

universities. I must observe that the subject of *Entomology* in its applied branches has been neglected in the curriculum of studies in our universities. I take this opportunity of making the following suggestions for the consideration of our universities in developing this most useful branch of Applied Biology:

- (a) While experts at the central and provincial research institutes and museums are mostly engaged in the systematic, ecological and bioclimatic studies, statistics and other data, the universities can and should devote themselves to intensive and extensive morphological, histological, embryological and physiological studies, and work side by side, in the fullest of co-operation, with taxonomists. Efforts thus co-ordinated would certainly develop the whole study of the most intricate insect-problems of a vast country like ours.
- (b) The problem of insect pests control being undoubtedly of All-India national importance, the universities should develop a true spirit of teamwork, tackle any pressing problem of an economic nature that is brought to their notice, and work in conjunction

with the different research institutes distributed over various parts of India. In this direction the universities can certainly do a lot of useful work on a well-organised scientific basis.

- (c) In view of the growing importance and potentialities of great usefulness of service that Applied Entomology can possibly render to mankind, this extremely useful subject should be encouraged in every Indian university, where there is a provision for zoological teaching.
- (d) I should strongly urge that either at the honours stage, or more suitably, at the post-graduate stage, along with the teaching of general zoology, there should be a compulsory special paper on Applied Entomology, or better, say General Entomology, mainly covering its most essential and fundamental aspects. But it is very necessary that properly trained entomologists should be made responsible for this training. It is in this way that our universities can, directly or indirectly, help in ameliorating the sufferings of a vast population of India.

## A SOIL MAP OF INDIA

A SOIL MAP OF INDIA based on agricultural and colour nomenclature has been prepared by the Imperial Agricultural Research Institute, New Delhi. The map classifies the soils of India into eight main prevalent categories, (1) alluvial, (2) coarse alluvial, (3) red soils lying on metamorphic rocks, (4) laterite soils, (5) black soils, (6) deep black soils, (7) light soils on trap rocks and (8) deep black alluvial soils. The alluvial soils of extra-peninsular India are further divided into Indus alluvial, Gangetic alluvial and Brahmaputra alluvial soils.

Another map based on climatic differences, and a third, which plots the relative nitrifying efficiencies of surface soils, were also prepared in the Institute. The latter shows a clearly demarcated central belt, running north-east to south-west across the country at the boundary which divides peninsular and extra-peninsular India.

The soils of India offer a distinct contrast to those of many other countries, inasmuch as, they are very old, fully matured and do not show, in many cases, pedogenic processes and the close relationship between the soil and its rocky substratum. The weathered materials in most cases have been transported to great distances by various agencies. An examination of the soils also shows that, although the nature and composition reflect to some extent the composition of the original rocks from which they are derived, the main trend of weathering and its final result are influenced to a considerable extent by the climatic complex, particularly by the amount and seasonal distribution of rainfall. In India the unique monsoonic division of the year into dry and wet periods and the high temperatures that prevail considerably influence the character and sub-aerial denudations of the surface of the country.