

### RESPONSE TO ADDRESSES OF WELCOME.

By HON. W. M. HAYS, *Secretary American Breeders' Association,*  
Washington, D. C.

LADIES AND GENTLEMEN: The American Breeders' Association is proud to meet with the farmers of Ohio in the great University of Ohio. We are proud to meet with the organizations here represented—the Ohio State Board of Agriculture, the Ohio State Horticultural Society, the State Farmers' Institute, and the other organizations of this State.

Personally, I am delighted to be here, both to meet the members of the American Breeders' Association and the people of this State, including the farmers and the students of this great University. I am always pleased to meet your President, knowing what work he is carrying forward not only for agriculture, but for all lines of educational effort. I know of his place in national and educational affairs, and I am glad to tell you how much he is appreciated, how the people not only believe in him and admire him, but love him.

I am glad to be here with the professors of your State University and the workers in your State Experiment Station and your Farmers' Institute, the members of your State Board of Agriculture, and all these gentlemen who are taking the lead in this great work.

We come here with some enthusiasm. Our members are to represent us on this program and they come here with a great message—a message to Ohio, a message to this country, a message to the world.

The world is only waking up to what it can do, not only in engineering, but in agriculture; not only with the soil, but with those living forces bound up in our plants and animals which we can select out, and at little expense make into more valuable forms, blessing humanity with greater production.

This organization was formed to bring together the powerful forces of mind and life; to operate on the living plants and animals; to bring out the best there is in them. The world is learning not only to respect science, but to have the profoundest expectations of science. It is really astounding to those who have been in this work of advancing agriculture in our State experiment stations, agricultural colleges, and the National Department of Agriculture, to see the wonderful forward movement that has taken place in the minds of our people, and in the faith they have in science as applied to the soil, to the crops and to the animals. (Applause.)

I see before me some of the older professors in the Agricultural Department of this University. I do not mean that they are old men, but I mean that they have been longest in the business; and they and I know how difficult it was to arouse enthusiasm and interest in matters agricultural twenty-five years ago. This quarter of a century has won for agricultural science a permanent, strong, and inspiring place in our civilization. Some other lines of work went forward more rapidly than did those beginning ten, fifteen, or twenty years ago in the

breeding of plants; but there is no line to-day that is going forward more rapidly nor gaining larger place in the experiment stations and in the curriculum of our agricultural colleges.

Young men will make no mistake who take up this line of work. Those of us who by reason of our position are shown what progress is liable to take place in the interest of agriculture in the near future can see far greater opportunities, far greater prospects, than could these older professors and myself when we were students in agricultural colleges a quarter of a century ago.

You must all admit that agriculture is a wonderful theme; that the science of plants and animals and the management of farms and country homes have in them wonderful breadth of thought and work, and that once this subject is fairly opened up, and the energies and money of the rich people of America are turned in that direction, there will be plenty of opportunity for young men and young women all along the line; opportunity for young men in large numbers in the more humble positions, and every great opportunity for those who can become leaders of the first rank.

The members of the American Breeders' Association appreciate what was said on this platform by these two gentlemen this morning; but we appreciate more deeply the spirit with which this State has taken up the invitation to bring this Association to Columbus to meet with the Agricultural Society and other societies, and to meet at the university with the agricultural college people of this great institution; and I want to say as secretary of the Association, having had charge of arrangements on the part of the Association, that we are delighted with the treatment we have received, with the spirit in which the State Agricultural Society has simply given up part of its program and allowed this Association, the members of which come from many States, to seem to be the larger factor of the program, that we might preserve our identity throughout the entire country.

We appreciate especially the work of the gentlemen who have had immediate charge of these arrangements. Men are not always broad-minded. These gentlemen have been very broad-minded, and I may say magnanimous and kindly in this matter, and we thank you most heartily.

We wish to thank this city also for the courtesies it has extended; for the nice notices which the newspapers have already given this meeting; for the interest that your commercial bodies have taken; and we want to say that we are proud that we are here in the great State of Ohio.

