physiological races of the parasite. Six of these races have already been recorded in North America or Europe; but the others are believed to have been hitherto unrecorded. One new race was also isolated from diseased flax sent from Pakistan. All the races found occurring in England, Scotland or Wales have been recorded as occurring in Northern Ireland. All the fibre varieties of flax commonly grown in the British Isles are susceptible to all the British races of the fungus. The fibre varieties, *Textilshchik*, U.S.S.R. No. 2, 1288/12 and *Stakhanovets*, developed for rust resistance in the U.S.S.R., as well as the rust-resistant variety *Wada*, bred in Australia, proved immune to all the British races. These results show substantial agreement with those previously obtained in Northern Ireland for the reaction of these varieties in the field, with the exception that 1288/12 was susceptible in field trials in certain years. It is suggested that the difference between the results of field trials and those where known races of the fungus were used for inoculation purposes may be attributed to more races being involved under field conditions than have yet been differentiated. These studies demonstrate that resistant varieties exist to provide the basis for the production of varieties which will combine the quality of rust resistance to British races of the parasite and high yield of good-quality fibre.

The important problem of weed control in the flax crop was dealt with by Mr. K. Holly, of the Oxford Unit of Experimental Agronomy, who emphasized the fact that flax cannot compete effectively with aggressive or perennial weeds. As it is the fibre in the stem of the flax plant which is the economic product, the use of selective herbicides for flax must be carefully studied for adverse effect on the straw as well as for effectiveness of weed control. In the course of experimental work with weedicides on crops in south and east England, sulphuric acid, ammonium sulphamate and ammonium thiocyanate were quickly discarded because of the excessive damage caused. Although, at equivalent dosages, cupric chloride had more adverse effect on flax than cupric sulphate, from three to five times as much cupric sulphate was needed to give a comparable degree of weed control. Dosages of cupric chloride of 10–20 lb./acre in 100 gallons of water had no adverse effect upon the yield of deseeded straw or scutched fibre at the 4–6-in. growth stage. Sodium dinitro-*o*-cresylate could be used at 6 lb./acre before the flax is 10 in. high without undue risk, and approximately the same finding held for the sodium salt of 2-methyl-4-chlorophenoxyacetic acid used at 1 lb./acre. Experiments on weed-free crops showed that the safety limits for cupric chloride and sodium dinitro-*o*-cresylate were small, whereas they appeared to be greater for sodium methyl-chlorophenoxyacetate. Since 1945 the work has been confined to a comparison of the effectiveness of commercial formulations of the sodium salts of 2-methyl-4-chlorophenoxyacetic acid and 2,4-dichlorophenoxyacetic acid. The use of the sodium salt of the methyl-chloro compound at 1 lb./acre or less, with a maximum resistance when the crop was 4–6 in. high, was found to be safest for the variety *Liral Prince*. With the advent of low-volume spraying, further experiments showed that this method entailed a greater risk of damage than medium- or high-volume applications. The results of the work considered as a whole suggest the recommendation of the use of sodium methyl-chlorophenoxyacetate for weed control in the flax crop in England. A dosage-rate of

$\frac{1}{2}$ lb./acre should not be exceeded, and it should be applied between the cotyledon stage and the attainment of a crop height of 6 in. Low-volume spraying is probably undesirable. These findings are not altogether in keeping with those for other countries, and, although the reason for this is not clear, it may be concerned with the flax variety grown. Apart from weed control, the effect of synthetic growth regulators upon the anatomy of the flax straw and the consequent effect upon the yield of fibre suggests a most interesting field of study.

In opening the discussion, Mr. E. V. B. Wilson, of the Plant Breeding Division of the Ministry of Agriculture, Northern Ireland, suggested that selection in flax is not aided by any known correlation of desirable economic characters with any constant and easily observable morphological characters, and that none of the nine standard Russian flax varieties is satisfactory for all economic requirements. Unfortunately, this also holds for the United Kingdom, where work by plant pathologists in Northern Ireland has shown that the popular modern varieties of fibre flax are very susceptible to disease generally and probably more so than the older brands referred to by Major Searle. Mr. Wilson was of the opinion that breeding for disease resistance in flax and other crops is most essential and that the closest co-operation between the breeder and plant pathologist is highly desirable. Dr. J. Ramsbottom emphasized the sudden character changes liable to occur, particularly in the parasite, which may render a resistant host-plant susceptible. A good example of this, he said, is presented by the cereal rusts; but it is a problem which has to be faced. Prof. Muskett said that one hopeful aspect of the work on flax rust in Northern Ireland is the fact that one or more of the Russian flax varieties used has shown immunity to all the physiological strains of the parasite employed. With regard to resistance to flax wilt, Major Searle pointed out that tests made in Northern Ireland show the variety *Norfolk Queen* to be highly resistant to this disease.

Further discussion was debarred owing to the shortage of available time, but it is clear that the meeting did much to bring to light the difficulties facing the breeder of improved flax varieties, especially in view of the changing methods adopted in the linen industry. It also showed the desirability of producing seed in areas where the seed-borne disease factor is relatively unimportant, and for disease resistance to be taken into account by the breeder. Although a considerable advance has been made in the investigation of spraying with selective herbicides for weed control, the solution of this problem still awaits completion.

OBITUARIES

The Right Hon. Lord Robinson, O.B.E.

By the sudden death in Canada on September 5 of Lord Robinson of Kielder Forest and Adelaide, Great Britain has lost its foremost forester. An Australian by birth and early upbringing, he was one of the first of the Rhodes Scholars and seldom, indeed, can the Rhodes Foundation have made a better choice. His academic forestry knowledge was acquired under that wise old forester, Sir William Schlich, then professor at Oxford, of whom Robinson often spoke in later days with affection and respect.

