

of this mixture, 4 lb. of superphosphate, 10 lb. of gypsum and a trace-element solution are added. Such practical trials as have been made seem to show that the compost is at least as good as stable manure. Mushroom fructifications increase in size by an average of 30 per cent in twenty-four hours. Growth continues after the veil has opened, and, for the rest, the cropping follows known laws—the more mushrooms per square foot, the smaller they will be.

Chemical work reported by S. Burrows shows that pH values first rise during composting and later fall. Nitrogen is also lost during the process, the loss being greater if the initial amount of nitrogen is relatively high. Studies of carbon dioxide production, the formation of calcium oxalate by the mycelium, and the effect of various substances on the physical nature of the compost should lead to a more fundamental understanding of this special crop. C. J. La Touche, in the Microbiology Department, describes studies on the effect of various substances on the growth of the mushrooms, the micro-flora of composts and beds, and on diseases and competitors of *Psalliota campestris*.

Published about the same time as the report is a new brochure on "Major Diseases and Competitors of the Cultivated White Mushroom" by Fred C. Atkins*. This is mainly a reprint of an earlier publication on major diseases², to which has now been added well-illustrated accounts of three competitors: brown plaster mould, *Papulaspora byssina*; truffle, *Pseudobalsania microspora*; and white plaster mould, *Scopulariopsis fimicola*. Compost disease, *Myceliophthora* spp., mummy disease, and antagonism from *Fusarium* spp. are also described in the new publication. The whole is now an extremely useful compendium upon an otherwise little-known subject.

The Association also publishes the *M.G.A. Bulletin*, a quarterly journal. In addition to the work published in detail in the report of the Association, recent numbers of the *Bulletin* have included a plea by Mrs. M. H. Pinkerton for the cultivation of morels, *Morchella deliciosa* (No. 17, October 1949), and a preliminary note of a new mushroom disease (probably a species of *Acremonium*) by McG. Bulloch (No. 18, January 1950).

* "Major Diseases and Competitors of the Cultivated White Mushroom." By Fred C. Atkins. Pp. 23. (Yaxley, Peterborough: Mushroom Research Association, 1949.) 5s. net.

¹ *Nature*, 163, 337 (1949).

² *Nature*, 163, 796 (1949).

BRITISH SCIENTIFIC INSTRUMENTS AT THE CANADIAN INTERNATIONAL TRADE FAIR, TORONTO

THE names and products of the British firms manufacturing scientific instruments have long been familiar to Canadians. In the early days of the development of industry and the establishment of new and enlargement of older universities in Canada, it was natural enough to call on Great Britain to furnish necessary scientific supplies. Although something like a tradition for British research instruments and pedagogical equipment grew up in the major universities it was inevitable that the increasing production of such articles in the United States should eventually provide a more convenient source. The absence in Canada of agents for the British firms, the unim-

pressive amount of publicity given to their products, and the intolerable delays in delivery, all contributed to the general swing to American products.

It is not proposed here to enumerate in detail the products of the various exhibitors at the recent International Trade Fair held at Toronto. The following were of particular interest: Scientific Instrument Manufacturers' Association, breathing apparatus, optical projection equipment, optical glass, fluid meters, balances, measuring apparatus; Allied Instrument Manufacturers, optometrical equipment; Baird and Tatlock (London), laboratory apparatus and furniture; Baker, microscopes; Barnet Ensign Ross, photographic materials and apparatus, binoculars, telescopes; Cambridge Instrument Co., Ltd., measuring apparatus for engineering, medical and chemical testing; Edwards (London), vacuum pumps and associated equipment; Electrothermal Engineering, laboratory heaters; Everett Edgcumbe, industrial electrical instruments; Hilger and Watts, spectrographs, polarimeters, microphotometers, surveying and drawing instruments, meteorological instruments, petrological microscopes; Kelvin and Hughes, industrial testing instruments; Pullin, electrical measuring instruments, small motors; Pye, instructional equipment in physics; Southern Instruments, transient recorders for engineering laboratories; Sperry, marine and aeronautical navigational instruments; Stanley, instruments of surveying, drawing and meteorology; Townson and Mercer, ovens, baths, stills for testing laboratories; Unicam, optical and X-ray goniometers, spectrophotometers; Watson, microscopes, telescopes; Wray, lenses, prisms, photographic equipment; Zeal, thermometers and hydrometers.

With a few exceptions the outward appearance and evident quality of the goods were excellent, and compare very favourably with the best American instruments.

The exhibition of electrical instruments was surprisingly meagre. Apart from a few pieces of apparatus of novel design and obvious utility in research, the whole series of electronic devices for routine testing and instruction was scarcely represented. One would have thought that such instruments as these, lending themselves readily to mass production, would have been the first to receive attention.

Optical and spectrographic equipment was fairly well represented, and a number of new and valuable research instruments were on view. Apparently no attempt was made to introduce X-ray equipment, apart from cameras and certain crystal analysers. Microscopes and apparatus for photomicrography were attractive. Measuring instruments of all kinds, laboratory furniture, high-vacuum equipment, medical and biological instruments, testing instruments of engineering and chemical laboratories, all had some or other new and attractive features. One could discover nowhere any significant attempt to supply routine instructional apparatus for school and college laboratories.

It would appear that instruments necessarily of limited demand were well represented, while those of more universal application were not shown. Unfortunately, the men in charge of the exhibits were in general not familiar with the details of the apparatus, in some cases not even able to identify certain instruments. Also, they were often unable to quote approximate prices and times of delivery. These criticisms, alas, can be justifiably applied all too often at exhibitions of scientific interest.