

Madras Agricultural Journal

(ORGAN OF THE M. A. S. UNION)

Vol. XXIV]

FEBRUARY 1936

[No. 2.

CONTENTS

	PAGE		PAGE
Editorial	47	Abstracts	76
ORIGINAL ARTICLES:		Gleanings	78
1. Developmental Studies in Rice-I	50	Agricultural Jottings	80
2. Marketing of Cultivators' Cotton		Crop and Trade Reports	82
at Tirupur, Madras Presidency	66	Mr. T. Lakshmana Row—A Short	
An Account of the Students' Tour	72	Sketch	85
The Passing away of King George	74	College and Estate News	86
The Sixth International Botanical		Weather Review	87
Congress	74	Departmental Notifications	88

Editorial.

Weather and Plant diseases. It has been recognized from the earliest times that weather factors play an important part in the incidence and spread of diseases and pests of plants. Indeed, till the discovery of micro organisms, in the middle of the nineteenth century, the occurrence of such diseases as blight, mildew etc. was attributed solely to adverse weather conditions. The discovery of pathogenic bacteria and fungi led the scientists of the period to err on the other extreme, and lay too much emphasis on the causal organism, underestimating the influence of weather factors. In recent times however, the intimate relationship that exists between weather and disease is again realised, and increasing attention is being devoted to research on what has been termed as the phenological aspect of plant diseases, and during the last fifteen years, a considerable volume of literature has been gathering round the subject. The conference of Empire Meteorologists, which met in 1929, focussed the attention of both meteorologists, and plant pathologists, on the need for intensive work in this direction, and emphasised the necessity for co-ordinated endeavour in their approach to the problem. In several countries as for example France, Germany and Italy, a system of forecasting diseases and pests has been organized by the Governments with a view to warn the farmers, though it must be admitted, that even in these countries they are yet a long way off in either correctly

forecasting the intensity of the disease, or forestalling it when its incidence is a certainty.

In India, the importance of the study of this subject cannot be over estimated. The periodical recurrence of a number of fungoid diseases, and insect pests on an epidemic scale, is laying a heavy toll on the cultivators and despite the great progress that has been attained during the last twenty-five years, in respect of our knowledge regarding these plant diseases and pests, very little organised work has been done on the phenological aspect. It is no doubt true that in the course of the investigations on plant diseases and pests, much valuable data, throwing light on the problem have been collected, but, these have been more or less of an isolated nature, and much work has yet to be done before the data can be analysed and correlated.

The reasons for the comparative neglect of this aspect are not far to seek. The science of plant pathology is itself in its infancy, in India, and the Mycologists and Entomologists of the Agricultural Departments (who are the only workers) had perforce, in the initial stages, to engage themselves with problems of immediate moment, and those which will yield results in a short period. Their attention was naturally directed towards the aetiological aspect of diseases, with a view to finding out cheap and effective remedial measures. The complex and uncertain nature of the phenology of diseases, which involves not only intensive laboratory study but also observations in the field carried over a large number of years, the absence of well equipped meteorological stations, except in a few centres; and the absence of contact between the meteorologists and agricultural officers have also been additional deterrant factors in the pursuit of the subject. To the above may also be added the general paucity of workers dealing with plant pathology and agricultural entomology. The study of these subjects has been almost entirely confined to the several Agricultural Departments, the Universities in India, except perhaps until very recently, not having directed their attention to it so far.

With the advent of the Imperial Council of Agricultural Research, however, there are signs that we are progressing towards a better state of affairs, and it is hoped that before long our knowledge regarding the relationship of weather to the more important diseases and pests of crops will have increased considerably.

In South India among the more important diseases and pests, a few occur periodically, and their outbreak in an epidemic scale would appear to be intimately connected with weather conditions. The *mahali* disease of arecanut though appearing year after year, with regularity varies with regard to its intensity and consequent damage to the crops. This has been attributed to changing monsoon conditions. The blast disease of paddy caused by *Piricularia oryzae* is also

intimately connected with the weather conditions that prevail throughout the duration of the crop. The mildews of various crops and the smuts are also in the same category. Among the insectpests, the swarming caterpillar (*Spodoptera mauritia*.) of paddy and the stem borer (*Schonoebius incertullus*) are dependent to a great extent, on weather conditions for their spread.

It therefore seems to us that attention devoted towards this aspect will be worthwhile, and we would suggest that an accurate record of the occurrence of plant diseases and pests be maintained in every agricultural station, so that with the accumulation of sufficient data it might be possible in future years within the limited means at our disposal, to correlate them with the weather data, and arrive at some conclusions which are bound to be useful to the farmers.

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Jubilee Celebrations. Our readers will be glad to learn that the Union has approached His Excellency Lord Erskine with a request to honour them by inaugurating the celebrations, of the Diamond Jubilee of the introduction of Agricultural Education in India, in July this year. The Hon. Mr. P. T. Rajan, Minister for Development has been requested to preside over the conference. It is hoped that the celebrations will be a great success.

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Mr. T. Lakshman Rao, Assistant Agricultural Chemist retired from service last December and a short sketch of his career will be found elsewhere in this issue.