A public servant since 1909, the whole of Robinson's long career was devoted to the cause of British forestry. The Forestry Commission, of which he was successively technical commissioner and chairman, owed its existence and policy very largely to his initiative and organizing ability.

Made a peer in 1947 in recognition of his outstanding services, he was the first forester to receive that honour. Characteristically, he took his title in part from the Border Forest of Kielder. The largest of the new forest blocks of his creating, it was also the one of which he was the most proud, partly perhaps because it exemplified the wisdom of his policy of proceeding step by step from the known to the unknown. It was not until the success of the pioneer afforestation at Smales in the Kielder area was reasonably assured that he agreed to the acquisition of the further large blocks which now comprise Kielder and the adjoining forests in the Border country.

Robinson's extensive tours of the forests in Great Britain and throughout the Commonwealth, as well as in many parts of Europe, reinforced by a remarkably retentive memory, gave him a uniquely wide experience of all branches of forestry. It was this wealth of experience which made him such a stimulating guide in the forest.

Robinson's approach to silvicultural problems was essentially scientific, and although administrative work took up a large part of his time, his own contributions to our forestry knowledge were of no mean order. We owe to his fertile mind the highly original basis of the construction of our British yield tables which were built up from the measurements of 1,000 sample plots recorded in woodlands in the process of being felled during the First World War. Had it not been, too, for his foresight, all record of the rate of growth of these woods would have been irretrievably lost. Moreover, he was probably the first forester in any country to realize the importance of statistical lay-outs and analysis in field experimentation; in the early 1920's, he enlisted the aid of R. A. Fisher, then at Rothamsted, in order to ensure that the techniques being developed there for agricultural experiments were applied also to appropriate problems in forestry.

Lord Robinson's fine physique and handsome presence made him a conspicuous figure in any gathering. Inclined to be austere in the office, his reserve melted almost magically as soon as he got among his trees, when he was extremely good company. It was not until about two years ago, when an accident on one of his inspections of the Border country led to a serious illness, that he was obliged to curtail his outdoor activities to some extent; though even then he continued to cover an astonishing amount of ground, using a 'land rover' to get about over the forest tracks.

His many-sided gifts showed perhaps to the greatest advantage when he was presiding over a large meeting. Those who attended the Empire Forestry Conference held in South Africa in 1935 will long remember the tact and imperturbable good humour with which he conducted its affairs. It was while attending, as head of the British delegation, the Sixth Commonwealth Forestry Conference in Canada, that a sudden attack of pneumonia proved fatal. So at the height of his fame and almost at the end of his long and honourable career in the public service, a great man has departed; the nation is the poorer for his loss.

W. H. GUILLEBAUD

Sir Frederic Kenyon, G.B.E., K.C.B.

SIR FREDERIC KENYON, who died on August 23, gave forty-one of his eighty-nine years to the service of the British Museum. For the last twenty-one of them he was director and principal librarian. Born in 1863, the seventh of the fifteen children of John Robert Kenyon, Q.C., he laid the foundations of his classical learning as a scholar of Winchester and of New College, Oxford. First-classes in Moderations and in *Literæ Humaniores* led to a fellowship at Magdalen in 1888, and a year later he won the Chancellor's English Essay prize. In 1889 he entered the Department of Manuscripts of the British Museum, where he devoted himself to the cataloguing of the extensive and increasing collection of papyri. It was virtually an unworked field and a particularly attractive one for a brilliant young scholar. He made his name two years later by the discovery, publication, and translation of Aristotle's lost treatise on the Athenian Constitution. The text of this was edited for the Berlin Academy in 1904 and for the Clarendon Press in 1920. Other discoveries among the literary papyri were the Mimes of Herodas, an unknown speech of Hyperides, and twenty odes of Bacchylides, the latter from a roll acquired by the Museum in 1896. In 1899 appeared his well-known "Palaeography of Greek Papyri". Other fruits of his scholarship were the "Catalogue of Greek Papyri in the British Museum" (vol. 1, 1893; vol. 2, 1898; vol. 3, 1907) and "Facsimiles of Biblical Manuscripts in the British Museum", published in 1900. In addition to these official labours, he published in 1895 "Our Bible and the Ancient Manuscripts", a classic in this field and many times reprinted.

In 1909 he was chosen to be director of the British Museum at an unprecedentedly early age and in preference to not a few colleagues of senior rank and of great eminence in their different fields. It was a difficult situation calling for exceptional tact and wisdom. These qualities Kenyon possessed to the full, and with them urbanity, fairness, and administrative ability of the highest order. Never was the Museum more wisely and fairly governed; never had its prestige been raised to a higher level. Classical studies had sharpened his critical faculties, enabling him to lay bare with penetrating clarity the essentials of the most difficult problem. His capacity for business, coupled with firmness and courtesy, made him a model chairman, and he was at various periods president of the British Academy, of the Hellenic Society, of the Society of Antiquaries, and warden of Winchester College. In 1918 he was selected as adviser to the Imperial War Graves Commission.

After his retirement in 1930, Kenyon gave himself largely to biblical studies, an early love, and to textual criticism in particular. He edited a series of biblical papyri which Mr. Chester Beatty had brought from Egypt, publishing the fruits of his labours in "Recent Developments in the Textual Criticism of the Greek Bible". To this work, produced in 1933, he added in 1948 "The Bible and Modern Scholarship", small in size, but weighty in content. A work of more popular appeal but not less scholarly was his "Books and Readers in Ancient Greece and Rome", which had appeared in 1932.

He was an honorary graduate of many universities. Many honours and decorations had fallen to him; but it is probable that he prized none more highly than the T.D. which marked his long connexion with the Territorial Army and with the Inns of Court Regiment