

1949 on the growth of sitka spruce and Corsican pine (Wykeham, Allerston Forest, Yorkshire) and of the sitka spruce and Scots pine (Clashindarroch, Aberdeenshire) have now been completed and certain conclusions have been drawn. The most important limiting factor affecting the growth of spruce in the Yorkshire plantations is a deficiency in the available nitrogen. An increase in the growth of the trees can be obtained, at least temporarily, by removing the heather vegetation around the trees (screefing). Other more expensive measures may be undertaken. In the absence of the heather, when nitrogen is no longer deficient, calcium tends to become a limiting factor. In the Clashindarroch plantation, nitrogen and calcium are both deficient; but manganese may also play an important part, since screefing and heather mulching employed to stimulate growth may also lead to an increase in the manganese concentration in the needles. Both Scots and Corsican pines appear to be less affected than spruce by mineral nutrient deficiencies in the heathland soils, though in the latter case the removal of the heather also effects an improvement in the nitrogen status of the trees in their stimulation to growth. As may be expected, the removal of the ground vegetation during periods of dry weather may lead to excessive desiccation of the upper layers of the soil and thus affect the shallow-rooted spruce, a difficulty well known to foresters who undertake such work in tropical countries with shallow-rooted species.

E. P. STEBBING

WOOL INDUSTRIES RESEARCH ASSOCIATION REPORT FOR 1954-55

THE report of the director of research of the Wool Industries Research Association, Dr. A. B. D. Cassie, for 1954-55* refers to the development of ion-exchange methods of analysing liquids which contain soap, fatty acid and wool grease and its extension to the analysis of solutions with anionic, cationic and non-ionic detergents and wool grease; in particular, emulsions of 'Lissopol N' with soap and grease can be separated quantitatively. The glass-type of apparatus for the rapid extraction of soap and grease from wool has now been superseded by an all-metal type. The automatic controller for the woollen card has now proved successful in a number of mills; this is part of a general programme on carding to determine how far a card may be simplified without reducing the quality of its product. The main obstacle to reduction of the number of cylinders on a card appears to be the removal of neps. Results with the pilot worsted drawing and spinning plant have emphasized so much the importance of machine settings that work is now proceeding on methods to determine the optimum settings for any lot of wool.

Much work has been carried out on the best regain and relative humidities for drawing and spinning wool, as well as on the weaving process and on the effects caused by the tension variations that can arise as yarn is pulled from cops or pirns as in the loom shuttle. Work on mothproofing has indicated the conditions of application that lead to

adequate absorption of the moth-proofing agent by the wool and has also shown that application at lower temperatures gives lower resistance to washing. Further studies have been made of the continuous scouring of worsted yarn with synthetic detergents and soap, and of the effect of dyeing processes on the properties of wool, including the use of liquor containing ammonium salts. In the Scottish Laboratory a major cause of the variation in length of yarn wound on per draw of mule has been identified and eliminated. In biology, radioactive materials show considerable promise for examining the processes in the follicle that lead to the formation of fibres. The amino-acid composition of a homogeneous sample of Australian Merino 64's quality wool has been determined, as well as the lanthionine contents of wools which had received alkali treatment, and a new method for cystine analysis has been devised. Work on the generation and dissipation of static electricity is now being applied to separate static and adhesion forces so far as fibre pick-up on rollers is concerned.

At the thirty-sixth annual general meeting of the Association on March 29, when Dr. Cassie's report was presented, the chairman, Mr. J. F. Beaver, referred also to the close liaison maintained with the Work Study Centre of the Wool and Allied Textile Employers' Council in the detailed investigation of the relative merits of the automatic and non-automatic looms. Mr. Beaver also stressed the continued development of the Association's educational activities, particularly in regard to the dissemination of information about the research work of the Association. He remarked on the support given to the Morley Careers Exhibition, held during February 2-9 last, with the object of assisting recruitment of laboratory assistants and also of demonstrating the industry's interest in research. In addition, he referred to the International Conference on Wool Research to be held in Australia this summer at the invitation of the Commonwealth Scientific and Industrial Research Organization (see *Nature*, April 16, p. 667), at which the Association will be represented.

UNIVERSITY COLLEGE, LONDON ANNUAL REPORT FOR 1953-54

IN the annual report of University College, London, for 1953-54, the chairman of the College Committee, Lord Cohen, and the Provost discuss the progress of the College during the present quinquennium.

In the early years of the quinquennium, departments had to reduce their requirements for new equipment to a degree that threatened in some instances the proper progress of their advanced work and research; the situation has now been so restored that, in spite of stringency, it has been possible to undertake a useful programme for the supply of capital equipment. Further, the institution of a modest number of new posts has been possible and some long-awaited developments have been realized. Thus, while the session has still been one of consolidation, it has also been one of encouraging progress.

This was made possible largely by the increase made through the Court of the University in the grant from the University Grants Committee and the Home Counties. In 1952-53 this had amounted to

* Wool Industries Research Association. Report of the Director of Research for 1954-55. (W.I.R.A. Publication No. 201.) Pp. 31. (From the Association, Leeds, 1955.)