

with soil investigations. Our knowledge of and methods of soil investigation are, however, not sufficiently advanced, particularly in connexion with permanent crops such as rubber, to enable recommendations to be made in many cases from the results of a soil analysis alone. Short and rapid methods of analysis are being investigated, and valuable information is being obtained as to probable soil deficiencies, particularly in nitrogen and potash, from field observations. The problem is specially important in relation to the manuring or rejuvenation of very poor areas of rubber. Other work in the same division is concerned with soil conservation and bacteriology, and studies of the relation of soil fungi and bacteria to the soil humus and of the value of leguminous and green cover crops to soil bacteria have been commenced.

The botanical division has reported considerable progress in such practical problems as budding, and investigations on the artificial pollination of flowers (from various classes on Pilmoor estate) and on seed selection have continued. No new diseases of importance are reported, but the pathological division directs attention to the urgent need for a thorough investigation of the relative value of well-known fungicidal chemicals compared with proprietary fungicides. Many of the latter are equally effective, and their use is determined chiefly by relative cost. A determination not only of the fungicidal properties but also of their penetrative effect on the parts of the plant treated is required. Differences in penetrative power affect the toxicity, and this is specially important in regard to bark renewal on the tapping panel. The problem of 'mouldy rot' caused by the fungus *Sphaeronema fimbriatum* is one of special interest in regard to fungicidal treatment, which is also important in the case of secondary leaf fall due to the mildew fungus *Oidium Heveae*, owing to the danger of the fungus becoming more adapted to the host.

Investigations at the Institute have thrown new light on the origin and incidence of 'brown bast'. Chemical and bacteriological investigations of the production of white sole crepe—the demand for which is regarded as retrograde—the preservation of latex, effects of moulds on rubber, and on various factory problems are reported; while considerable progress has been made on the experimental station, 905 acres out of the approximately 2000 acres having now been opened: 571½ acres of this have been planted and preliminary records of value should be available during 1930. The value of treating young rubber with cattle manure on a particular type of soil has already been demonstrated.

### University and Educational Intelligence.

CAMBRIDGE.—The Appointments Committee of the Faculty of Physics and Chemistry has appointed Mr. P. M. S. Blakett, King's College, to be University lecturer in physics; Dr. P. J. Durrant, of Selwyn College, and Dr. F. P. Bowden, of Gonville and Caius College, to be University demonstrators in chemistry.

The General Board has recommended that a readership and a University demonstratorship in geophysics be established in the Faculty of Mathematics, and that Dr. H. Jeffreys, of St. John's College, be appointed reader.

Dr. J. Wishart has been appointed University lecturer in statistics in succession to Mr. G. Udny Yule, who has been appointed reader in statistics.

The Sedgwick Prize for 1931, for an essay on geology, has been awarded to Dr. C. E. Tilley, of Emmanuel College.

LONDON.—The following doctorates have been awarded: *D.Sc. in Chemistry* to Mr. A. M. Ward, Birkbeck College, for a thesis entitled "Investigations on the Bivalency of Carbon", consisting of four published papers (*Jour. Chem. Soc.*, 1927, 1929, 1930); *D.Sc. in Physics* to Mr. S. H. Piper, King's College, for a thesis entitled "X-ray Studies of Long-chain Compounds", comprising three published papers (*Jour. Chem. Soc.*, 1929; *Trans. Far. Soc.*, 1929; and *Proc. Roy. Soc.*, A, 1930); *D.Sc. in Entomology* to Mr. W. J. Hall, Imperial College—Royal College of Science, for a thesis entitled "The South African Citrus Thrips in Southern Rhodesia" and "Observations on the Coccidæ of Southern Rhodesia", parts 1-3, and eight subsidiary contributions; *D.Sc. in Geology* to Dr. A. Brammall for a thesis entitled "Gold and Silver in the Dartmoor Granite" (*Min. Mag.*, vol. 21, 1926), "The Dartmoor Granite" (*Proc. Geol. Assoc.*, vol. 27, 1926), "Dartmoor Detritals—A Study in Provenance" (*Proc. Geol. Assoc.*, vol. 39, 1928), "Notes on Fissure-Phenomena and Lode-Trend on Dartmoor" (*Trans. Roy. Geol. Soc. of Cornwall*, vol. 16, 1928), and eight subsidiary contributions.

DURING the seventh year of the Ella Sachs Plotz Foundation for the advancement of scientific investigation, seventy-eight applications for grants were received by the trustees, sixty-two of which came from twelve different countries in Europe and Asia, the remaining sixteen coming from the United States. The total number of grants made during this year was twenty-five, one of these being a continued annual grant. Twenty-one of the new grants were made to scientific workers in countries outside the United States. In the seven years of its existence, the Foundation has made one hundred and twenty grants and investigators have been aided in the United States, Great Britain, France, Germany, Austria, Hungary, Switzerland, Italy, Sweden, Esthonia, Czechoslovakia, Poland, Chile, Syria, and Belgium. Applications for grants to be held during the year 1931-32, to be sent to Dr. Joseph C. Aub, Collis P. Huntington Memorial Hospital, 695 Huntington Avenue, Boston, Massachusetts, should be in the hands of the Executive Committee before May 1, 1931.

THE Carnegie Trust for the Universities of Scotland has allocated, as grants for the quinquennium ending September 1935 for universities and extra-mural institutions respectively, £224,700 and £34,325. Since the Trust's operations began, in 1902, the total grants have been distributed as follows: for libraries, £159,850; buildings and permanent equipment, £905,101; endowment of chairs, lectureships, and pension schemes, etc., £437,701; other purposes, £143,730. A noticeable feature of the last quinquennial allocation is the assistance towards such student purposes as residential halls, students' unions, and playing fields, which have always specially appealed to the Trust. Assistance to students in payment of class fees for 1929-30, accounting for nearly half of the Trust's expenditure, amounted to £56,316, distributed among 4531 beneficiaries. Voluntary repayments by 54 former beneficiaries (21 men and 33 women) amounted during the same year to £2036. Apart from the quinquennial grants scheme and assistance to students, the Trust spent last year on fellowships, scholarships, and other grants for the endowment of research, £19,516. Under its research scheme the Trust recently instituted senior scholarships, of the annual value of £200, to provide, in particular, for the Ph.D. candidate, who must generally be engaged for three years at post-graduate work before he presents his thesis for that degree.