

# AN AGRI-METEOROLOGICAL PROJECT AT THE COCONUT RESEARCH INSTITUTE

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The influence of the weather on coconut crops is known to be significant. For the same crop variations brought about by the weather amount to as much as or even more than those due to genetical and nutritional causes. Yet although this profound influence of the weather on crops is an accepted fact, our knowledge of its exact influence is very vague. Leave aside other meteorological factors that control crops, even about a common and obvious factor like rainfall we could only make broad statements. From the rigorous viewpoint of the scientific agriculturist, such generalisations even though reasonable are found to be unsatisfactory, in that it does not enable him to depict this association between the weather and the crops by means of a formula with a *predicting* value in it.

To cover up this gap in our knowledge, the Coconut Research Institute recently launched a project on Agri-Meteorological Research. It marks the first positive attempt to answer some of the problems relating to climate and coconut crops. A fully equipped Meteorological Station has now been installed at Bandirippuwa Estate in consultation with the Government Meteorological Department and further a block of 300 palms is set apart for parallel yield recording. Moreover arrangements are now being made to open up two other agri-meteorological stations in original areas in the dry zone, viz. Batticaloa and Puttalam. These will serve as sub-stations for this investigation.

Broadly the purpose of this long-range investigation is to ascertain in what manner and to what degree, the meteorological environment influences the ultimate yield of coconuts. The problem is more complicated than what it appears to be at first sight. By the meteorological environment is implied a combination of several meteorological factors: (i) the amount and distribution of rainfall (ii) the temperature (iii) humidity and vapour pressure gradient of the air (iv) the wind velocity (v) the amount and intensity of sunshine (vi) cloudiness of the sky (vii) the soil temperature and its gradient and (viii) the water table.

These factors interacting among themselves and with different soil types and seasons present a complicated climatic environment.

Similarly when one talks of coconut crops what is implied is not merely the number of mature nuts that we collect at a pick but a chain of events or stages of development leading to the final product. These factors are: (i) the rate of production of inflorescences (ii) the number of female flowers (or potential nuts) in an inflorescence (iii) the setting of female flowers (iv) the number of nuts that fall before maturity (v) the number of mature nuts collected at pick (vi) the copra outturn, and (vii) finally the oil content itself. This investigation will be directed mainly towards ascertaining what particular climatic factor or combination

of factors influence a particular stage of development of a bunch of coconuts and also the nature and extent of the particular influence.

The usefulness of the results of this investigation to the coconut industry is manifold. Firstly it will provide the basic and essential information regarding these relationships to Research Officers on coconuts for their more advanced studies. Secondly it will help to determine the optimum and minimum climatic requirements for the economic growing of coconuts. Thirdly it will ascertain whether the problem of marginal areas is really due to the weather or otherwise—if due to weather, the question of reclaiming such land can be ruled out until such time that we are in a position to control the weather. Fourthly such knowledge of the relationship between the weather and crops could be made use of for commercial purposes because the ability to predict crops and outturns, etc. will help estate management both from the point of view of checking on estate crops as well as in matters relating to crop disposal (Reference 'Crop Disposal' by V. Abeywardena—*Ceylon Coconut Quarterly*, Vol. V, No. 4).

Lastly its importance is far-fetched, yet so real when one considers the present rate of scientific advancement. The time may not be far off when man will be able to control the weather to suit his needs. Let us then be prepared to get the maximum of such an eventuality by knowing exactly what the weather can do to coconut crops.

(In this connection the reader is also referred to the article on 'Rainfall and Crops' by V. Abeywardena in Volume VI, Nos. 1-2 of the *Ceylon Coconut Quarterly*, and the accompanying article on 'Coconut Crops and Environment' by M. L. M. Salgado, I. Summary. Editor, *Ceylon Coconut Quarterly*).

'IT HAS UNFORTUNATELY FOR MANY YEARS BEEN A PREVAILING DOCTRINE THAT THE CINGALESE MUST BE COMPELLED TO LABOUR, AS THERE IS NO WAY OF OVERCOMING THEIR NATURAL INDOLENCE BY ENCOURAGEMENT... I AM CONVINCED OF ITS BEING UNFOUNDED. THE CINGALESE, LIKE EVERY OTHER PEOPLE, HAD RATHER BE POOR AND IDLE THAN WORK FOR NOTHING; AND DURING THE DUTCH GOVERNMENT THEY HAD NO OTHER ALTERNATIVE...

'IN THE NEIGHBOURHOOD OF THE GREAT TOWNS, AND EVEN IN THE INTERIOR OF THE COUNTRY, THEY ARE EVERYDAY ACQUIRING THAT KNOWLEDGE (OF THE RELATIVE VALUE OF LABOUR AND ACQUISITION) WITH A RAPIDITY WHICH ASTONISHES ME.'

Governor North to Directors of East India Company.

24 November, 1802.