

varieties of wood and wood under various conditions.

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### THE EFFECT OF MINERAL SUPPLEMENTS ON GROWTH AND REPRODUCTION

THE effect of adding various mineral supplements to a basal ration of 2 parts of yellow corn and 1 part of peanut meal was tested on albino rats. The basal ration is often used for the feeding of swine in the south.

The plan of feeding was as follows:

Lot 1—Basal ration alone	
Lot 2—Basal ration .....	99 per cent.
NaCl .....	1 per cent.
Lot 3—Basal ration .....	97.5 per cent.
NaCl .....	1.0 per cent.
CaCO <sub>3</sub> .....	1.5 per cent.
Lot 4—Basal ration .....	97.5 per cent.
NaCl .....	1.0 per cent.
Steamed bone meal .....	1.5 per cent.
Lot 5—Basal ration .....	97.5 per cent.
NaCl .....	1.0 per cent.
Acid phosphate .....	1.5 per cent.

#### EFFECT ON GROWTH

Lot 1 made very little growth. Lot 2 made gradual gains for a period of two to three months. This was followed by a decline in the weights of the males and approximate maintenance in the weights of the females.

The rate of growth in Lots 3, 4 and 5 was normal and was practically the same in all three lots during the first weeks of the experiment. The rats that received steamed bone meal, however, sustained their growth longer and reached a greater final weight on the average than those that received the CaCO<sub>3</sub> or the acid phosphate. The curves for the latter two lots were very similar.

#### EFFECT ON REPRODUCTION

The differences in reproduction were more striking than the differences in growth.

None of the females in Lots 1 and 2 showed signs of pregnancy.

In Lot 3 rearing of young was successful in the first litters of the second generation. Later litters did not grow so rapidly. The third generation was a failure.

Young were successfully raised in the fourth generation in Lot 4. The results in the third and fourth generations were not normal but were decidedly superior to those in any of the other groups.

Reproduction in Lot 5 was most disappointing in view of the fact that this group made about as good growth in the first generation as Lot 3. The females in Lot 5 littered fairly regularly, but the young were small, low in vitality and usually died within a few hours after birth.

Growth curves and analyses showing the ash content of the bodies of rats from each lot will be published later.

W. D. SALMON

ALABAMA EXPERIMENT STATION

### AMERICAN ASSOCIATION FOR THE ADVANCEMENT OF SCIENCE

#### THE FALL MEETING OF THE EXECUTIVE COMMITTEE

THE regular fall meeting of the executive committee of the council of the American Association was held at the Cosmos Club in Washington, on Sunday, October 12, with the following members present: Cattell, Humphreys, Livingston, Osborn, Ward. The following members were absent: Fairchild, Flexner, MacDougal, Miller, W. A. Noyes. In the absence of the chairman, the president of the association was elected chairman for the meeting. Three sessions were held, one in the forenoon, one in the afternoon and the third in the evening. A vote by mail has been taken among the absentee members on the items of business transacted at the meeting, this having been needed on account of the presence of only five members, six being required for a majority of the committee. The following items of business were transacted and have received the approval of more than a majority.

1. The election of Dr. F. G. Cottrell as chairman of Section C (Chemistry) was approved.

2. The permanent secretary's annual report on the affairs of the association was accepted. It will appear in *SCIENCE* in the near future.

3. The permanent secretary's annual financial report was accepted and ordered audited and then presented to the council.

4. The annual report of the assistant treasurer was accepted and ordered audited and then presented to the council.

5. It was voted that any funds appropriated for grants which shall not have been disbursed at the end of the fiscal year for which they were appropriated shall revert to the treasury as appropriable funds on October 1. It is, however, understood that this rule does not prejudice the possible transfer of any unused grant or any unused portion of a grant to the next fiscal year, providing this transfer be recommended by the Committee on Grants.

6. Six members were elected to fellowship.

7. It was recommended to the council that a fund of \$3,000 be appropriated from the treasury for new allotments by the Committee on Grants for the fiscal year 1924-25.

8. It was recommended to the council that three emeritus life memberships on the Jane M. Smith Fund be established this year.

