Dr. C. Van Caulaert, Strasbourg, France, $400 for biological work on nephritis.

Professor René Wurmser, Paris, France, $500 for continuation of studies of oxidation-reduction phenomena in cells.

Professor Edgard Zunz, Brussels, Belgium, $100 for studies of pancreatic secretion.

Applications for grants to be held during the year 1933–1934 should be in the hands of the executive committee before May 1, 1933. They should be sent to Dr. Joseph C. Aub, Collis P. Huntington Memorial Hospital, 695 Huntington Avenue, Boston, Massachusetts.

SOCIETIES AND MEETINGS

THE COLORADO-WYOMING ACADEMY OF SCIENCE

THE sixth annual meeting of the Colorado-Wyoming Academy of Science was held on November 25 and 26, 1932, at the Colorado Agricultural College, Fort Collins.

Friday and Saturday mornings were given over to the reading of papers in section meetings. One hundred thirty-six papers were presented, These were distributed as follows: Chemistry, 12; education, 13; geology and geography, 10; physics, 15; plant science, 25; psychology, 16; social science, 16, and zoology 29.

About 175 members were present. The attendance of the public and college students was unusually large.

A new feature of the program was the display of exhibits of the scientific work carried on by members of the academy. Sixty exhibits were presented. These included teaching devices, demonstrations of collections of animals and plants, rare scientific books, chemical and physical apparatus, experiments in physics and chemistry, cooking devices, historical manuscripts, charts for psychology and education, experiments in hydraulics, plant breeding, plant pathology, models of ecological situations, etc. These were on display during the entire session. The enthusiastic interest shown by academy members, students and the visiting public insured the continuance of this feature.

At the academy dinner on Friday evening, A. S. Adams, of the Colorado School of Mines, spoke on "A Defense of Mass Production."

The following officers were elected: *President:* F. C. Jean, Colorado State Teachers College; *Vice-President:* S. H. Knight, University of Wyoming; *Secretary:* R. J. Gilmore, Colorado College; *Treasurer:* O. M. Dickerson, Colorado State Teachers College.

C. H. Hutchinson, University of Colorado, was appointed chairman of the program and publications committee.

F. E. E. Germann, University of Colorado, was appointed representative to the conference of state academies.

Members of the executive committee are: O. A. Beath, University of Wyoming; F. F. Coen, Colorado Agricultural College; F. F. Ramaley, University of Colorado; A. S. Adams, Colorado School of Mines; T. R. Garth, University of Denver; F. P. Goeder, Colorado Agricultural College; R. G. Gustavson, University of Denver.

The 1933 meeting will be held at the University of Wyoming, Laramie, on December 1 and 2, 1933.

R. J. GILMORE,
Secretary

THE ALABAMA ACADEMY OF SCIENCE

THE tenth annual meeting of the Alabama Academy of Science was held at Birmingham-Southern College, Birmingham, Alabama, on March 10 and 11. The attendance was better than at any previous meeting.

The presiding officer was Professor J. F. Duggar, Alabama Polytechnic Institute. There were two general sessions and sectional meetings were held by the following sections: biology, chemistry, physics and mathematics, industry and medicine. A fifth section was organized at the meeting, which will cover the following subjects: anthropology, archeology and geology.

The internal organization of the academy was changed at this meeting. The plan adopted is in some respects similar to that of the American Association for the Advancement of Science; that is, sectional chairmen are automatically vice-presidents of the academy. The offices of first vice-president and second vice-president were discontinued.

The officers elected for 1933–34 are as follows:

President: James L. Brakefield, Howard College, Birmingham, Alabama.

General Secretary: W. A. Whiting, Birmingham-Southern College, Alabama.

Treasurer: A. G. Overton, Alabama By-Products Corporation, Tarrant.

Councilor to the American Association for the Advancement of Science: Emmett B. Carmichael, University of Alabama.

Editor of the Journal: E. V. Jones, Birmingham-Southern College.

