

Quarterly Seminar Series of the Coconut Research Institute

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The first seminar of the series was held on 7th March 1984 at the Recreation Club house of the Coconut Research Institute. The theme of the seminar was Drought and Coconut Production. Four papers were presented and following is a brief summary.



Mr. M. Jeganathan Addressing the Meeting (Above)

A part of the participants (below)

(1) Effect of Drought on Soil Properties

by

R. T. Shanmuganathan

Reduction in nut production is observed under long spells of drought. This may be related to the effects of prolonged drought on the soil properties. As a result of drought the physical, chemical, and biological properties could change. These changes affect the normal growth of the palm and lead to a reduction in nut yield. The changes that could occur in clayey and sandy soils exposed to drought were presented.

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(2) Nutrition of Coconut Under Stress Conditions

by

M. Jeganathan

The uptake of nutrients is dependant on (a) root interception (b) contact exchange, (c) bulk and mass flow and (d) diffusion. Of these factors diffusion is considered to be the most important in the uptake of N, P, and K. Nutrient levels appear to be related to the extent of distribution of the root zone. Nutrient uptake was shown to increase with the rate of application but the uptake is influenced by the soil moisture levels at a given time. Effects of stress on physiological properties such as cell growth, stomatal opening, CO₂ assimilation and transpiration were also reported.

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(3) Crop Weather Relationship and its Bearing on Coconut Production

by

D. T. Mathes

Data were presented to explain the interaction of weather conditions with nut

yield. Effects of day length, drought, and irrigation on nut production were reported. It was also shown that under normal conditions only 1/3 of the potential crop is achieved as there is a 2/3 loss resulting from immature nut fall, the frequency being high during the first three months of development.

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(4) Management Practices for Soil Moisture Conservation

by

L. V. K. Liyanage

The possible damages that may be caused to nut production could be minimized by conserving the available moisture as much as possible, during drought periods. Benefits of husk pits, suitable cover crops, and addition of organic matter in conserving moisture was stressed. General management practices were also discussed.

The talks were followed by a discussion during which many problems relating to watering, manuring, and husk burial were taken up. The rate of loss of water per palm being very high, the importance of identifying an effective zone where water may be placed and the minimum amount of water requirement for survival during drought periods was pointed out. Laying of husk pits closer to the effective root zone also drew much attention of the participants.

In response to a question pertaining to cover crops, it was pointed out that pasture as a cover crop is suitable only for the wet zone and not for the dry zone. Pasture lose water more rapidly than leguminous cover crops. Views about the suitability of having cover and shade crops that are used as human food were also presented. It was viewed that further research on the use of coir dust for improvement of soil, physical condition and soil moisture conservation should be carried out.