

Yield Response to Coconut Fertilizer

Yield fluctuations due to weather

The experiments carried out at the Coconut Research Institute have amply demonstrated that the coconut palm responds well for fertilizer application. However, sometimes the response to fertilizer is masked by the variations in rainfall. If there is a well distributed rainfall during particular year, then a good crop in the following year is observed and vice versa. Hence it is very essential that the grower understands the masking effect of rainfall on coconut yields in order to appreciate the response of fertilizer on yield.

Table 1 shows the coconut yields from an unfertilized land. Wide fluctuations of the crop over the years are observed. These differences are due to changes in rainfall over the years.

Table 1 *Yields of a non fertilized coconut plantation*

Year	1955	1956	1957	1958	1959	1960	1961	1962	1963	1964	1965	1966	1967
Yield/ hectare	4250	6800	4600	3850	5150	4250	4650	5750	6400	7000	5500	4050	3700

Response to fertilizer application takes time. Also if fertilizer application is restored in an unfertilized land in a good crop year such as 1964, an increased response would not be seen in the years 1965, 1966 and 1967 as the weather had been unfavourable since 1964. This situation will be observed even in a regularly fertilized land. In a situation like this, the growers will have doubts about the beneficial effects of fertilizer. However, the reduction in yield in a

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non fertilized land will be comparatively more than if the land had been regularly fertilized. Regularly fertilized lands get the maximum benefits of good weather. If lands are left unfertilized, the cumulative loss over the years will be very high, finally leading to an unproductive land.

Significance of widespread use of fertilizer

Statistics indicate that only about 15—20% of coconut lands are fertilized at present. Hence the country is not getting the real benefit that it should get by way of higher production. The best short term method of increasing coconut production in Sri Lanka would be widespread use of fertilizer.

Having understood the fluctuations of crops due to changes in rainfall let us consider the response of fertilizer on the yields.

Table 2 shows the yield increase due to application of varying levels of fertilizer dosages, and the expected yields, if only 100 MT of fertilizer is available for use.

Table 2; Yield increase and the expected yields at varying dosages (Using 100 MT of fertilizer).

Fertilizer per palm kg.	Yield per hectare	Hectareage fertilized with 100 MT of fertilizer	Total expected yields for 100 MT (nuts)
2.0	11100	330	3,663,000
2.5	11850	260	3,081,000
3.0	12500	220	2,750,000
3.5	13000	190	2,470,000
4.0	13400	165	2,211,000

Table 2 shows that if fertilizer availability is limited, then applying fertilizer to a larger area at a reduced dosage is more beneficial and profitable than using a higher dosage to a reduced area. This indicates the importance of widespread application of fertilizer at a reduced rate in a limiting situation.

However, if availability of fertilizer and finances are not limiting then it is advisable to apply higher levels as recommended by the Coconut Research Institute to all the palms in order to achieve the maximum benefits.

Increasing fertilizer levels upto about 3 kg per palm, showed a marked increase in yield.

Next Issue

The next issue of the **Coconut Bulletin**, scheduled for November 1985, will be devoted to Intercropping in coconut lands. This issue will carry valuable information on all the aspects of Intercropping and guidance on maximising income from coconut lands.

Please reserve your copy early.

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