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THE political and economic changes which have followed two world wars are reflected in the annual reports of the Princes Risborough Laboratory. During its forty years in operation emphasis has passed from the study of overseas products to the investigation of native grown timber. This is most apparent in its latest report and makes it of considerable interest for workers in this country where the economic importance of native timbers will assume, before many more years, greater significance.

Indicative of the interest in timber as a material for structural engineering use, is the growing importance of measuring its quality in direct relation to the working stresses which it can withstand, the so called system of *"stress-grading"*. Already legislative requirements in the U.S.A. and Canada prescribe the use of stress-graded timber in the construction of houses, while a recent redrafting of the B.S. Code of Practice on the Structural Use of Timber in Buildings makes provision for its introduction in England. Present methods of stress-grading rely on visual inspection, and as the present report indicates, a piece of timber containing knots may in fact be stronger than a piece free from defects. An outstanding piece of work at Princes Risborough in the past year has been the development of a machine which can measure the deflection of timber, under a predetermined fixed loading, at a working rate of 80 ft. per minute. Much higher speeds have been claimed and the possibilities of adapting such a machine to commercial use for stress-grading by direct measurement are intriguing. At present it can handle only planed timber but its adaption to measuring rough-sawn material is under study.

The 1961 report referred to an examination of a shipment of *Pinus contorta* from Blessington, Co. Wicklow, and stated that in fibre length it was similar to Sitka spruce of the same age and superior to Scots pine. An investigation of the pulping properties of *Pinus contorta* grown from 19 different provenances in North Wales and Yorkshire, to which the present report refers, has disclosed considerable differences. These differences could be levelled out by controlling the cooking process, and kraft pulps of acceptable quality in 45-48% yield were produced. These results are significant for the Irish wrapping paper and board industries, and they lend additional interest to a species which was found in the earlier report to be comparatively free from spiral grain and potentially a useful constructional timber.

Limitations of space preclude reference to the other important work of this laboratory and particularly the growing importance of the activities of the newly formed science section; its engineering section has a long-established reputation. Of the 'ad hoc' investigations, a

work-study of the conversion of Sitka spruce at a Scottish sawmill, and the utilisation of small softwood thinnings by conversion into shavings, for use as cattle bedding and poultry litter, merit mention because of their interest for Irish workers.

Mr. J. Bryan, formerly Deputy-Director, has been appointed Director of the laboratory, and is succeeded by Mr. F. H. Armstrong. The new Deputy Director is a Co. Down man who graduated from Queen's University and spent a considerable part of his early life in Dundalk.

D.T.F.