It is with very great regret that I must announce that we do not have with us the President of this Association to-day—Secretary Wilson. He sends you his greetings. He is very sorry he cannot be with you. It has not been his fortune to be at any of the meetings of this Association. He has recently suggested that he wished we might meet in Washington, that he could meet with us. I might say it was through Secretary Wilson's suggestion that this organization was formed under the auspices of that great organization—the American Association of

Agricultural Colleges and Experiment Stations. He suggested that this matter be taken up by a Committee of that Association, and under its great name it was possible to do what seemed then very difficult—to bring together the practical breeders of plants and the practical breeders of animals, the scientists studying the breeding of plants and scientists studying the breeding of animals, and scientists studying heredity in a general way. We owe much to this parent organization. We should at no distant day pay our respects to that organization in some commensurate way. It has been suggested that we might possibly meet with the American Association of Agricultural Colleges and Experiment Stations next November in the city of Washington. I assure you that nothing but the greatest Departmental responsibilities at this time would have kept Secretary Wilson from being at this meeting at least one day; but there never has been a time when there was more work to do in the Secretary's office than during this last month or two, owing to the administration of these new food laws and meat laws as well as the presence of Congress and the taking up at this time of the appropriation bills for the Department of Agriculture.

I am compelled also with the deepest regret to report that Vice-President Kerrick, whom we always expect at these meetings, and whom we usually expect to take the general burden of the proceedings in his most happy way, to our great sorrow will not be here on account of the serious illness of Mrs. Kerrick. He sends his greetings and wants to be remembered to all the members of this Association, and he is glad to have his name mentioned to the people of this great State. It has been the loyal support and the great faith that these leaders have had that has made it possible to bring this Association forward as rapidly as it has developed.

This, ladies and gentlemen, is the fourth annual meeting of this Association. It has already published two reports, the first including accounts of the first two annual meetings. The great trouble with the organization has been the immense distances which people have to travel to attend any national organization. Notwithstanding the difficulty of bringing out very many members, great interest is shown in the Association as appears from our rapid increase in membership, and even more from the great interest which the people of this country are taking in this Association and the subject it represents. You may be sure that at first there were many people who doubted the expediency of forming a National Association. They thought this country was too large for a National Association of any such general character as this would be. I think that those people almost without exception have been converted to the idea that the move was a good one. It has taken some of them three or four years to find out that the subject matter, the great economic and theoretic interest in this subject has made possible such an organization.

Now, ladies and gentlemen, as to the present meeting; you see by the program that there are to be presented a large number of papers by able men, and, as these papers come on, the purpose is to discuss them. I am sure you realize that the scientists and practical men in

plant breeding and animal breeding are surely getting hold of the subject in a technical and practical way that none of us dreamed of five years ago.

This meeting will do the main work of first blocking out what direction this Association is to take. At the last meeting there were appointed something like forty committees. These committees have been invited to report at this meeting. It is not probable that all of them will succeed in bringing reports; but there will be a sufficient number of reports to show how this subject is to be approached, not only by this Association, but by these committees. They are bringing together the brightest minds on the different lines involved in the subject of breeding. These committees will bring these men into a position to consult with each other and to bring about consultations with others who may be leaders along the same lines.

The great work of crop breeding, of taking our varieties and species of field crops, horticultural crops, and various other crops, and the great work of breeding domestic animals, is going to be done partly by individuals, but largely by institutions—private corporations, or public institutions; and these committees will help to interest these individuals, and corporations, and institutions. They will also help the farmer toward what we might call standard systems and working methods of getting at his problems, stating the object to be reached and the way of approaching that object. Then this Association will help to do another thing: It will help to develop new varieties and breeds by means of statistics and figures gotten during the process of scientific breeding, figures that will tell the American people that these new forms are more valuable, and that the people cannot afford to disregard them, because there is great money in them.

The scheme of committees has been worked out in three classes: (1) General committees on both animal and plant breeding; (2) committees on plant breeding; and (3) committees on animal breeding. One of the first committees, for example, under the general heading is the Committee on Animal and Plant Introduction, headed by Mr. David G. Fairchild, who is prepared for this work by two or three times going about the world, his expenses in part being borne by the National Department of Agriculture, and in part by a California millionaire, who finding this young man and gaining his enthusiasm, paid the expenses of some of these trips, Mr. Fairchild getting only his salary from the National Department of Agriculture. This matter of plant introduction is only well begun, having been started by J. L. Budd, Professor of Horticulture, and by Mr. Charles Gibb, who together went twenty-four or twenty-five years ago to Europe and Asia to find new things for the northern climates, especially in fruits. Then Professor Hansen, Mr. Fairchild, and other gentlemen in the Department of Agriculture followed with trips abroad, and they have thoroughly opened up possibilities and plans for bringing to this country whatever good there may be in natural species in all parts of the world. We are not going to do all the breeding of plants and animals, for a great work

in this directions is being accomplished in Europe by the immense city corporations and by private individuals there.

