

AMERICAN BREEDERS' MEET

Convention Will Be Remarkable for Its Remarkable Organization.

MEN WHO HAVE DONE THE WORK

Delegates to This Gathering Will Be Those Who Have Produced Results in Plant and Animal Breeding.

When the American Breeders' association calls its annual meeting to order in Omaha, December 8, opening a three days' session, the city will shelter the most remarkable organization of men who have ever met in the city.

Laying all superlatives aside, the men composing the American Breeders' association are not only the ones who have been directly responsible for the government and states spending millions of dollars experimenting with plant and animal life, but they are the men who for the most part, have accomplished the work—they had gone into the work and opened the fairland of science not only to thousands of men on the farms, but to every state legislature and to both houses of congress.

The reports of the association comprise a collection of papers read at the annual meetings, which contain more knowledge of the laws of nature as applied to heredity and breeding than the world ever knew before this remarkable organization began its widespread investigations into every form of life.

Reports given in Omaha next month will, in themselves, give the world systematically arranged knowledge—science if you please, which must mean at once, if the rules are generally applied, an increase in production—new wealth each year beyond comprehension.

What has the association accomplished? It has harnessed the energy of heredity to a remarkable degree—it is making the changing energy of living protoplasm do work which man cannot do, as electricity does work faster than man can do, since Edison harnessed the great force.

What Men Who Know Say. Men who know commerce and those who have studied the sources of our national wealth, say of the \$7,000,000,000 of our annual production, electricity and breeding may each be credited with \$1,000,000,000. It is also estimated that each will have added another \$1,000,000,000 annually by the time our production reaches \$7,000,000,000 annually.

They are big figures, but great possibilities are before the American Breeders' association and the thousands which the organization is inspiring to do its work. "As countless water powers along our streams are waiting for the electrical engineer to bring them into the service of man," says Willet M. Hays, assistant secretary of agriculture, "so the choicest blood streams of heredity in the various species of plants and animals are waiting for the plant breeder and the animal breeder to segregate them and make them available."

Willet M. Hays is an Iowa man. It was Hays who organized the American Breeders' association and it has taken him fifteen years to bring it to the great working body which is to meet in Omaha, December 8, 9 and 10, to give the world new light. Mr. Hays himself will be here to lead and will be accompanied by William George of Aurora, Ill., vice president of the organization, and one of its benefactors; who will be joined by an army of scientists, men who have attained high degrees and those who are private in the ranks, but working, working to help throw plants and animals into new and improved modes of expression.

Hays a Pioneer in It.

Mr. Hays' experience with legislative

bodies and their need of being shown the importance of liberally providing for breeding led to the formation of the national movement to promote scientific breeding. This was centered in the American Breeders' association, of which Mr. Hays is the executive secretary. The organization has nearly fifty committees at work on the different phases of plant and animal breeding. There are committees on breeding draft horses, driving horses, saddlers, dairy cows, beef cattle and dual purpose or double-decked cows good for both beef and milk. Other committees deal with sheep breeding, improvement of swine, poultry, pet stock, fur-bearing animals, and game birds and there is even a committee on "eugenics" which studies heredity in the genus homo—with President David Starr Jordan of Leland Stanford university as chairman. There are committees which formulate the best plan for breeding wheat, and of corn and of alfalfa; and even a committee on the improvement of beans, that we may have better pole beans, better Boston baked beans—that we may better "know beans." There are committees on plant and animal introduction and on the encouragement of the study of heredity in the schools.

Only a few years ago the subject of heredity was not usually taught in our colleges because of the amount of knowledge in the world on the subject did not justify a college teaching the subject.

Many Report to Omaha.

Many of these committees are to report in Omaha. The meeting has been purposely called during the National Corn exposition. The exhibits gathered in Omaha's Auditorium and its annex are a graphic answer to what the American Breeders' association, with its affiliated teachers and workers, has been accomplishing. The members can take any business man or farmer into the exposition and show him that after a decade of work the scientist has also proved the broad economist. Proof that \$1 invested in breeding experiments will produce \$100 or 10,000 per cent on the investment will not be hard to find at the National Corn exposition. Already with a limited number of experiment stations and agricultural colleges, it is a fact that 15 to 20 per cent increase on \$7,000,000,000 worth of farm products annually has been realized. The farms produce \$7,000,000,000 worth of plant and animal and plant products every twelve months. Scientific breeding is acknowledged to be responsible for \$1,000,000,000 of this—it is all added profits to American farmers and costing a mere trifle.

Mr. Hays was one of the first to prove that a few thousand per cent on an investment in his work was possible and today foreign governments are beginning to see that the American experiment stations are virtually honeymoons which have never been worked on the other side of the Atlantic.

Addition in Field Crops.

The men now in charge of Minnesota's famous plant-breeding establishment, organized by Mr. Hays, say that with an expenditure of less than \$50,000 in 1908, the field crops of the state have been made to yield an additional \$2,000,000. This figure is based on the modestly estimated increase of the new varieties above the old kinds displayed by them of \$2 per acre on a 1,000,000 acres now planted to the seven new varieties of corn, wheat, oats, barley and flax first distributed to Minnesota farmers by Mr. Hays.

What Prof. P. G. Zolten, the evangelist of a better agriculture, has accomplished in Iowa is well known. The lowest estimate ever put on Prof. Holden's work is that he has increased the value of Iowa's corn crop \$12,000,000 annually.

Much fun has been made of the committee on "Eugenics" by the "yellow" newspapers and Secretary Hays and President James Wilson, have had some difficulty to get public men to serve on this committee because of the sensationalism attached to the appointment of such a committee. But David Starr Jordan is not a man to take hold of a "freak" idea and permit himself to be made the sport of yellow newspapers. He paid no attention to their sensational write ups, but went into the work with a following of brilliant educators.