9. It was recommended to the council that a grant of \$200 be made from the treasury funds for the Annual Tables of Physical and Chemical Constants for the year 1925.

10. The committee expressed its hearty appreciation of the excellent services given to the association by the executive assistant, Mr. Sam Woodley, who has charge of the regular business of the Washington office.

11. The permanent secretary was instructed to arrange for a classification of the several lines of activity of Section L (Historical and Philological Sciences) under two or three subsections, as may be desired by the special committees involved, a plan to be worked out for the alternation of the subsections in the organization of the section as a whole. The chairman of the Committee on Linguistic Sciences is to be chairman of the section committee for next year.

12. It was voted that entrance fees be regularly omitted in the following cases of persons who may join the association, according to the rule for new members of affiliated societies: (1) members of the local committee and its sub-committees for any meeting; (2) local representatives of sections for any meeting and (3) members of section committees.

13. The following fellows were named as occupants of the American Association table at the Naples Zoological Station for the periods shown:

Dr. Otto Glaser, February 1 to April 15, 1925.

Dr. A. R. Moore, April 15 to June 30, 1925.

14. Places for future meetings of the association were considered, but no action was taken. Future meetings thus far scheduled are as follows: Washington, December, 1924; Kansas City, December, 1925; Philadelphia, December, 1926; New York, December, 1928. The place for the annual meeting of December, 1927, remains undecided. The executive committee expressed its conviction that that meeting should be held in a southern city. Places for future summer meetings are undecided.

15. The gift of an oil painting of Dr. H. L. Fairchild was offered to the association by Miss Luella Agnes Owen. The offer was accepted with appreciative thanks.

16. It was voted that the Committee of One Hundred on Scientific Research be reorganized and continued.

17. The president of the association, Dr. J. McKeen Cattell, was elected chairman of the Committee of One Hundred on Scientific Research, and he was authorized to make appointments to fill vacancies on that committee and to name such officers and sub-committees as may be needed.

18. A progress report was accepted from Dr. Otis W. Caldwell, chairman of the special Committee on the Place of Science in Education. The work of this committee is now being taken up vigorously.

19. It was voted that disbursements from the special fund, provided by the Commonwealth Fund of New York, for the study of the place of science in education shall be made by the permanent secretary on vouchers approved by the chairman of the Committee on the Place of Science in Education.

20. The executive committee expressed its hearty approval of the arrangement by which Professor A. S. Eddington, of the University of Cambridge, is to give an evening lecture before the association on the third evening of the approaching fifth Washington meeting, December 31, 1924.

21. It was voted that the Second American Association Prize (\$1,000), provided by an anonymous member of the association, be awarded at the close of the fifth Washington meeting in the same manner as was the first prize last year. The second prize is to be awarded for a noteworthy contribution to science presented at the fifth Washington meeting, either before a section of the association or before one of the organizations meeting with the association at that time. Membership in the association will not be considered in selecting the second prize man. Recommendations will be received by the permanent secretary's office during the meeting, from the secretaries of all sections and of all organizations meeting with the association. These recommendations will be used by the Committee on Award of the Second American Association Prize, the membership of which is to be named by the council at its first Washington session, Monday afternoon, December 29. This committee is to consist of five members representing different fields of science.

22. It was voted that a dinner and conference of the members of the executive committee and the association secretaries be arranged for the evening of Sunday, December 28, at Washington.

23. It was voted that the association will be glad to cooperate with the Pan-Pacific Union in any feasible way and a special committee to consider this cooperation was appointed, consisting of Drs. L. O. Howard, Herbert Osborn and B. E. Livingston.

24. It was voted that the association will be glad to cooperate with the National Conference on Outdoor Recreation in any fields in which its work coincides with that of the conference.

25. A letter from the American Museum of Safety, of New York, inviting the members of the association to visit the museum, which has recently been opened, was received with thanks. It was voted that the association heartily approves cooperation with the American Museum of Safety.

26. A letter from one of the members was read, suggesting the desirability of an association section or special program on the Science of Religion, and it was voted that the executive committee felt that, although some such arrangement may perhaps be ultimately desirable, yet it would not be feasible at present.

27. A letter from a member was received, suggesting the desirability of a national burying ground for the association. The executive committee expressed its feeling that such an arrangement would not be feasible.

