Friday, February 11, and on Saturday, February 12, on "Energy Relationships in Enzyme Reactions." In addition to members of the academy, attendance is limited to those invited to participate.

LORD DE LA WARR, chairman of the British Agricultural Research Council and director of home flax production at the Ministry of Supply, is visiting Canada to speak throughout the Dominion on the war-time agricultural effort of the United Kingdom.

A PERMANENT collection of chemical compounds isolated from the tubercle bacillus, the only such collection in existence, was presented to Yale University by the National Tuberculosis Association on February 3. The collection, which is the result of seventeen years of research by Professor R. J. Anderson, of Yale, and his associates, will be presented by Dr. Lewis J. Moorman, president of the National Tuberculosis Association, and will be received by President Charles Seymour, of the university. The ceremony will be held in the Sterling Laboratory of Chemistry. Dr. William Charles White, chairman of the Committee on Medical Research of the National Tuberculosis Association, will speak on the work of his committee, which initiated the research in 1926 and which has supported the work since that time.

THIRTEEN bound volumes of the research bulletins of the Missouri Agricultural Experiment Station, with inscription on the outside front cover, "A token of friendship to our Russian allies from the citizens of Columbia, Missouri, U. S. A.," have been received by the National Council of American-Soviet Friendship from Dr. Henry E. Dent, dean of the Graduate School of the University of Missouri. These volumes have been handed over to the Soviet Embassy in Washington which will forward them to the chief of the Agricultural Library of the Lenin Academy of Agricultural Science, Moscow.

THE University of Rochester in cooperation with the Bausch and Lomb Optical Company, is offering a new scholarship plan designed to bring "outstanding science students to the university." Five scholarships, sponsored by the company, of the value of $500 each year for a term of three years, will be made available for competition beginning this year.

A DIAGNOSTIC and guidance clinic for inebriates will be opened at Yale University this month under the joint sponsorship of the Yale Laboratory of Applied Physiology and the Connecticut Prison Association. A similar clinic will also be opened in Hartford in the near future. Dr. Ralph Banay, psychiatric consultant of the New York State Parole Board, formerly chief psychiatrist of Sing-Sing Prison, will be the medical director and will supervise both the New Haven and Hartford clinics, with Dr. Clements C. Fry, psychiatrist, of the department of health of Yale University, as adviser. Dr. Banay will also participate in the routine clinical work. Dr. Anna Roe will be in charge of psychological testing, and Raymond G. McCarthy of social work. Dr. Howard W. Haggard, director of the Laboratory of Applied Physiology at the university, will have general charge of the clinic program.

DISCUSSION

AMORPHA FRUTICOSA CONTAINS NO ROTENONE

ROTENONE and related insecticidal compounds have been reported to occur in more than 70 species of plants,[1, 2] all of which are members of the family Leguminosae. In some cases rotenone or one of the rotenoids[3] has been isolated and characterized. In others a color test has been applied which has been taken as indicating the presence of this group of compounds. The test most frequently used is that of Durham.[4] The Gross-Smith test as modified by Goodhue[5] and the Rogers-Calamari test[6] also have been applied. Until recently these tests have been accepted as specific for rotenone and the rotenoids, especially when applied to leguminous plants. In 1942 Harper[7] showed that some synthetic furanoisoflavones also give a positive Durham test. These compounds, prepared from some of the rotenone derivatives, are insecticidally inert.

In 1937 Moore[8] concluded that rotenone was present in the roots, stem bark and seed of *Amorpha fruticosa* from Nebraska, because they gave a positive Durham test. In 1942 Featherly,[9] of the Oklahoma Agricultural and Mechanical College, suggested that, inasmuch as this plant is widely distributed throughout the Mississippi River Valley, its seed might serve as a source of rotenone during the war emergency. At his request seed from widely different locations were examined in the Bureau of Entomology and Plant Quar-

[1] H. A. Jones, *U. S. Bur. Ent. and Plant Quar.*, E-571, 14 pp., 1942. [Processed.]
[2] R. C. Roark, *Jour. Econ. Ent.*, 26: 587, 1933.
[3] R. C. Roark, *Jour. Econ. Ent.*, 33: 416, 1940.
[4] H. A. Jones and C. M. Smith, *Ind. Eng. Chem., Anal. Ed.*, 5: 75, 1933.
[5] L. D. Goodhue, *Jour. Assoc. Off. Agr. Chem.*, 19: 118, 1936.
[6] H. D. Rogers and J. A. Calamari, *Ind. Eng. Chem., Anal. Ed.*, 8: 135, 1936.
[7] S. H. Harper, *Jour. Chem. Soc.*, 1942, 595.
[8] R. H. Moore, *Puerto Rico Agr. Expt. Sta. Rept.*, 1937, 115 pp.
[9] *Agricultural Insecticide and Fungicide Assoc. Bul.* No. D-23, 2 pp., Oct. 7, 1942.

antine for their supposed rotenone content. Although all the samples gave a positive Durham test and Gross-Smith-Goodhue (G-S-G) test, no rotenone or any of the rotenoids could be isolated from any of them.

