will also be given dealing respectively with airships and with navigation, while arrangements are in hand for special instruction in air-cooled engines, high-compression engines, dopes, instruments, wireless telegraphy, and similar subjects. It has also been arranged that students will carry out part of their practical training in one or other of the government establishments concerned with aeronautics.

VARIETIES OF WHEAT

THE Department of Agriculture reports that the introduction of hard winter wheat from Russia into Kansas and other states of the central Great Plains area in the early seventies was an epoch-making event. The growing of these Crimean wheats, especially the Turkey and Kharkov varieties, has been the principal cause of the prosperous development of much of that section. The development and distribution of Kanred, an improved strain of hard red winter wheat, may prove equally epoch-making in the history of Kansas. Kanred is one of the most important examples of the improvement of wheat by the method of pure line selection. It is the product of a single head, selected in 1906 at the Kansas Agricultural Experiment Station. Its true value was determined only after many years of careful experiments, but as a reward not fewer than 500,000 acres were sown in the State of Kansas alone in the fall of 1919. Since 1917, Kanred has been under experiment in many states other than Kansas. Last fall many thousands of bushels were introduced into other states for commercial growing. Kanred is unusually well adapted to many of the varying conditions in the state of Kansas. Its principal advantage over Turkey and Kharkov is its resistance to some forms of both stem rust and leaf rust. It has other advantages, however, such as slightly greater winter hardiness, earlier maturity, and makes better pasture. Those factors have caused it to outyield the Turkey and Kharkov wheats in most sections of Kansas by 3 to 5 bushels per acre. The same factors may or may not be as important in other states.

To determine the varieties of Australian wheat best adapted to conditions on the Pacific coast, the United States Department of Agriculture has conducted a series of experiments which accurately ascertained the yield and quality of those varieties already of commercial importance in that region, as well as other varieties, samples of which were brought direct from Australia. In connection with the latter phase of the investigation more than 130 samples of wheat were obtained, representing 92 distinct varieties. Results from the early experiments with these wheats show that the "Federation group," consisting of three varieties, Federation, Hard Federation, and White Federation, is probably the best suited to this western region. These three varieties were compared in yield with the leading commercial wheats, including the Bluestem, Australian varieties, Pacific, White Australian, and Early Baart, and produced higher yields, according to the department's cereal specialists. Hard Federation produced the larger yields in Oregon, while White Federation did better in California. Milling experiments indicate that Hard Federation is equal or superior for milling and bread-making purposes to the leading commercial varieties now grown on the Pacific coast and also superior in this regard to Federation and White Federation.

LECTURES AT THE NEW YORK BOTANICAL GARDEN

FREE public lectures are being delivered in the lecture hall of the museum building, Saturday afternoons, at four o'clock, as follows:

Sept. 4. "How to can fruits and vegetables," Professor H. D. Hemenway.

Sept. 11. "What Columbus saw in the new world," Dr. W. A. Murrill.

Sept. 18. "National losses due to plant diseases," Dr. M. T. Cook.

Sept. 25. "Dahlias and their culture," Dr. M. A. Howe.

(Exhibition of Dahlias, Sept. 25 and 26)

Oct. 2 "Nuts and other food crops from trees," Dr. W. C. Deming.

Oct. 9. "Evergreens," Mr. G. V. Nash.

Oct. 16. "Autumn colors," Dr. A. B. Stout.

Oct. 23. "Women as horticulturists," Miss E. L. Lee.

Oct. 30. "The plant life of the south," Dr. F. W. Pennell.

Free public lectures on Sunday afternoons, at four o'clock, are as follows:

Sept. 5. "Ceylon, the Pearl of the Orient," Dr. H. A. Gleason.

Sept. 12 "The vegetation of Alaska and its significance," Dr. Arthur Hollick.

Sept. 19. "Planting to attract our native birds," Dr. G. C. Fisher.

Sept. 26. "How plants get their food," Mr. Norman Taylor.

(Exhibition of Dahlias, Sept. 25 and 26)

Oct. 3. "Plant motives in Renaissance decorative art," Dr. W. A. Murrill.

Oct. 10. "Recent plant immigrants and new American plant industries," Dr. David Fairchild.

Oct. 17. "Poisonous plants in fields and woodlands," Dr. Wm. Mansfield.

Oct. 24. "House plants: their care and culture," Mr. H. Findlay.

Oct. 31. "The dehydration of foods," Dr. R. H. McKee.

Free public lectures in the central display greenhouse, Conservatory Range 2, on Saturday afternoons, at three-fifteen o'clock, will be as follows:

Nov. 6. "Palms and their products," Dr. N. L. Britton.

Nov. 13. "Tropical aquatic plants," Mr. G. V. Nash.

Nov. 20. "Tropical beverage plants," Dr. H. A. Gleason.

Nov. 27. "Bananas and their relatives," Dr. W. A. Murrill.

Dec. 4. "Tropical plants yielding starch," Dr. M. A. Howe.

Dec. 11. "Plants yielding rubber," Dr. A .B. Stout.

SCIENTIFIC NOTES AND NEWS

SIR EDWARD THORPE, emeritus professor of chemistry in the Imperial College of Science, London, has been elected president of the British Association for the Advancement of Science for the meeting to be held next year at Edinburgh. Sir Charles Parsons has been elected a trustee in the place of the late Lord Raleigh. It was found impracticable to go to Colombo in 1922, and an invitation from Hull has been accepted for that year.

DR. LEONARD G. ROWNTREE, professor of medicine in the medical school of the University of Minnesota, and Dr. Reginald Fitz, associate in medicine of the Massachusetts General Hospital, have joined the staff of the Mayo Foundation for Medical Education and Research, at Rochester, Minn. Drs. Rowntree and Fitz will be associated in the further development of research in internal medicine.

MR. W. D. COLLINS, of the Bureau of Chemistry, U. S. Department of Agriculture, has been appointed chief of the quality-of-water division of the U. S. Geological Survey.

MR. EARL P. CLARK, assistant in chemistry at the Rockefeller Institute for Medical Research, New York City, has joined the chemical staff of the Bureau of Standards.

DR. H. S. HELE-SHAW, Harrison professor of engineering in University College, Liverpool, 1886–1903, and in the university from 1903–04, has been elected emeritus professor of engineering in the University of Liverpool.

THE following degrees have been conferred by the University of Dublin: doctor of science, Sir William H. Bragg; doctor of medicine, Sir Archibald E. Garrod; doctor of law, Sir Donald Macalister.

MR. H. S. BAILEY, formerly of the Bureau of Chemistry, U. S. Department of Agriculture, resigned his position with E. I. du Pont de Nemours and Company on July 1, to take charge of research for the Southern Cotton Oil Company at Savannah, Georgia.

B. S. BUTLER has resigned from the U. S. Geological Survey, and will be associated with L. C. Graton in a study of the geological problems of the Calumet and Hecla mines.

D. H. NEWLAND has resigned as assistant state geologist of New York, and has taken a position with the Beaver Board Companies of Buffalo, New York, as field geologist and mining expert.

MAJOR LAWRENCE MARTIN, of the General Staff, and one of the map experts of the Army, who has been on duty in the Military Intelligence Division, has been ordered to report to