

4. Varieties of grain best adapted for the locality should always be used. The agricultural colleges and other state agricultural agencies will inform the farmers of the existence of these varieties and how and where to obtain the seed.

5. Every means should be employed to eliminate weeds, by use of clean seed, crop rotations, early cultivation above mentioned, and any special methods reliably recommended for particular weeds in different localities.

6. Seed testing for germination can well be further emphasized at this emergency period. The extension service, through county agents, should bring this matter home to every farm.

7. Seed treatment will largely prevent certain smuts and other diseases of cereals, and, as a real war measure, we are bound to see that it is applied as nearly as possible on every farm, thus increasing our cereal production a hundred million bushels or more, in one season. By field demonstrations the methods can and should be made plain to all concerned.

8. The possible ravages of Hessian fly, chinch bug, green bug, stored grain and mill products insects, etc., must be kept also in mind and the progress of and means of checking these insects be communicated, so far as possible, in advance of their local occurrence.

9. As a means of reducing the great loss from rust, it is urged that all common barberry bushes (not the Japanese) and grass weeds harboring cereal rusts, be eradicated, and that rust-resistant cereal varieties be grown, if otherwise of good quality.

10. It is a conservative estimate that 20 million bushels of wheat and proportional quantities of other cereals are annually lost by waste in harvesting and thrashing. This waste can and should be, in large measure, easily avoided. A man and team are known to have cleared \$27 to \$62 a day from cleaning up after thrashers, and, in another instance, last year in Kansas, \$500 was gained by a man, with a team and fanning mill, cleaning up after thrashing machine settings, in three weeks' time.

11. In the western and southwestern plains, grain sorghums should be widely planted. In the northern plains, in the drier districts, flax and, under certain conditions, proso or Russian millet, may be used to a similar advantage.

12. Suitable catch crops (such as cowpeas, soy beans, sorghums, millet, flax and buckwheat) should be grown on all lands on which staple crops can not be seeded at the proper time or on which they have been destroyed.

13. The increased use of corn, rice, grain, sorghums, proso, barley, rye, beans, cottonseed meal and peanut meal as substitutes for, or in conjunction with, wheat for human food is strongly recommended. Information on this matter can be obtained through the state agricultural colleges and the United States Department of Agriculture.

ORGANIZATION OF THE ENGINEERING COUNCIL

ON June 27 was held the first meeting of the Engineering Council. This body is a department of the United Engineering Society and has recently come into being as a medium of cooperation between the four national engineering societies. The function of the council may perhaps best be described by the following extract from the by-laws of the United Engineering Society:

The council may speak authoritatively for all member societies on all public questions of a common interest or concern to engineers.

The council is composed of twenty-four members, five being appointed by each of the four founder societies and four by the United Engineering Society. Its present membership follows:

American Society of Civil Engineers.—J. F. Stevens (Chas. Warren Hunt), George F. Swain, F. H. Newell, Alex. C. Humphreys, F. D. Galloway.

American Institute of Mining Engineers.—P. N. Moore, S. J. Jennings, B. B. Lawrence, J. Parke Channing, Edwin Ludlow.

American Society of Mechanical Engineers.—I. N. Hollis, Chas. Whiting Baker, John H. Barr, A. M. Greene, Jr., D. S. Jacobus.

American Institute of Electrical Engineers.—H. W. Buck, E. W. Rice, N. A. Carle, P. Junkersfeld, C. E. Skinner.

United Engineering Society.—Clemens Herschel, B. B. Thayer, I. E. Moulthrop, Calvert Townley.

At the organization meeting held in the rooms of the American Society of Mechanical Engineers at 2.30 o'clock P.M., on the twenty-seventh instant, the following officers were elected:

President: I. N. Hollis.

Vice-presidents: H. W. Buck, George F. Swain.

Secretary: Calvert Townley.

Executive Committee: The four officers named, with J. Parke Channing and D. S. Jacobus.

The council discussed at length ways and means by which the founder societies through the council may be of use to the nation. The unanimous desire to help the government in the prosecution of this war resulted in a resolution instructing the executive committee to cooperate with the government in procuring the services of engineers, also the appointment of a committee of three consisting of Messrs. H. W. Buck, A. M. Greene, Jr., and Edmund B. Kirby, to consider the best means of utilizing the inventive ability of members of the founders societies.

The secretary was instructed to inform all government bureaus that might be interested in the organization of the Engineering Council and its desire to be of assistance.

SCIENTIFIC NOTES AND NEWS

THE Index to Volume XLV. of SCIENCE is published with the present issue. It is sent to libraries and to those who have requested that copies of the index be sent regularly. It will be sent to any subscriber on application.

THE degree of D.Sc. has been conferred by Williams College on Robert Grant Aiken, '87, since 1895 astronomer at the Lick Observatory.

At its ninety-sixth annual commencement the George Washington University conferred its doctorate of science on George Perkins Merrill, of the U. S. National Museum; on Elmer Ernest Southard, of the Harvard Medical School; on Arthur Powell Davis, of the Reclamation Service, and on Frederick Fuller Russel, major, Medical Corps, U. S. Army.

THE University of Arkansas has conferred its doctorate of laws on the governor of the state, Charles H. Brough, who before his election was professor of economics and sociology in the university.

SIR DAVID PRAIN, director of the Kew Botanical Gardens, has been elected president of the Linnean Society.

ALFRED H. BROOKS, formerly in charge of the Division of Alaskan Mineral Resources of the U. S. Geological Survey, has been appointed a captain in the Engineer Officers

Reserve Corps and ordered to report for training. During Mr. Brooks's absence on military duty, Mr. George C. Martin will be geologist, acting in charge of Alaskan work.

WE learn from *Nature* that Mr. J. Ramsbottom, of the department of botany, British Museum, has been appointed protozoologist to the medical staff at Salonika. The trustees of the museum have accepted Miss Lorrain Smith's offer to act as temporary assistant in charge of the fungi during Mr. Ramsbottom's absence.

MISS AMY WALKER, M.A., Smith College, has been appointed research assistant in the chemistry of foods, Massachusetts Institute of Technology, under the Ellen H. Richards Fund, for the year 1917-1918. The work will be carried on under the direction of Professor A. G. Woodman, and it is proposed to study chemical changes, with special reference to the nitrogen compounds, which take place when fish decomposes before and after heating at relatively high temperatures. This question is of particular interest in the sardine industry.

SIR ERNEST SHACKLETON has now returned to England, after lecturing in Australia and America. He has received a commission in the army.

PROFESSOR JOSEPH S. AMES, of the Johns Hopkins University, who was sent to France early in April under the auspices of the Council of National Defense, has returned to Baltimore. Professor Ames will report on the development of aeronautics.

DR. H. D. DAKIN, who was appointed last March, with Dr. Alexis Carrel, to have charge of the military hospital which is being constructed and equipped by the Rockefeller Foundation on the grounds of the Rockefeller Institute of Medical Research, has returned to New York. Dr. Dakin went over to France in April to consult with Dr. Carrel, with whom he worked during 1915 and 1916 as a bacteriologist.

THE Linnean Society, London, has presented the Linnean gold medal to Mr. H. P. Guppy for his services to biology, and the