Another general committee is that on animal hybridizing. The movement has only started to bring to this country wild animals from foreign countries. The work of bringing the improved animals has been going on for a long time; but we have not got all the best there is along that line even yet. Foreigners are continuing their improvements. The zoological parks of Washington, New York, Cincinnati, Chicago, and other great cities should keep in line with the economic as well as scientific sides of this question, and bring into their collections not only those foreign animals that are of interest to people to see, but those which can be used in hybridizing experiments in order to find out what animals can be hybridized; and what are the possibilities of making them useful in improving the blood of our domestic species. At the head of this Committee on Animal Hybridizing is Professor W. J. Spillman, of the United States Department of Agriculture at Washington, a man who has shown strong instincts for studying this matter of hybridizing and its possibilities.

There is a Committee on Breeding for Dairy Production, headed by T. L. Haecker, of St. Anthony Park, Minn.; a gentleman who has made great progress in methods of feeding and has simplified methods of testing the value of the cow. Professor Haecker did not realize that the methods he was working out in solving the problem of cost of production were the very methods in part needed to compare cow with cow and blood line with blood line in dairy breeding. He has now been brought in relation to the other gentlemen on this committee and is trying to block out a system of breeding dairy cattle.

Professor Andrew Boss, also of the University of Minnesota, for twelve or fifteen years, has had charge of an abattoir in an agricultural college, teaching young men and young women about meats; young men how to judge animals before slaughter, how to slaughter them, and how to judge them after slaughter; how to put them upon the block and judge the pieces; how to weigh the pieces and get at their valuation so as to get at the value of one animal as compared with another, in order to determine which is the best animal. Professor Boss has been asked to take charge of the Committee on Breeding for Meat Production. He has with him a number of other gentlemen who have had experience along this line. He has hardly realized till lately—as none of us have—the possibilities of applying scientific tests in regard to performance, if you please, of meat-producing animals. It was all along claimed that we must not go by outward appearance of these meat-producing animals as seen in the show-ring and in public and private sale in judging of their values; but those of us who have seen the method of figuring out trotting records and performances in our horses have felt that this method might be applied to meat stock; also especially such meat stock as combines both meat and milk production. I would say that Professor Boss has charge of the first experiment—no, not the first, because the first is in Colorado—in which the Department of Agriculture and the State experiment stations are



to work out a system of breeding in co-operation. But it is the first in this respect, that it undertakes to apply performance records to meat-producing animals, recognized as one of the very difficult problems. The problem taken up is with milking shorthorns, and I may have occasion to speak of it later on in this meeting.

The next committee mentioned is the Committee on Co-operative Work in Animal Breeding, of which I happen to be Chairman, and of which I may speak more at length later on.

Then there is a committee headed by Dr. A. F. Woods, Assistant Chief of the Bureau of Plant Industry at Washington, on Co-operative Work in Plant Breeding; not only co-operation between the Department of Agriculture and the State experiment stations, but co-operation of whatever kind between different institutions—possibly between the Department of Agriculture and private individuals, or organizations other than experiment stations.

There is a committee also to study questions relating to heredity in man, and something will be said concerning that committee and its organization later on.

Professor C. S. Plumb, of the University of Ohio, is at the head of the Committee on Nomenclature and Registration. There is need of uniform terms that everybody will understand and of somewhat uniform and certainly efficient methods of registration that will keep track not only of lineage and pedigree, but of performance records—performance pedigrees if you please. Professor E. W. Major, Berkeley, Cal., of the University of California, is at the head of the Committee on the Pedagogics of Breeding—the teaching of breeding. Professor D. A. Gaumnitz, of St. Anthony Park, Minn., has charge of the Committee on Prize Competitions. Professor C. F. Curtiss, of Ames, Iowa, of the Iowa Agricultural College, long associated with the breeding interests of Iowa, as well as with the Agricultural College and Experiment Station, and particularly with the great International Livestock Association of Chicago, in which organization he is a very prominent and useful member, has charge of the Committee on Purebred Livestock Business—the business side of livestock breeding. This will include such questions as how to bring before the public those blood lines which are really most useful to the farmer, or, in other words, how to make money out of the breeding business in a businesslike and excellent way.

There is a Committee on Purebred Seed and Plant Business, of which Mr. Eugene Funk, of Shirley, Ill., is chairman, which, for instance, will deal with the relations of public institutions producing new varieties to the seed house and to the men throughout the State who become breeders of plants, in the same way as our purebred stock breeders are disseminators of purebred animals.

