

Company. On Sunday there was an orchestral concert in the Royal Albert Hall in which all the items were associated with animals, and the composer of the overture "The Wasps"—Vaughan Williams—happens to be the grand-nephew of both Charles Darwin and his wife. There were also excursions to Down House, Juniper Hall and Whipsnade Park, in addition to long tours after the Congress.

The final plenary session began with two papers, the first by E. N. Pavlovsky on "Some Modes of Evolution of Infections and Parasitic Diseases", with special reference to work in the U.S.S.R.; the second by J. Millot and J. Anthony, "Résultats actuels de l'étude du Coelacanth *Latimeria chalumnae* Smith, dernier des Crossoptérygiens", comprising the first detailed account of the anatomy of this interesting archaic fish.

Sir Gavin de Beer then presented the recommendations of the Colloquium on Zoological Nomenclature and mentioned that, under present conditions, it is no longer possible to carry on the work of the Nomenclature Commission on an honorary basis. The International Trust for Zoological Nomenclature, now under the chairmanship of Lord Hurcomb, will have a paid secretary, Mr. R. V. Melville, with a secretarial staff, to undertake the heavy work involved in correspondence and publications. It is hoped that the revised rules of Zoological Nomenclature will be issued within six months.

Sir Gavin also submitted a resolution by Section I "That this widely representative meeting of zoologists from many nations participating in the Fifteenth International Congress of Zoology wishes to place on record in Plenary Session the great

urgency of safeguarding the fauna and flora of the Galapagos Islands and welcomes the project, initiated by the International Union for the Conservation of Nature, for establishing on the Islands an International Biological Station for research and for assisting the Authorities of Ecuador in the task of conservation, and trusts that every support will be given by all concerned to the early and successful realization of this vital project".

The resolutions were passed with acclamation and it was then announced that the next Congress would be held in the United States during 1963. Various changes in the Permanent Committee were announced: Prof. J. G. Baer (Neuchâtel) was elected president in succession to M. Caullery (deceased); P. Pierre-Grassé (Paris), secretary-general in succession to L. Fage (resigned); C. F. A. Pantin (Cambridge) and B. Rensch (Münster), in succession to E. Hindle and A. Kühn (resigned); and representatives of four new countries were added, P. Sawaya (Brazil), M. B. Lal (India), T. Jaczewsky (Poland) and J. Uchida (Japan). The new Committee also includes V. d'Ancona (Padua), H. Boschma (Leyden), S. Horstadius (Upsala), A. R. Jorge (Lisbon), E. N. Pavlovsky (Moscow), G. G. Simpson (New York), R. Spärck (Copenhagen), V. van Straelen (Brussels) and E. Witschi (Iowa City), who continue to represent their respective countries.

With the words "Little bear now makes way for big bear", Sir Gavin de Beer introduced the new president of the Permanent Committee, the towering Prof. J. G. Baer, of Neuchâtel, who then addressed the meeting, thus concluding a very successful zoological congress.

EDWARD HINDLE

THE NATIONAL VEGETABLE RESEARCH STATION

MEMBERS' DAY

THE founders' meeting of the National Vegetable Research Station Association took place at the Station at Wellesbourne on June 12. The Association, membership of which is open to anyone interested, aims to foster closer contacts between the research staff of the Station and all concerned with the various aspects of vegetable production in Great Britain. Members elected officers to manage the Association's affairs, and after the meeting the party made a tour of the Station, and members of the staff spoke about their work and demonstrated aspects of it in the field.

The Plant Breeding Section showed first-generation breeding material of spring cabbage obtained under a project to develop a dual-purpose variety, able to be used either for greens or as hearted cabbage. Also on view were the winter-hardy survivors of a number of lines of peas derived from crosses of the hardy maple type with some of the non-hardy commercial varieties. This work was being undertaken in an attempt to develop autumn-sown wrinkled varieties to extend the canning and quick-freezing season. Brief descriptions were given of work on the breeding of non-bolting bunching beet and disease-resistant lettuce, on the production of hybrid onions, and on the inbreeding of brussels sprouts.

The parts of the Pathology Section's work which were demonstrated were those dealing with parsnip canker, tomato stem rot (*Didymella*) and the *Ascochyta* diseases in peas. The natural resistance of parsnip varieties to canker was being tested; existing commercial varieties showed little or no resistance, but some new selections were promising. Members saw plots of outdoor tomatoes being prepared for fungicide tests on *Didymella*, following previous work showing that captan and maneb would greatly reduce the severity of attack. Other diseases being studied included big vein and botrytis diseases of lettuce, clubroot of crucifers, silvering of red beet and mint rust.

