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TWENTY-SECOND ANNUAL MEETING

OF THE

IOWA IMPROVED

Stock Breeders' Association,

HELD AT

OSAGE, IOWA,

OCTOBER 30 AND 31, 1895.

OFFICERS:

President—ROBERT J. JOHNSTON, Humboldt. Vice-Presidents—J. P. MANATREY, Fairfield; JOHN COWNIE, South Amana; RICHARD BAKER, JR., Farley; PROF. C. F. CURTISS, Ames; W. W. VAUGHN, Marion; J. R. CRAWFORD, Newton; C. C. NORTON, Corning; C. L. GABRIELSON, New Hampton; B. F. ELBERT, Des Moines; B. F. GOVE, DeWitt; Secretary and Treasurer—GEO. W. FRANKLIN, Atlantic.

Stenographer—D. A. LONG, Waverly.

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DES MOINES:
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1896.

IOWA IMPROVED STOCK BREEDERS' ASSOCIATION.

SECRETARY'S REPORT.

To His Excellency, Hon. F. M. Drake, Governor of Iowa:

In compliance with the provisions of the statute I have the honor to present the general review of the condition of this association, and to render a stenographic report of the proceedings of the last meeting, which was held in the town of Osage, Iowa, October 30 and 31, 1895.

C. MURDOCK,
Secretary.

PROGRAM.

WEDNESDAY AFTERNOON, OCTOBER 30.

1:00 O'CLOCK.

Welcome, by the mayor of Osage.
Response, by Prof. James Wilson, Ames.
Appointment of committees.
"Iowa's Wealth," by A. A. Berry, Clarinda.
Paper, by Prof. H. C. Wallace, Ames.
Discussion.

EVENING SESSION.

7:30 O'CLOCK.

"The American Farmer," by Prof. W. M. Beardshear, Ames.
Discussion.
"Stick to Your Bush," by A. G. Lucas, Des Moines.
"The American Boy," by Prof. R. C. Barret, Osage.
Discussion.

THURSDAY MORNING, OCTOBER 31.

9:00 O'CLOCK.

"Heredity as a Factor in Live Stock Improvement," by Prof. C. F. Curtiss, Ames.
Discussion.
"Deductions on the Capacity of the Soil," by Prof. D. A. Kent, Jewell Junction.
Discussion.
"Some Precautions against Imparting Disease while we are Improving the Blood of our Live Stock," by Prof. M. Stalker, Ames.
Questions and discussion.

THURSDAY AFTERNOON.

1:30 O'CLOCK.

Report of committees.
Report of secretary and treasurer.
"Feeding," by Prof. James Wilson, Ames.
"The Average Farmer," by E. C. Bennett, Tripoli.
Paper, by Henry Wallace, Des Moines.
Discussion will follow each paper until time to retire to banquet, to be tendered the association by the people of Osage.

OFFICERS FOR 1896.

PRESIDENT.

Hon. C. W. Norton ..... Wilton Junction

VICE-PRESIDENTS.

O. H. Lyons ..... Rockford
J. P. Manatrey ..... Fairfield
John Cownie ..... South Amana
Richard Baker, Jr. ..... Farley
Daniel Sheehan ..... Osage
Prof. C. F. Curtiss ..... Ames
W. W. Vaughn ..... Marion
J. R. Crawford ..... Newton
C. C. Norton ..... Corning
B. F. Elbert ..... Des Moines

SECRETARY AND TREASURER.

C. Murdock ..... Waterloo

The next meeting will be held at Fairfield, Jefferson county, beginning Wednesday, December 9, 1896.

THE CONSTITUTION.

ARTICLE I.

This association shall be known as the IOWA IMPROVED STOCK BREEDERS' ASSOCIATION.

ARTICLE II.

The objects of this association are to increase the excellency and to provide for the preservation and dissemination in their purity of the different breeds of improved stock of all kinds.

ARTICLE III.

Any person who is a citizen of Iowa and a breeder or owner of fine stock may become a member of this association by paying a fee of *one dollar* annually, and signing the constitution or empowering the secretary to write his name thereon.

ARTICLE IV.

The officers of this association shall be a president, five vice-presidents to represent the different branches of stock breeding, and a secretary and treasurer, and these seven shall constitute an executive committee, of whom a majority shall be a quorum for the transaction of business, and the duties of these several officers shall be the ordinary duties of such officers in like associations.

ARTICLE V.

The annual meeting of this association shall be held on the second Wednesday in December of each year, at which time all officers shall be elected by ballot, and they shall hold their offices until their successors are elected and qualified.

ARTICLE VI.

This association, at any annual meeting, may make amendments to this constitution, may adopt by-laws, may fix an annual fee of membership, and may do any other business not inconsistent with the purposes of this association; *provided*, that amendments to this constitution must receive a two-thirds vote of all members present.