The following were elected as chairmen and secretaries of the various sections:

Anthropology, Archeology and Geology:
Chairman: R. S. Poor, Birmingham-Southern College.
Secretary: G. Andrews, University of Alabama.

Biology:
Chairman: Septima Smith, University of Alabama.
Secretary: Thera Towery, Howard College.

Chemistry, Physics and Mathematics:
Chairman: Roger W. Allen, Alabama Polytechnic Institute.
Secretary: W. N. Arnquist, Alabama Polytechnic Institute.

Industry:
Chairman: E. A. Hawk, Birmingham, Alabama.
Secretary: T. N. McVay, University of Alabama.

Medicine:
Chairman: Franklin S. DuBois, University of Alabama.
Secretary: G. D. Matthews, Birmingham.

Representatives from eleven high schools met with the academy on Saturday morning, March 11, and organized the Junior Academy of Science of Alabama. Each high school had one exhibit and one member to give a paper. There were more than a hundred in attendance at the high school program. Officers of the Junior Academy are:

President: Winthrop R. Hubler, Ensley High School.
Vice-president: R. E. Chambers, Woodlawn High School.
Secretary: Martha Bray, Ramsay Technical High School.

EMMETT B. CARMICHAEL,
Vice-president of the Academy Conference

SCIENTIFIC APPARATUS AND LABORATORY METHODS

AMMONIATION OF PEAT FOR FERTILIZERS

FOR several years much of the higher grade organic fertilizer materials, such as cottonseed meal and animal tankage, has been diverted into feedstuffs. To use such material in fertilizer mixtures it was necessary to compete with their valuation on a protein basis in feeds. Under such competition the price paid for nitrogen of this sort was considerably greater than nitrogen contained in inorganic fertilizer materials. While in the last few years the price differential has not been so great, due to the low price of feeds from grain products, it still exists and the demand for organic nitrogenous materials in fertilizers has held this price higher than that of the inorganic materials. The desirability of utilizing some abundant organic substance as a carrier of the cheap nitrogen derived from synthetic ammonia led to the investigation by the Fixed Nitrogen Research Laboratory of peat as a possibility in this direction. It is well known that peat occurs in large quantities and in commercially workable beds at widely distributed points throughout the eastern part of the United States. Such deposits may be found from Minnesota to Maine, from Maine to Florida, and along the coast of the Gulf of Mexico.

Experiments have been carried out by the authors to utilize peat as a nitrogen carrier by treating the air-dried material with anhydrous ammonia. Four types of peat have been used and the conditions of treatment have been varied to study the effect of time of treatment, concentration of ammonia and temperature. A quantity of the ground peat passing a 14-mesh screen was loaded into a steel bomb and anhydrous ammonia added in excess. The closed bomb was placed in an electric oven at the temperature under which the experiment was carried out. The temperature used varied from room temperature to 300° and the pressure developed was that obtained under conditions necessary to retain the ammonia in the bomb varying from 100 to 300 atmospheres. The four types of peat investigated yielded products of a nitrogen content of 4 to 6 per cent. at 50°, 10.5 to 13 per cent. at 180°, and 14 to 21 per cent. at 300° C. It was found that treatment after 20 hours had very little effect in adding more nitrogen. Increasing amounts of moisture tended to lower the content of nitrogen in the product, but did not decrease it very sharply. From these results it appears that the temperature variation affects the amount of nitrogen more than any of the other conditions and that by controlling the temperature and water content of the material practically any nitrogen content up to 20 per cent. is obtainable, depending somewhat upon the character of the peat used.

The original peats contained from 1 to 3 per cent. of nitrogen, which is very slowly available as plant food, but under the conditions of treatment here described, this nitrogen becomes a part of the total nitrogen, practically all of which is available according to chemical tests. Analyses have shown that the nitrogen contained in the ammoniated peat is partly water-soluble and partly water-insoluble, although the water-insoluble part is roughly about two thirds of the total. The ammoniated material is considerably darker than the untreated peat, ranging from dark brown to almost black in color. It is slightly more dense than the original peat and decidedly more easily wetted on coming in contact with water.