## APPLIED BIOLOGY *

THE volume of the journal, under review, is the Proceedings of the Silver Jubilee Meeting of the Association of Applied Biologists held in London during September 1954. It contains 39 articles devoted to various aspects of the biological sciences. These articles have been classified under eleven heads.

Among the articles of general interest is one by Sir John Russell on "The Changing Problems of Applied Biology". Sir John Russell has pleaded for close co-operation between the specialists of all branches of biology. He has dealt with the prodigious developments in the various sciences like development of synthetic chemical industry, systematic insecticides and fungicides, antibiotics, growth-promoting substances, etc. He rightly states that 'these new substances, the new insecticides, fungicides, plant hormones, herbicides and others give great powers of control but they also raise a host of new problems'. The modern applied biologist is a specialist dependent on the statistician, the chemist, the physicist and others for a proper understanding of this intricate problems. Specialisation leading to lack of proper co-ordination of the different branches is likely to hamper advancement. The Jubilee Meeting of the Association has pre-eminently served the purpose of bringing together outstanding specialists in the different branches of Applied Biology.

The need for International co-operation in combating plant diseases and pests has been forcibly brought out in the three articles under the heading "International Co-operation in the Field of Crop Protection". A strong plea to avoid overlapping of the activities of the different commissions sponsored by UNESCO, E.P.P.O., F.A.O., W.H.O., etc., has been made for a more efficient working of the International Crop Protection Schemes.

The three articles on the problems of food storage and insect pests of stored products deal with the importance of proper storage conditions not only for the good of the farmer, but also for a sound national economy. Stress is laid and correctly on the fact that the prestige of a station is likely to be lowered through marketing insect damaged foodgrains.

A review of the research work so far done on plant virus diseases and their spread and control has been brought out in the four articles dealing with plant viruses and virus research. The electron microscope has enabled us to see and study the viruses which for so long have been invisible and rapid advances have been made in the study of plant virus. Yet much work remains to be done on the exact mechanism of virus multiplication in the cell. Plant breeders have played an important part in the evolution of virus-resistant strains. More recently 'tissue culture' has afforded a promising way of obtaining virus-free plants from infected stocks.

Considerable advance has been made in the field of plant hormones and selective weedicides. Ever since the identification of indole acetic acid as a plant auxin, a number of synthetic compounds have been introduced into the market. These substances have been of use in rooting of cuttings, inhibition of bud growth, initiation of parthenocarpic fruit production, for prevention of the drop of immature fruit, for acceleration of flowering of pineapples and for weed control. The most modern hormone which seems to act as a panacea for all ills is 2-4 D. There are four interesting articles on this aspect.

The need for education and training in applied biology has been forcibly brought out in the three articles relating to "Education and Extension Services in Applied Biology". This subject has been discussed by the President, Prof. Brown, himself. The lower status given to the research worker in applied science as compared to his counterpart in pure science has been strongly deplored. The correct approach to biological education for agricultural research has been well discussed by Prof. Brown.

Problems of applied zoology, especially biological control of insect pests, have been discussed in three articles. Taylor has ably summarised the various aspects of biological control and summarises in the end that it is the best of all methods of controlling pests but seldom works, and there is little future for it in continental areas. It is to be considered whether in these days of chemical control methods, the biological control, with its limited scope, is really comparable with the former in efficacy and cheapness.

The volume covering all aspects of applied biology brings out clearly the complexity of any biological problem and the need for co-ordination of different branches for their solution.

N. L. DUTT.

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