EDUCATION AND BREEDING.

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LADIES AND GENTLEMEN: I would not be gracious if I did not recognize the kind words President Thompson has spoken. This Association would not be gracious if it did not recognize the kindness it is receiving in this city at this University, at the hands of the Ohio State Board of Agriculture and of these other organizations.

We would not be true to Ohio if we did not recognize this great State—this great President-making State. But, I came here to-night to bluntly ask Ohio to "get busy." Keep on making Presidents if you will, but let us make a great race of industrial people in agriculture, in the city industries, and in home making. (Applause.) Let us, somehow or other, get about 20 cents per capita out of the National and State Treasuries, and let us spread that 20 cents per capita over industrial education.

President Thompson, Prof. Plumb, Prof. Osborne, and all these other good agricultural people of the University have been turning out a lot of students, and our friend Chamberlain here knows how to make a host of them through his paper. Let us get busy with some plan to raise that 20 cents per capita. Uncle Sam should take the lead. Let the General Government put up one-half, and the State put up the other. Divide this good old State of Ohio into districts and let us start an agricultural high school in each district. Of the general appropriation set apart for this purpose let each high school be allotted an equal proportion. In such schools should be taught not only agricultural subjects but home economics. Let us get busy with this problem of agricultural education; let us take hold of the pedagogics of agriculture and make agricultural education available to all the people of this country. We have learned how to introduce the mechanic arts into our city high schools, and we should introduce more generally home economics. In this way you can make more presidents in Ohio every year; you can raise a better race of farmers, industrial people, and home makers.

The money is in this country to do this with. This country has been increasing year by year its earning capacity and its production per worker until now we have the wealth with which we can do this work both North and South. You say that Ohio is conservative. So was Georgia; but seven months ago the State legislature was in session, and it passed a bill for the support of eleven agricultural high schools; and it turned over to these schools \$66,000, the prospective increase in receipts from the tax on fertilizers, oils, etc. The legislature required each of the eleven congressional districts that were to get these agricultural high schools to give at least \$20,000 to put up buildings. Governor Terrell suddenly got busy, and some men of the Department

of Agriculture went down and looked over the farms that these different districts might wish to select. Another Department man went down to help advise them as to the course of study along lines followed in the agricultural high schools of Minnesota and Nebraska, and some of the other States. Governor Terrell found an architect and had a plan made of a suitable building for these agricultural high schools. When Governor Terrell got through with them, these districts had raised nearly \$825,000 to furnish the buildings and equipment of these high schools. What Georgia can do to-day, with her population and wealth, Ohio can do three times and over. (Applause.)

Governor Terrell is an enterprising man. He saw that \$66,000, or \$6000 per school, would not do the business. The people had to pay more money for more buildings and equipment than he had anticipated. What did he do? He did not know how to go back to his legislature and ask for money. It would be two years until another legislature met, and another man would then be in the Governor's chair, and he wanted to get right along and do business. So he came to Washington, found his congressmen, and one of them introduced a bill providing that \$10,000 should be appropriated out of the Federal Treasury for each school that would be organized of that class. Another Congressman from that State, at his suggestion, introduced a bill appropriating \$2500 for each of these schools, providing the State would put up an equal amount.

There is still another proposition under consideration by some of these same men, namely, that the Federal Government appropriate out of its revenues a sum equal to 10 cents per capita, the same to be turned over to a system of agricultural schools. This would give to the State of Ohio \$200,000 for agricultural schools, and if the State would contribute an equal amount we could put industrial training and home economics into those schools.

But I am not going to dwell on this matter. I am not saying whether I favor this tax a great deal, or not. I am going to talk to-night about education and breeding. Suppose this grand old State of Ohio had such a system of agricultural high schools along with its agricultural college and experiment station. After twenty years, Mr. President, under your wise direction, those agricultural high schools could graduate a sufficient number of men trained in agriculture, and trained to give instruction in agriculture, and a sufficient number of young women trained to give instruction in home economics, to do elsewhere throughout the State what you have already so magnificently done in the northeastern and some other parts of this State—consolidate your rural schools in districts about 5 miles square. These high schools would work in cooperation with and as preparatory schools for your agricultural colleges; and when the system is fully completed and under way you can reach 200,000 boys and girls and give them thorough agricultural training and training in home making.

This country has spent in the last twenty years something like \$25,-

000,000 in research in agriculture, and other countries have also spent about the same amount; and, with the prospective increased appropriations along these lines, there will be probably \$200,000,000, and maybe more, spent in research in agriculture in the next twenty-five years. Are you preparing the machinery for the dissemination among the people of the knowledge which this research will yield?

But I was talking about education and breeding. Now if we have such a system as this we want more sub-stations like that at Wooster; we want a branch station attached to say each ten of these branch schools. If you had that, you would have the study of plant and animal breeding provided for at least so far as land and general equipment are concerned. Then you can establish also at each one of these stations a plan of breeding work, and there might be at each branch station a man who would take up at least one department of breeding. There might be at each one of the branch stations a man who would take up this work under some kind of cooperative scheme such as is being suggested. Then at the central station there could be kept a record of the results of crossing in animal and plant breeding, and at your agricultural college also.

Now, I am not going to talk very long. We will have some moving pictures presently. We want to show you a lot of these, in order to drive home in a practical and illustrative way the fact that we can establish these centers of plant and animal breeding just about as well as we can organize factories for ceramics, or for making sewing machines or self-binders or locomotives.

In Minnesota such a plant-breeding establishment is already started. It has been under organization for about fifteen to eighteen years. It has come to that point where it can be enlarged and increased by increasing the units, just as a sewing-machine factory can be enlarged by increasing the equipment for making each part of the machine. Of course, as the years go on there are many improvements that come in, just as in the manufacture of sewing machines there are new inventions that require more or less change; but the systematic project goes right forward in a sort of mechanical way.

[At this point there were exhibited some moving pictures illustrating the technical operations of breeding wheat and also class and demonstration work in some of our most progressive agricultural high schools and colleges.]