The objects of the committee are to investigate and report on heredity in the human race; to devise methods of recording the values of the blood of individuals, families, peoples and races; to emphasize the value of superior blood and the menace to society of inferior blood and to suggest methods of improving the heredity of the family, the people or the race. There is nothing sensational about the committee. "Eugenics" is a new word to many and the public, not knowing its meaning, the "yellow press" has made a big stir about Dr. Jordan's committee. Francis Galton has defined the new science as the study of agencies under social control that may improve or impair the racial qualities of future generations either physically or mentally. The science does not propose to confine its attention to problems of inheritance only, but to deal also with problems of environment and of nature.

These, then, are some of the lines of work undertaken by this remarkable organization, which wants the government to continue spending its millions for the benefit of the people who occupy the lands. Other countries have heard of their work, their reports are translated into many languages and the foreign nations are getting ready to spend tens of millions in building up the practice and science of agriculture and in creating better types of plants and animals that production may be increased. The governments of earth have come to realize that expenditures for research and technical education in the productive industries are as necessary as are expenditures for an army or navy.

The signs of the times indicate that the forces are gathering in America to lead the world in this great work.

This is the program of the meeting in Omaha as nearly as it can be outlined at this time by Secretary Hays:

WEDNESDAY FORENOON, DEC. 8.

Address by Vice-President William George, Aurora, Ill.; "Details for a Game and Fish Breeder's Law," by W. W. Huntington, New York City; "The Effect of Co-Operation in Breeding on Lamb Production in Central Tennessee," E. H. Hite, Gallatin, Tenn.

WEDNESDAY AFTERNOON.

"Hereford-Shorthorn Crosses," P. E. Fogle, Jefferson, N. C.; "Bibliography of Animal Hybrids," Dean F. B. Mumford, Columbia, Mo.; "Grade Animals in Our Southern States," Prof. C. L. Williams, Georgia Experiment station; "An Important Factor in Selecting for Meat Production," Prof. W. J. Spillman, "A Theory of Inheritance," Colonel S. M. Taylor, Testing Association, N. Y.; "Spillman, 'Cow and Horse Breeding,'" Dr. J. H. Cooper, Cooperville, Mich.; "Breeding Milk and Meat," Andrew Ross, St. Paul, Minn.; "Feeding the Swine," William Dietrich, Urbana, Ill.

WEDNESDAY EVENING.

"Improvements of Dominance in Heterozygotes," Dr. C. B. Javensport, Cold Springs Harbor, L. I.; "Progress in Breeding for Better Market Type for Poultry," Prof. H. C. Pyle, "Type Which Should be Followed in Breeding for Meat Production," Prof. W. R. Graham, Queph, Kan.; "The Inheritance of the Hatching Quality of Eggs in Poultry," Dr. J. H. Mond Pearl, Orono, Me.; "Data on the Direction of the Cross with the Domestic Fowl," Prof. C. A. Rogers, Hts., N. Y.; "Facts About Breeding for the 200-Egg Hen," Dr. Raymond Dean, Orono, Me.; "Constitutional Vigor as a Factor in Poultry Breeding," Prof. James E. Rice, Ithaca, N. Y.

THURSDAY FORENOON, DEC. 9.

In the Auditorium, "Some Principles of Heredity," Prof. W. J. Spillman, Washington, D. C.; "Influence of Nutrition on Animal Type," President H. J. Waters, Manhattan, Kan.

THURSDAY AFTERNOON.

The American Breeders' association will join in a meeting in the Auditorium of the National Corn show and will listen to an address by Mr. J. J. Hill of St. Paul, Minn.

THURSDAY EVENING.

"The Breeding of Grain Sorghums," C. R. Ball, Washington, D. C.; "The Breeding of Barley," Prof. J. H. Shepherd, Agricultural college, North Dakota, and Prof. Alvin Keyser, Fort Collins, Colo.; "The Breeding of Cotton," Dr. D. N. Shoemaker, Washington, D. C.

FRIDAY FORENOON, DECEMBER 10.

"Variability in the Malt Plant," J. R.

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DON'T MISS IT!

Some Problems in Plant Improvement. Dean H. J. Webster, Ithaca, N. Y.; "Hybridization Methods in Corn Breeding," Dr. George H. Shull, Santa Rosa, Cal.; "The Breeding of Corn," Prof. L. S. Klippel, Macdonald college, Quebec, Canada; "Some General Principles and Facts in Grape Breeding," Prof. T. V. Munson, Denison, Tex.

Government Corn Show Exhibit

A large measure of the rapid progress and development of the great farming industries of the country are due to the work of the United States department, carried on through its several bureaus by trained experts. An extensive exhibit, coming direct from the Alaska-Yukon-Pacific exposition, is installed here by the order of Secretary Wilson, upon the request of the managers of the National Corn exposition, and adds a most important and instructive feature which cannot fail to interest all visitors.

The Bureau of Animal Industry, which deals with the control and eradication of animal diseases, the inspection of meat and meat products, animal husbandry and dairying, illustrates these lines of investigation by suitable models, specimens, enlarged photographs, transparencies, etc. A special feature is made of displaying tissues and organs of animals affected with tuberculosis and similar material illustrating hog cholera.

The Bureau of Plant Industry shows nearly 1,000 beautiful waxed models of varieties of apples, peaches, oranges, etc., filling five double pavilion cases. Attractively arranged in another series of cases is a most valuable and interesting collection of small grains—wheat, oats, barley, rice—taken together with samples showing the more important fungus diseases which injure or destroy them. Pure seed investigation is a very useful

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