

Staffing of Grammar Schools

IN July 1953, a sub-committee of the North-West Division of the Incorporated Association of Headmasters instituted an inquiry into the qualifications, length of service, age distribution and extra remuneration of the teaching staff in the boys' and mixed grammar schools in the area covered by the counties of Lancashire and Cheshire. The inquiry was also concerned with the size of schools, the strength of sixth forms, and at a later stage the academic qualifications and ages of headmasters. The main intention of the survey was to throw light upon the known shortage of teachers in some subjects taught in grammar schools, to view the deployment of specialist and other teachers, and to study the way in which special responsibility allowances which supplement the basic Burnham Salary scales had been awarded. The survey was conducted by W. E. Egner of the Grammar School, Ormskirk, and A. Young of the University of Liverpool. Their report (pp. 20; from the University of Liverpool; 1954; 2s.) presents summarized details of the more interesting information elicited by the inquiry, special attention being paid to teachers of science and mathematics; the information analysed has been obtained from sixty-six grammar schools.

National Institute for Research in Dairying, Shinfield: Report for 1953

IN the annual report of the National Institute for Research in Dairying of the University of Reading for 1953 (pp. 138+1 plate; from the Institute, Shinfield; 1954; 3s.) the policy of 1952 has again been adopted of presenting in outline a selection of the advances that have been accomplished during the year under review, particularly some of those with a more practical and obvious interest. This is a very useful measure and serves also to pin-point some of the highlights of research of this team of distinguished scientists. There is still the customary series of extended summaries of researches in progress (or recently completed), and these, together with notes on staff and their publications, constitute a closely packed volume of 138 pages. The director of the Institute, Prof. H. D. Kay, points out that in the selection of advances which have been summarized in brief the choice is of necessity arbitrary and omits reference to much of the work in progress. The product of a collaboration with Sir Charles Dodds and members of his staff at the Courtauld Institute of Biochemistry, London, has been the finding of two isoflavones with oestrogenic properties (but far less active, weight for weight, than the naturally occurring oestrogens synthesized by the animal), biochanin A and formononetin, which have been isolated in a pure form from red clover. They have approximately the same oestrogenic activity as the closely related genistein, which is believed to be responsible for much of the oestrogenic activity of subterranean clover. Many of the other advances are of very great interest and importance to the industry, and Prof. Kay and his colleagues are to be congratulated on this outstanding record of achievement.

Enzymic Decarboxylation of γ -Methyleneglutamic Acid by Plant Extracts

THE enzymic decarboxylation of γ -methyleneglutamic acid by various plant extracts has been demonstrated by L. Powden (*J. Exp. Bot.*, 5, 28; 1954). He has shown that γ -methyleneglutamic acid,

an acidic amino-acid isolated from groundnut plants, was decarboxylated by enzymes present in extracts of *Capsicum* fruits, barley roots and tulip leaves, and also by intact cells of *Clostridium welchii* S.R. 12. The amino-acid was attacked in a similar manner to, but in all cases at a slower rate than, *l*-glutamic acid. The nature of the enzyme responsible for the decarboxylation of γ -methyleneglutamic acid was further investigated, using preparations from barley roots (which do not contain the amino-acid) and from tulip leaves (in which the amino-acid is normally present, together with larger amounts of its amide form, γ -methyleneglutamine). The effects of pH, inhibitors and partial heat denaturation upon the enzyme systems present in the barley and tulip extracts indicated that a single enzyme was responsible for the decarboxylation of both *l*-glutamic acid and γ -methyleneglutamic acid. Although the *Cl. welchii* rapidly deamidated and then decarboxylated *l*-glutamine, γ -methyleneglutamine was not attacked by the organism.

Bowen Prizes for Papers on Scientific Instrumentation

THE Institute of Physics has awarded Bowen Prizes of fifteen guineas to the following for papers published in the *Journal of Scientific Instruments* during 1953: A. G. Milnes and T. V. Vernon (jointly), Royal Aircraft Establishment, Farnborough (saturable-core reference source for use with magnetic amplifiers); G. D. Dew, National Physical Laboratory, Teddington (preparation of plane diffraction grating replicas for helical rulings); and G. D. Archard, Research Laboratory, Associated Electrical Industries, Ltd., Aldermaston (magnetic electron lens aberrations due to mechanical defects). The Prizes are awarded to persons less than thirty-five years of age for papers of originality, scientific value and practical utility to instrument makers and users. The money is provided by the Scientific Instrument Manufacturers' Association of Great Britain, Ltd., from the Bowen Trust Fund established by the late Mr. William Bowen.

University Teachers: Conference in Vienna

THE eighth Conference of University Teachers, organized by the International Association of University Professors and Lecturers, will be held in Vienna during September 9-14 at the University of Vienna and at the Vienna Hochschule für Welthandel, under the chairmanship of Prof. Francesco Vito, of Italy. The Conference will be open to all members of the Association and of its affiliated national associations of university teachers, to university administrative staff, and to others directly interested in matters of university education; university institutions in which there are, as yet, no sections of the Association are invited to send representatives of their teaching staff. The topics to be considered include the following: relations between scientific research in the universities and in industry; selection of students for university entrance (in particular, the systems and the extent of their assistance from public funds, bursaries, scholarships, etc.); conditions of employment of university teachers abroad, and the contractual obligations involved; main obstacles to the international exchange of university teachers; and methods of international co-operation in the university and scientific spheres. A registration fee of £1 will be charged. Further details can be obtained