

wheat supply, while not so satisfactory as was expected during the first part of the current season, show at the present time no cause for serious alarm. Estimates of the quantity of wheat harvested in 20 countries, including the United States, for 1921, total 2,461,430,000 bushels, compared with 2,384,143,000 bushels harvested last year according to data compiled by the Bureau of Markets and Crop Estimates, United States Department of Agriculture.

The 20 countries included in this estimate are the United States, Canada, Argentina, Chile, Uruguay, Belgium, Bulgaria, Finland, France, Greece, Hungary, Italy, Spain, British India, Japan, Algeria, Tunis, Union of South Africa, Australia, and New Zealand. These countries produced approximately 68 per cent. of the known wheat crop of the world during the years 1903-1913, according to the annual average production records of the bureau.

Although the long-sustained drought throughout the greater part of the Northern Hemisphere was a serious menace to the various crops in many countries, the fall-sown wheat has not been affected adversely so much as was at first supposed. On the contrary, the fall-sown wheat managed to obtain a firm hold on the soil and a fairly vigorous growth before the beginning of the drought.

Nearly all of northern and central Europe will have larger wheat crops this year than last, according to the last estimates made by the bureau, Belgium and Greece being the only countries in which smaller crops are expected.

Outside of Europe, British India was most seriously affected by the drought. The dryness and the hot winds that have prevailed throughout most of the growing season have resulted in the very low yield 250,469,000 bushels of wheat, or about 50,000,000 bushels less than the quantity normally consumed in that country. With the rice crop also seriously affected, India is expected to import wheat this year instead of exporting it. In an average year before the World War, India exported over 50,000,000 bushels of wheat.

In Canada the total yield of spring wheat is estimated at 273,020,000 bushels, of which 264,137,000 bushels were grown in Saskatchewan, Manitoba, and Alberta. Fall wheat, grown almost exclusively in Ontario and Alberta, was estimated at 15,473,000 bushels. The total wheat yield of Canada for 1921 is therefore 288,493,000 bushels, compared with 263,189,000 bushels last year.

A very unsatisfactory feature in the present international situation is the hopeless condition of the Russian crops. Unofficial reports state that during last autumn and the spring of this year only a very small area was sown to the various crops, resulting in a failure to produce sufficient food for the country's needs. It is also reported unofficially that a considerable amount of wheat will yet be imported by Russia this year. But up to the present time the amount of wheat, as well as other foodstuffs, which will be imported is conjectural, and the Bureau of Markets and Crop Estimates is unable to make a definite statement concerning it.

In northern Africa, the wheat crop was generally larger than last year. In Algeria, thrashing results show a better yield than was expected earlier in the season. In Tunis, bad weather reduced the yields somewhat from those expected earlier, while in Morocco the crop was generally reported as satisfactory. According to estimates published by the International Institute of Agriculture at Rome, these three countries are expected to produce, for 1921, a yield of 66,138,000 bushels of wheat, compared with 36,743,000 bushels in 1920.

AN ENGLISH VIEW OF AMERICAN BIOLOGY

At a recent meeting of the National Union of Scientific Workers in the Royal School of Mines, London, Sir Daniel Hall took the chair, and a lecture was given by Mr. W. B. Brierley head of the department of mycology at Rothamsted on "Personal Impressions of American Biological Research."

According to *Science Progress* Mr. Brierley opened by explaining that his visit to America was made primarily to attend the Phyto-

pathological Conference, which was peripatetic, ending at Lancaster, Ohio. By means of a sketch-map Mr. Brierley showed a complicated personal itinerary, from Quebec as a point of arrival, reaching to the southern limits of the United States, and including all the principal universities and biological stations. He then indicated the most striking and individual feature of American agriculture, which he described as the main source of wealth of the country. This was the almost complete concentration in wide areas of a single crop, so that there were 500 miles together of maize, of cotton, or of rice, and not much smaller areas of fruit or vegetables for preserving. One consequence of this was that plant disease ran riot through a whole area, and the field problems confronting the American agricultural biologist were so vast and menacing as almost to destroy the possibility of academic research, except in the eastern industrial regions, and to force the whole available scientific personnel into the field to stem a tide of disaster. In the industrial area, containing the older universities, the biological work approximated closely to that done in this country in subject and mode of attack, but in the state universities in the newer agricultural regions—each with its own single crop presenting urgent problems for solution—certain features were noticeable: (1) An early and extreme specialization, subjects which were here studied after a degree course in botany (such as plant pathology), being themselves degree courses, and the graduates, almost all of whom, from economic pressure on individuals and the crying need in the field, were unable to take post-graduate training, immediately devoting themselves exclusively to the study of a single type of disease. (2) There was almost no gradation between the academic biologist of real eminence and national or international reputation and the ordinary worker dealing with a limited field of applied science. For this reason the science on which their specialized practise was founded was apt to be too much in the background. Coming back, he felt Europe and England to be somewhat old,

sophisticated, and contemptuous of youth. America is young, and has all the boundless energy of adolescence and its unique fervor.

Sir D. Hall, before opening the discussion, pointed out that America was not a country of farmers, but of industrialists working upon the land. Consequently they were less tied by tradition, and more ready to look to science for help. On the other hand, the state legislatures, which supported the biological work, were very apt to demand immediate results, and some promising work was spoiled by premature publication. England should take warning of the danger of allowing the legislature to get direct control of scientific research. He welcomed such a visit as Mr. Brierley's as a help towards counteracting the tendency in all civilized countries to erect quarantine walls against the entry of plants from abroad, for fear of disease. This fear was easily exploited by commercial firms for their own ends. The only way to get over the difficulty was to establish such mutual confidence between biologists in different countries as to render a guarantee of health given by the experts in any country absolutely trustworthy.

THE RETIREMENT OF DR. W. H. JORDAN

THE faculty of Cornell University has adopted the following resolutions:

On the occasion of the retirement of Dr. Whitman Howard Jordan from the professorship of animal nutrition in Cornell University and from the directorship of the New York Agricultural Experiment Station at Geneva, the members of this faculty desire to record their appreciation of the inestimable service which Professor Jordan has rendered to science and to the scientific agriculture of the state and of the nation.

Professor Jordan assumed the directorship of the experiment station in 1896, a critical time for agriculture and for the new experiment stations. He brought to his work true scientific training, gained as an undergraduate student at the University of Maine, as a postgraduate student at Cornell University under the guidance of Professor Caldwell, and as an assistant to Dr. Atwater at the Connecticut Agricultural Experiment Station; and long experience as a teacher of agriculture and agricultural chemistry at the University of Maine