Dr. H. J. Webber, of Ithaca, N. Y., is chairman of a most important Committee on Theoretical Research in Heredity. There are three great steps in these studies that are inspiring such men as Dr. C. B. Davenport, who is presiding to-day, to go forward and learn more of what takes place in heredity. These are explained in the works of

Darwin, Mendel, and DeVries, particularly those of DeVries. These studies are being followed up more and more by experimenters who are taking up that line of work and who believe that heredity can be brought under scientific control; that there is even arithmetic in it. Characters are often inherited and transmitted mathematically, at least to some extent. So these men on this committee are taking up many other phases of the subject of heredity, and they are going to do much of the groundwork that will make possible improvements in the breeding of plants and animals, just as theoretical chemistry has made possible modern chemical engineering.

Mr. George M. Rommel, of the Department of Agriculture at Washington, is chairman of the Committee on Breeding Carriage Horses. Work has already begun in that line in Colorado, as many of you know. Professor John A. Craig, of College Station, Texas, has charge of the Committee on Breeding Draft Horses.

There is to be a Committee on Breeding Fur Animals—wild animals. The fur animals of the world are becoming extinct. People are becoming wealthy and want more furs. It is just as legitimate to breed and grow fur-producing animals as it is to breed cattle or any other class of animals.

There is a Committee on Breeding Fish. I dare say that when this work is taken up in earnest that an immense number of fish that can be used in breeding experiments will be found and the problem will be so worked out as to secure practical as well as theoretical results. Mr. J. W. Titcomb, of Washington, D. C., is the chairman of this committee.

So I might go on at length, with the forty committees, which illustrate the scope of this Association. There is practically a committee for each class of animals—dairy animals, beef animals, each class of work animals, each class of plants, such as corn, cereals, clovers, etc. I urge gentlemen here who are interested in any of these lines to find members of these committees and get in touch with them.

I mentioned that there has been a suggestion that we ought to hold a meeting of this Association at Washington possibly next year. It has also been suggested that at some time within a few years it would be wise to hold under the auspices of this Association a great international gathering on animal and plant breeding and heredity.

I want to say in conclusion, Mr. Chairman, that we are delighted to be here. (Applause.)

CHAIRMAN DAVENPORT: I feel that this meeting would wish me to express its regret at the enforced absence of President Wilson, which fact has been brought before us by Secretary Hays. I do not need to tell a meeting composed very largely of farmers how glad we should be to see President Wilson, recognizing the grandeur of the work that he has done for the American farmer. He has told us somewhere that when he first came to Washington as Secretary of Agriculture he found

the Department consisted largely of a set of roll-top desks. Since he has been there he has not only filled those desks with the most prominent agriculturists and organizers of agricultural work, but he has organized practical work, gardens, green-houses, farms, and filled them with scientifically trained men who have been engaged in studying the fundamental laws underlying the industry of agriculture.

I am sure also that this meeting would wish to express its deep regret at the absence of Vice-President Kerrick, and its sympathy at the cause, and its hope that that cause may soon be removed in the complete recovery of his family.

After music by Angelus Ladies' Quartette, the presiding officer announced Mr. J. P. Hine, of Shinrock, Ohio, as the next speaker.

### BREEDING BEEF CATTLE IN OHIO.

By J. P. HINE, *Shinrock, Ohio.*

MR. CHAIRMAN, LADIES AND GENTLEMEN: It is with a great deal of pride that I step upon the platform of this old chapel. Twenty-three years ago I attended as a farmer's boy a course of lectures—farmers' lectures—delivered in this chapel. Of that course of lectures I took copious notes—and put them away so carefully that I never could find them. I remember just one topic, and that I remember a great deal of. That was furnished by Brother Chamberlain. The next year as a student of the University here, and again two years later, I attended all the meetings in the same course. Some of these were held in the city hall in this city with only a handful—a score or so—of the prominent breeders of the State. I have seen the work grow until it requires larger accommodations. So I feel that while I am not very aged in years, that I was present at the birth of the institute movement of the State of Ohio, and have always kept my interest in the institute, not only of the State institute but of our local institute as well.

For twenty years I have been breeding and handling pure-bred cattle of one of the popular beef breeds, and for more than ten years exhibiting in the show yards of many of our best State and district fairs. I have kept in close touch with the beef producers of the country. So while my experience has been largely in the production of breeding animals for the improvement of the beef stocks, I recognize the fact that the aim and end of all beef-producing cattle is the block and that the success and prosperity of the breeder rests, in the end upon the prosperity of the actual producer and finisher of the beef animal.

Let us start with the axiom that all prosperity is founded upon the bounteous production of mother earth and that the agricultural products (in all branches) comprise a large percentage of this production, and that the greatest possible agricultural prosperity for the masses