corresponding increase in production, but this has not been the case. The decline had continued even though prices had risen again to a point at which one would expect at least a slight increase, e.g. prices rose again almost to the 1890-1920 level averaging £2 11. 4d. from the 1923-24 season to the 1929-30 and that normal cultivation was resumed and yet production was very low in years immediately following these. (See Appendix 1). Hence, however important the price factor had been in reductions of production in later years, some other factors responsible for this decline must be sought for in other directions.

These other factors may be divided into two parts:

- (1) The obvious factors and,
- (2) The less obvious factors.

(1) The most important of the obvious factors would be found in the various policies which were pursued during the years of high prices but which could not be profitably followed during years of low prices:

(a) The desperate expansion of cultivation into areas which were unsuited to cacao production but which yet gave high returns because of the prevailing high prices. The yields from such areas were necessarily low and therefore unprofitable after the fall in price which led to abandonment or neglect or conversion into other crops.

(b) The credit facilities which had been eagerly extended to growers during years of prosperity were now denied them since after the price fall there was little prospect of any gain from such transactions. This in turn caused growers to restrict their operations only to areas that gave profitable yields and led to the neglect of several fields which, with the necessary capital, could be brought into profitable yield.

(c) The stoppage of indentured labour just a few years before the fall had brought about scarcity of labour and therefore increased expenditures, which, without credit facilities, were almost impossible for most growers to meet.

(d) The stoppage of the abuse of claying which in many cases took about 5-20% of the weight of the total export. This, of course, meant a direct reduction in the total volume of exports.

The above four factors have been fully discussed by Prof. Shephard (1). They were thrown into vivid relief by the price fall of 1922.

(2) The less obvious factors.

(a) The influence of age on yield. Studies made on this subject have shown that there is a direct influence of age on the total yield of a field.

- (b) The influence of Soil Type. A comparative study of the effects of the various soil types in Montserrat and other districts have shown that soils have a great deal of influence on the yields of cacao trees.

It is with these less obvious factors that we are concerned in this study which is an attempt to discover the extent to which production is influenced by the age and soil factors.

Since 1929, the Economics Department of the Imperial College of Tropical Agriculture, has been making systematic studies of the Cacao Industry with the object of discovering the extent to which these less obvious factors influence yield. A summary of the findings so far, is given below: Full reports of these studies have been published by Prof. Shephard (1).

1. A seven year period (1923-24 to 1929-30) financial survey showed that profit on any cacao estate depends on:-

- (a) Size of estate: "It was found that exceptionally large or small estates are less profitable than the average." That is an average sized estate of about 300 acres lends itself to better management and efficiency of cultivation and therefore higher average profits than very large or very small estates.
- (b) Prices: Prices proved to be the principal factor determining the general level of profits.
- (c) Yield: "The costs of production per bag are related inversely to yield, i.e. the highest yielding districts spent less and the lowest yielding districts spent more than the average on cultivation."
- (d) Soil Types and age of cultivation: "Estates less than 25 years old stand out as the most profitable.... though there was a case where a 60 year old estate earned profits almost twice as much as the youngest estates." Again it was found that some soil types gave less yields and therefore less profits than others.

2. An investigation of the yields of individual trees showed that:-

- (a) The yield of individual trees on poor soils appeared to reach their maximum in about 20 years and then decline, but trees on good soils may increase in yield for 80 years or more.
- (b) The yield of a field appears to increase during the first 15-25 years, then appears to decline.
- (c) On individual estates, production followed a similar trend to that of exports but the output of some estates diminished long before 1921 while a few have increased in production since 1921.

3. A comparison of yields of the same age on different soil types and of fields of different ages on the same soil types showed that soil types and age are principal factors in determining yield.

B. Soil Types and Their Distribution.

There are five soil types within the district, but of these the predominant types are:- (1) The Princess Town soil and (2) the Napier red clay. In addition to these are: (3) The ruger clay, (4) Calcareous green clay, (5) Alluvium and, (6) The Collium.

Distribution.

1. The Princess Town soil. This soil type is regarded as the most fertile for cocoa cultivation within the district. It covers the southern half of the area north of the Napier-Mary road and west of the Ganga southern road, and then about the