# INTRODUCTION

Burkill, in his "Dictionary of the Economic Products of the Malay Peninsula", writes:

"The coconut palm is one of nature's greatest gifts to man. Nature gave it to him ready made, whereas whatever excellence is possessed by most of his other important food plants has been his reward after ages of semi-conscious effort to ennoble them by selection. It is true that he now possesses a number of partially isolated races of the coconut, and that he has obtained a few relatively dwarf and slightly precocious races, so that he reaps a crop with reduced trouble, but this is little to his credit as an agriculturist."

The coconut palm, (Cocos nucifera, L.) is one of the most important plants cultivated by man; so much so that it has been given a variety of glowing names such as Kalpa Vriksha (Tree of Heaven), the Consols of the East, Mankind's Greatest Provider in the Tropics, Tree of Life, Tree of Abundance and Tree of Plenty, to name but a few. Different parts of the plant can be used for either food, drink or shelter. It is said that in the many coral atolls of the Pacific, without the Coconut, human life would be impossible. The coconut palm also provides the raw materials of several important industries.

In India it is estimated that in 1951, the nut equivalent of coconuts and coconut products consumed locally came to 2,893 million or approximately 84% of the country's production. In Ceylon per capita consumption amounted to 140 nuts per annum which equals 1,000 million nuts.

However, because of the importance of overseas trade, internal consumption is invariably overshadowed by the production of copra and coconut oil which in most cases are exported. Countries like the Philippines, India, Ceylon and the scattered islands of the Pacific derive a considerable part of their income from the coconut palm. Thus, in Ceylon in 1958, out of 1,645 million rupees earned from domestic products, copra and coconut oil acc-

ounted for 84 million rupees. Copra and coconut oil earned for Fiji (1958) approximately £2½ million or 18.7% of total income from export of domestic produce. In the Philippines in 1958 copra and coconut oil were valued at 298 million pesos out of a total domestic produce earning of 920 million pesos. However, as pointed out above, no estimate is made of the value of coconuts and products consumed locally nor on the value of labour (which has no value as such) which is used in the production of copra.

World production of copra in 1958 was approximately 2.9 million tons with the Philippines as the major producer. The Commonwealth between 1953 and 1957 produced about 30% of the world supply with Ceylon as the principal source. Oddly enough India in the last few years has had to import copra to make up shortages but should become self-sufficient again between 1961 and 1962.

The coconut palm is a long term crop and it takes from 6 - 7 years for a plantation to come into bearing. Even then peak production is not reached until about the 20th year. With this in mind, the establishment of a coconut plantation needs careful planning and foresight.

The first, and perhaps most important, facet of establishment is careful selection of planting material. Not only must the seed nuts be carefully selected, but it is equally if not more important that a rigid selection procedure should be adopted at the seedling stage. Characters such as:

(1) early sprouting

(2) vigour of seedling

(3) resistance to pests and diseases

are taken into consideration. Emphasis should be placed on the importance of both early sprouting and vigour. It has been shown that seed nuts which sprout early will have progenies with a low flowering period. Selection of seed nuts on the basis of early sprouting would bring about earlier flowering and higher

Better to explain such a technical idiom

nut production.

This has important economic implications. Firstly by early flowering it would mean that the tree or plantation would come into bearing more quickly. This would greatly reduce the overhead charges of maintaining the plantation before it comes into production and also ensures that it makes an early fanancial return on the owner's investments. In Ceylon it is estimated that to underplant an acre of coconuts with new seedlings would cost 642 rupees and upkeep expenditure for six years would be 689 rupees bringing the overall cost per acre for seven years to 1,331 rupees. This represents an average investment of 200 rupees per acre per year. With rising costs anything that can reduce this overhead is invaluable.

The importance of high nut production merits comment. In Ceylon it has been observed that plots planted with selected seedlings have given 3,762 nuts per acre against 3,383 nuts per acre from unselected groups, a difference of approximately 10%. Consideration of maintenance cost, weeding, pest and disease control, fertilising would indicate that, while the cost per acre would be the same, yet there is a higher return from selected seedling blocks.

The question of early sprouting and vigour poses the problem whether these are expressions of purely genetic properties or not. It appears that early sprouting is the product of both genetical and environmental factors. It seems that some of the characteristics on which seedling selection are based are not controlled genetically and therefore contribute nothing to the genetic improvement of the coconut. However until better methods are developed, the present method of seedling selection is still the best as far as the coconut planter is concerned, "whose interest is in the phenotype rather than the genotype of his palms" (Charles, 1961).