

YIELD OF COCONUTS IN RELATION TO PATTERN OF RAINFALL
AND DURATION OF DRYSPELL

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SUMMARY

Earlier studies have indicated the beneficial effects of distribution pattern of rainfall and Summer rains rather than the total quantity of rains received on the production of coconut. Excess rains received during S.W.monsoon period were found to be detrimental. The relevance of parameters like relative humidity, sunshine hours, drought index, etc. in predicting the future yield was also indicated.

In this paper, an attempt has been made to study the pattern of rainfall at Kasaragod during the past 25 years(1961-85) and its relationship with the yield of coconuts. The annual rainfall received varied from 2499mm in 1964 to 5702mm in 1961, while the number of rainy days varied from 90 in 1979 to 145 in 1961. Though the total rainfall received during 1964, 1966, 1969, 1973 and 1985, was less than 3000 mm, it was well distributed. On an average, about 3500 mm of rainfall was received which was distributed over 115 days. About 90.% of this was confined to South West and North East monsoon periods extending from June to November.

Summer months of March, April and May accounted for nearly 8% of the rainfall and 10% of the rainy days. January and February were found to be practically rainless months in most of the years. Yield data of 186 trees, growing under rainfed conditions were used in this study. The yield data during alternate years showed clear ups and downs. The low yields recorded in 1963, 1965, 1974, 1980 and 1984 can be related to the low rainfall received during the preceeding year and/or due to the heavy rainfall received one year prior to that.

Analysis of data has shown that neither the total rainfall nor the total number of rainy days in any year has any strong relationship with the yield of nuts in the same year, or in the subsequent years. Season-wise consideration of these parameters showed that summer rains favours the next year's yield, whereas it has an adverse effect on the yield in the year after next. More number of rainy days during Sept.-November was also found to bring down the yield during next year.

Though the period November to May is considered as dry, sufficient moisture is generally available in the soil in the months immediately following the North East Monsoon period. January and February are generally rainless months. Since the CW over the years, for rainfall and rainy days, were highest during the summer months (March-May), the influence of intensity of dryspell on yield was critically examined for these months. The number of weeks with little

or no rainfall (or rainy days) was taken as a measure of intensity of dryspell. Strong negative correlations were obtained between the yield in any year and the number of weeks with ≤ 2 rainy days or with ≤ 50 mm rainfall in the preceding year. However, the same variables were found to favour high yield, during the next year which explains the low yields obtained immediately succeeding a drought year and the abundant yield obtained in the very next year. The observation of Park(1934) that severe drought affects the yield of nuts for a period of two years does not appear to hold good under the conditions prevailing at Kasaragod.

The present study has shown that the yield obtained in any year is influenced by the summer rains received in the preceding two years. However, multiple regression methods have shown that only 50% of the variations in the yield are explained by these two variables. This is not unexpected because every inflorescence produced has to undergo the weather changes over a period of nearly 45 months, which is the interval between promordia initiation and harvest of nuts.