

# EXPERIMENTS ON A COCONUT ESTATE—II

By MARCUS S. ROCKWOOD,

*Achchitbotam, Mundel.*



**TRIANGULAR PLANTING.**  
Inter-locking overhead canopy of leaves.

IN 1927 I planted 8 acres of this estate with 572 palms, following the system of triangular planting to see how this would benefit coconuts growing under dry zone conditions. The seed nuts used were collected from selected mother palms in high-yielding blocks in another part of the estate, and potash and green manures were used in the early years, followed only later by a complete mixture. Illuk was completely suppressed by the use of creeper and erect green manure crops. At the later stages, the canopy of fronds overhead provided the requisite shade to keep the Illuk under control and the soil moist and cool. The multi-purpose scheme, referred to in the first part of this article, (*vide* Vol. 3, No. 1), has not only

been accomplished but has proved a complete success.

## Results

The progressive improvement in yields in my new area of coconuts is shown by the following figures:—

1927	...	May/October	—Area planted with 572 palms.
1931	...	June	—First palm in bearing, No. 264, gave 43 nuts.
1933	...	6 years	—48 palms gave 1,341 nuts, No. 255 giving 104, and No. 264 giving 105.
1934	...	7 years	—Total crop 4,243.
1938	...	11	„ „ „ 27,450.
1942	...	15	„ „ „ 34,256.
1946	...	19	„ „ „ 42,950.
1950	...	23	„ „ „ 42,975*(Short crop due to previous drought).
1952	...	25	„ „ „ 46,367.

\**Note.*—During the N.E. Monsoon of 1949-50 the rainfall during 8 months was only 17 inches.

I very nearly achieved my target of 50,000 nuts which is equivalent to over 6,000 nuts per acre per annum. In fact, I am sure, I did achieve it, but owing to crop thefts (in consequence of which I had to make staff changes) I was robbed of the full results of my 25 years of work. Readers will be better able to appreciate this when I state that the third crop of 1952 was 11,798 nuts and the fourth crop was 10,537 nuts, but the succeeding fifth and sixth crops were together less than the fourth crop.

In July, 1945, and after recording the individual yields of 121 palms for three years, Mr. W. V. D. Peiris, former Geneticist of the Coconut Research Scheme, wrote as follows:—"There are some real champions in these selections, the supreme champion and Gold Medallist being palm No. 259, which gave an average nut yield of 160 nuts, and husked nut weight of 239.45 lbs. per annum—equivalent to 8.55 candies per acre per annum, with an out-turn of 1,123 nuts per candy." (I still hopefully await the award of the Gold Medal!)

In February, 1949, again, the Geneticist wrote as follows:—"It is interesting to note that in the other lot of 65 palms, for which records are now available for seven years, the yield of nuts remains at a high level—No. 259 still stands as the champion palm, with an average yield of 147 nuts per year during the last seven years."

Of 510 palms in bearing during 1952 (*i.e.*, excluding young supplies):—

2 palms yielded over 160 nuts per palm.					
1 palm	„	„	150	„	„
8 palms	„	„	140	„	„
17	„	„	130	„	„
18	„	„	120	„	„
50	„	„	110	„	„
74	„	„	100	„	„
89	„	„	90	„	„
77	„	„	80	„	„

Thus, 338 palms, or over 66 per cent., yielded an average of 98 nuts per palm per annum. Taken as a whole the 510 palms were yielding at the rate of 6,530 nuts per acre. I consider this achievement commendable, though I feel that 7,000 nuts per acre is quite within the range of possibility with normal rainfall.

### Method of Improvement

My policy has been to replace all failures, and all weak and unhealthy palms, as soon as I was satisfied of their inferiority. In all my experience during the last two decades as a valuer and visiting agent, I cannot bring to mind any one estate on which this process of elimination was carried out. I consider it false economy not to do so, since to have uneconomic palms is as bad as having "vacancies" on the land. Between 1940 and the end of 1951, I had replaced a total of 62 out of the 572 palms with "supplies" of second generation seedlings, produced from seed nuts collected from the recorded parent palms in this new area. As in 1946, these palms were less than 20 years old, it will be interesting to see how these "supplies" will turn out, in view of the prejudice against seed-nuts taken from young palms.

It would have been much more satisfactory, of course, to have planted them in a new clearing rather than as "supplies" in a mature area, because of the continuous canopy of overhead shade which results from the triangular method of planting. In consequence of this shade the nursing of the "supplies" was quite a problem, because, unless the seedlings had been well looked after and nourished all the time, their rate of growth would have been very slow and they would have taken a long time to reach maturity.

### **Production of Selected Seed Nuts**

The selected palms continue to be recorded, and the crops from these mother palms are now being selected by an officer of the Planting Division of the Coconut Research Institute and used as seed nuts in the nurseries established under the Coconut Replanting Scheme. The number of "mother" palms from which these are selected represents a fifth of the total number palms which, I think, constitutes a record for all the areas from which seed nuts are collected for this purpose. Nevertheless considering the high yielding capacity of this experimental area, I feel that 80 per cent. of the palms are fit to be used as mother palms, as the derived seed nuts are better than "block nuts" of doubtful origin.

### **Out-turn or Copra Equivalent**

The variation in the number of nuts required to make a candy of copra has been considerable. This is entirely due to weather conditions, as the conversion rate increases according to the length and severity of the drought or droughts in the year preceding and, on very neglected properties in this region, it can reach as much as 4,000 nuts per candy. My maximum figure has been in the neighbourhood of 1,400 during 1939, following the drought of 1938 when, during six mid-year months, the rainfall was only 2.77 inches. In normal periods, when the rainfall has been in the neighbourhood of 40-45 inches, and evenly distributed, it has been between 1,150-1,200, while during unusually good periods with 55-60 inches of well-distributed rainfall it has touched the lowest record of 848 and maintained an average of 962 during the last two and the first two crops of 1951 and 1952 respectively.

I hope that the information I have set down in these two articles will be useful to the practical planter, who, I hope, will get even better results than what I have obtained, by further improving on my methods for the benefit of future generations. Then, I feel that I will have made a useful contribution in thus recording the results of a quarter century of pioneer work in the cultivation of coconuts.