However, fractionation of the chloroform extractives of the seed collected at Vermillion, S. Dak., by the Soil Conservation Service yielded a compound that melted at 151–151.5° and gave a positive reaction in both the above mentioned tests. The name "amorphin" is proposed for the new compound. Analysis showed it to correspond to the formula $C_{33}H_{40}O_{16}$. The compound gave a positive orcin test but did not reduce Fehling's solution. When warmed in concentrated hydrochloric acid, the compound readily dissolved, and when further heated a product separated that after purification melted at 191–192°. Analysis showed it to correspond to the formula $C_{22}H_{22}O_7$. It also gave a positive reaction in both the Durham and the G-S-G test. The compound, tentatively designated "amorphigenin," also was obtained from the ether extractives of the seed. The acid filtrate obtained in the hydrolysis of amorphin readily reduced Fehling's solution.

It thus appears that *Amorpha fruticosa* contains a glycoside which, as well as its aglycone, behaves similarly to rotenone in certain color tests. Details of the experimental procedure will be published elsewhere.

FRED ACREE, JR.
MARTIN JACOBSON
H. L. HALLER

BUREAU OF ENTOMOLOGY AND PLANT QUARANTINE,
AGRICULTURAL RESEARCH ADMINISTRATION,
U. S. DEPARTMENT OF AGRICULTURE

POST-WAR PLANNING IN RUSSIA

ISSUE No. 20 of the *Astronomical Circulars* published by the Bureau of Astronomical Information of the Academy of Sciences of the U.S.S.R., dated August 13, 1943, contains an interesting plan by D. J. Martinov for the construction of a large southern astrophysical observatory. This plan was apparently presented at a conference of astronomers last September, together with reports by G. A. Shajn and I. A. Dukov on the development of astrophysics and positional astronomy in the U.S.S.R. The destruction of the Pulkovo Observatory has made it necessary to reconsider former plans, and it is now suggested that Pulkovo be reestablished as a center of positional work, together with the Engelhardt Observatory near Kasan, the Nikolaeff Observatory and the Tashkent Observatory. Astrophysical work, on the other hand, is to be largely transferred to a new powerful observatory for which the city of Simferopol in the Crimea has been suggested. This institution is to consist of a central office in or near Simferopol, and of three observing stations—a mountain station at an elevation of about 2,000 meters (presumably in the mountains south of Simferopol); a high-altitude station for solar research at 3,500 meters, and a southern station, possibly in Africa. The equipment is to consist of two 80-inch reflectors (at Simferopol and in Africa), one 120-inch reflector (at the mountain station), two 16-inch double astrographs, one 50-inch and one 30-inch Schmidt telescopes, solar towers similar to those of Mount Wilson, a nebular spectrograph, a coronagraph of the type of Lyot, two 30-inch refracting telescopes (the author says "two reconstructed Pulkovo refractors . . ." which suggests that these instruments were saved), and numerous accessory instruments.

The author recommends that many of these instruments be ordered abroad because

> there are foreign firms which have established reputations in this field and to duplicate their experience and skill at home would take too much time; the construction of such giant instruments as the 120-inch and 80-inch reflectors in this country (the U.S.S.R.) would take many years, while the firm of Warner and Swasey would undoubtedly carry out such a project rapidly and skilfully. Similarly, in the construction of measuring instruments there is no need to compete with the Gaertner Scientific Corporation, or in the construction of accurate clocks with the Shortt concern.

The staff of the new observatory is to consist of 60 to 70 trained astronomers. Since there are not now enough persons available with the required astrophysical experience, it is suggested that the existing universities in the U.S.S.R. at once begin the training of some 60 to 70 students in each organization. The plan provides for the completion of the equipment and the staffing of the observatory in about 1947. For the purpose of facilitating the training of the necessary staff, the author recommends that orders be placed at once abroad for the purchase of various instruments at a cost of two or three million rubles.

The breath-taking scope of this plan will probably startle those who have had little inclination during the past two years to indulge in post-war planning. It shows an extraordinary spirit among the scientific workers of the U.S.S.R., especially if we consider that the plan was prepared at a time when even the proposed site of the new observatory was still in the hands of the enemy. Perhaps it would be advantageous to the organizers of the astrophysical observatory in Russia if they would augment their plan by sending to the United States and to Great Britain a few of their best astrophysicists. These visitors could study the performance of various types of instruments and profit from the experience of existing observatories. They could also broaden the basis of their interests and secure adequate training in those