28. The problem of the nature of fellowship in the association was discussed at length and the special committee on this subject was continued and asked to make recommendations at the next meeting of the executive committee. This committee consists of Drs. L. O. Howard, W. J. Humphreys and B. E. Livingston.

29. The arrangement of the affiliation of state academies was discussed at length and a special committee was appointed to make recommendations for improvement in this important relation at the next meeting of the executive committee. This committee consists of Drs. Herbert Osborn, Henry B. Ward and B. E. Livingston.

30. It was voted that the next meeting of the executive committee be called at 4 o'clock on Sunday, December 28, 1924, at Washington.

BURTON E. LIVINGSTON,  
Permanent Secretary

## THE NATIONAL ACADEMY OF SCIENCES

THE autumn meeting of the National Academy of Sciences was held on Monday and Tuesday, November 10 and 11, 1924, at Harvard University, Cambridge, Mass., and on Wednesday, November 12, 1924, at the building of the American Academy of Arts and Sciences, Boston.

The scientific program was as follows:

MONDAY, NOVEMBER 10, PIERCE HALL

### Morning Session

*The absorption of radiation by ozone in the atmosphere:* CHARLES FABRY (introduced by S. W. Stratton).

*The number of free electrons within a metal:* E. H. HALL.

*Contact potential difference of metals:* E. H. HALL.

*Recent measurements of the joule effect for carbon dioxide:* F. G. KEYES and F. W. SEARS (introduced by S. W. Stratton).

*The facts that influence the activity of atoms in organic compounds (by title):* JAMES F. NORRIS (introduced by S. W. Stratton).

*An equation for the Haber equilibrium (by title):* L. J. GILLESPIE (introduced by S. W. Stratton).

*The intensities of X-ray reflection:* LOUIS HARRIS (introduced by S. W. Stratton).

*The periodical structural regularities of spectra as related to the periodic law of the chemical elements:* WILLIAM F. MEGGERS (introduced by G. K. Burgess).

*New measurements of planetary radiation and planetary temperature:* W. W. COBLENTZ and C. O. LAMPLAND (introduced by G. K. Burgess).

*The aerodynamical characteristics of airfoils at high speed:* L. L. BRIGGS, G. C. HILL and H. L. DRYDEN (introduced by G. K. Burgess).

*The effect of tension on the transverse and longitudinal resistance of metals:* P. W. BRIDGMAN.

*A device for studying gaseous conduction at low pressures:* VANNEVAR BUSH (introduced by S. W. Stratton).

*The relativity motion of mercury:* CHARLES L. POOR (introduced by G. C. Comstock).

*The density of oxygen (by title):* G. P. BAXTER and H. W. STARKWEATHER.

*A theory for torsional stresses in curved skew bars (by title):* PAUL HEYMENS (introduced by Edwin B. Wilson).

*Biographical memoir of G. L. Goodale (by title):* B. L. ROBINSON.

*The spark spectrum of iron, with some remarks on spectral regularities (by title):* H. N. RUSSELL.

### Afternoon Session

*The Cordierite-anthophyllite mineralization at Blue Hill, Maine, and its relation to similar occurrences:* WALDEMAR LINDGREN.

*Gel replacement, a new aspect of metasomatism:* WALDEMAR LINDGREN.

*Results of recent investigations of the form of the continental shelf bordering Eastern North America:* DOUGLAS JOHNSON (introduced by J. F. Kemp).

*The occurrence of Cordilleran and other Western plants in Eastern America (illustrated):* M. L. FERNALD (introduced by B. L. Robinson).

*Remarks on the glacial geology of Martha's Vineyard island:* EDWARD WIGGLESWORTH (introduced by W. Lindgren).

*Recent work in oceanography:* HENRY BIGELOW (introduced by E. L. Mark).

*The new research station on Barro Colorado Island in Gatun Lake:* THOMAS BARBOUR (introduced by W. M. Wheeler).

*Biological characters in the differentiation of Avian Coccidia:* E. E. TYZZER (introduced by Reid Hunt).

*Summary of results thus far obtained by the Third Asiatic Expedition of the American Museum:* H. F. OSBORN.