The Chemistry Section concentrated on aspects of its field work and several long-term experiments on the mineral composition of soil and plant, soil structure, and plant growth were shown. One of these experiments had made it clear that for crops like brassicas with a high nitrogen requirement, inorganic nitrogen was better than organic, and that no practical advantage was to be gained from splitting dressings of inorganic nitrogen. A nitrogen-phosphorus-potassium factorial experiment, now in its fifth year, showed that large differences in the responses of various crops to levels of phosphorus and

potassium could occur; thus potatoes and red beet were showing severe symptoms of potash deficiency on those plots which had had none since the experiment began, while cabbage and carrots had not yet shown any such effects. The laboratory work of this section was concerned with the biochemistry of germination and early growth and with the effect of growth-controlling substances on chemical systems.

The calculation of potential evapo-transpiration of a growing crop from meteorological data had been made possible by the work of Penman and others. The Irrigation Section was developing a practical alternative to these calculations for the commercial grower, and showed a gauge which simulated the water-balance of a plant-soil system and allowed the water deficit at any time to be read off directly. The gauge had been found to give better results than other methods currently available to growers. The section also showed experiments designed to detect the existence or otherwise of moisture-sensitive periods in vegetable crops. Such periods had been found to exist in turnips and peas, and knowledge of them was crucial to good irrigation practice.

The Weeds Section was making ecological studies on the weed seed populations in the plots of the long-term manurial and cultivation experiments, and was also studying the dormancy of weed seeds. The successful use of dinoseb (amine) as a residual pre-emergence herbicide for French and runner beans was demonstrated in the field, also a similar use for simazin on sweet corn.

Various aspects of their work on onions were shown by members of the Physiology Section. These included a trial of varieties for their suitability as pickling onions, and experiments on storage-temperature effects with onion varieties used for the production of sets. Fundamental work being done on competition between crop and weed was mentioned, and members saw a field experiment on one of the practical aspects of this work, namely, the timing of early weeding in row crops. Important depressions in final yield in onions had been shown

to result from relatively small delays in the first weeding date.

The Entomology Section presented results from studies on carrot fly and cabbage root fly. Existing methods for controlling carrot fly by seed-dressing followed by top sprays were expensive and sometimes gave but partial control of the pest; new methods using the incorporation of insecticides in the soil were being developed, and low rates of aldrin and dieldrin were found to give complete control of both generations for at least two years. Extensive testing had been done on the effect of soil insecticides on the flavour of carrots and had shown that dieldrin in particular produced little or no detectable changes in flavour. Assays of insecticide residues in the field had been started recently, using *Drosophila*; it had been found that from one application of aldrin at 2 lb. per acre four years previously an appreciable quantity still remained in the soil.

Satisfactory methods for the control of cabbage root fly by insecticides were now known, and attention was being concentrated on the ecology of the pest and the predators of its egg and larval stages. This was begun after it had been found that broadcast application of soil insecticides could lead to increased attack by cabbage root fly larvae. Recent studies showed that some thirty species of insect were predators of the root fly in its early stages and that they could eat 95 per cent of the eggs laid in a season; it was these predators that were being reduced by the broadcast application of insecticides, and the situation illustrated one of the possible dangers in the indiscriminate use of insecticides in the field. Mention was also made of work on lettuce root aphid and on the control of pea moth.

The Statistics Section was concerned with all the mathematical and statistical problems arising in the work of other sections. In particular, results were being accumulated and methods developed for the analysis of plant growth data, with the object of providing more detailed interpretation of long-term field experiments.

J. A. NELDER

THE MECHANICAL ENGINEERING RESEARCH LABORATORY

MORE than 1,700 visitors from industry, universities, technical colleges and other research organizations attended open days at the Mechanical Engineering Research Laboratory on June 4 and 5. All the work at East Kilbride and Thorntonhall was on show and two new laboratory buildings, completed in 1957, were open for inspection for the first time.

The Metrology Building includes a wing, with a floor area of about 6,000 sq. ft., controlled in temperature to within $\pm 0.1^\circ$ of the standard temperature of 20° C. This strict temperature control enables full advantage to be taken of the accuracy of the wide range of precision instruments available for checking the dimensional accuracy of engineering components. The metrology section provides a service to other parts of the Laboratory and to industrial firms ranging from the measurement of surface finish to the certification of the accuracy of large gear-hobbing machines. For the latter work,

equipment has been developed for the autographic recording of errors in alignment between the hob-saddle motion and work-table axis of hobbing machines; errors in alignment of 0.0001 in. over a machine traverse of 5 ft. can be recorded. The Mechanisms, Engineering Metrology and Noise Control Division is also developing automatic machines for precision measurement. A prototype measuring bench has been designed for recording errors in precision lead screws: a moiré fringe technique is used and pitch errors are recorded to an accuracy of 0.0001 in. The Metrology Building also houses an anechoic chamber in which the noise-generating properties of complete machines and their component mechanisms can be measured. Preliminary tests on commercial bearings and precision bearings of the same nominal size have shown that the former were noisier, that speed was an important factor and that the radial and axial loads had no significant effect on the noise generated.