[The above is the amended constitution. The number of vice-presidents have by the custom of committees been changed from five to one from each congressional district.—ED.]

INTRODUCTION.

It has been a recognized fact that the Iowa Improved Stock Breeders' association in all its history has been an educator, exerting a great power in the way of an incentive to reach a high mark in the profession of breeding thoroughbred stock of all kinds in Iowa. Indeed it is very doubtful if the live stock interests of the state would ever have assumed the important proportions of to-day without the various live stock organizations. These concentrated forces have acted as great exponents in the way of education all along the line of progress. However, the large number of various live stock organizations now in existence in Iowa is worthy of consideration. We have many of these organizations that meet once a year or oftener. As the ebb tide of profit flows low it tends to make members of this association ask, are there not more meetings to attend than we can pecuniarily afford to become members of? Some have suggested that some of these live stock meetings be consolidated; others claim this cannot be practically accomplished. It does seem in this, the greatest live stock state in the union, where the live stock interest is paramount to any one other interest, that these meetings are of enough importance to bring out a large enough audience to insure reduced railway passage.

The twenty-second annual meeting of this association at the bright town of Osage was one of great pleasure and profit to all that attended, and all unite in giving high praise to the people of Mitchell county for their unbounded hospitality, including a sumptuous banquet. Quite a number of the old wheelhorses of the society were present, but there was also a painful absence of members whose voices have echoed in many other deliberations of by-gone similar occasions.

The railroad communication was very poor, and locating the meeting so far to one side of the state seems to work to a

disadvantage in getting out an attendance at large from all parts of the state. The local attendance was very good.

The past year has been attended with many vicissitudes along the path of the live stock breeder, and when we consider the vast financial interests at stake, and the still vaster amount of good to be done our commonwealth by a continuance in the way of improvement of the various races of domestic animals, members of the Iowa Improved Live Stock Breeders' association would like to see this association planted again upon the plane of prosperity.

The next session will be held at Fairfield. This is considered a very favorable point for this association to hold its annual meeting, as railway communications are good, and it is hoped that enough will surely come out to insure reduced rates on the certificate plan. The association earnestly requests that every stock raiser of each and every class make arrangements early to attend the Fairfield meeting, which comes on the second Wednesday of December, 1896.

TWENTY SECOND ANNUAL SESSION.

The twenty-second annual convention of the Iowa Improved Stock Breeders' association convened in the opera house at Osage, Iowa, Wednesday, October 30, 1895, at 2 o'clock P. M. The association was called to order by its president, Robert J. Johnston, of Humboldt.

CHAIRMAN: The first thing on the programme is Welcome, by the mayor of Osage, Mr. J. W. Annis.

Mayor Annis addressed the convention as follows:

Mr. President,—

CHAIRMAN: Mr. Annis.

MAYOR ANNIS: *Gentlemen of the Convention*—I want to beg your indulgent pardon for having been compelled through the pressure of other business to reduce a part of that which I now say to writing, but I promise you one merit, and that is brevity, which I think at this hour will be of value.

Mr. President, and Gentlemen of the Iowa Improved Stock Breeders' Association:

On behalf of the good people of the city of Osage and of Mitchell county, I take great pleasure in being permitted to bid you a hearty welcome to this, your twenty-second annual meeting.

It is unnecessary for me to say to those assembled here, coming from all parts of the state, that the word Iowa is a synonym of energy, industry, advancement and success.

The motto of one of our flourishing state insurance companies, that "Of all that's good, Iowa affords the best," is a statement of a great truth that is coming more and more to be realized.

I might enumerate some of the causes that have contributed to the prosperity of Iowa, such as her fertile soil, her mines, her manufactures, her sound financial institutions and her peerless public schools, but not among the least of her elements of prosperity is her great agricultural interests, which you have met here to-day to advance by the discussion of newly developed ideas and methods. Another year has come and gone since last you met; many lessons have been learned, fresh truths have been brought to light, so while you discuss old subjects it will be done in the light of new

experiments. But you, gentlemen, who have had so much to do in the planning and upbuilding of the material interests of Iowa, know of these better than I.

When the delicate yet firm hand of the committee was laid on me with the command that I should say these few words of welcome, I at once sought to learn the objects of the association, which I found to be:

"To increase the excellence, and provide for the preservation and dissemination, in their purity, of the different breeds of improved stock of all kinds."

Truly a patriotic, worthy object!

The thought seems to press home upon me, at least, that heroic efforts are needed to retain our present high standard of excellence. The labors of a generation, I believe, are in danger. This, I hope, may be one of the results of this meeting.

We wish you to feel that your coming here to hold your annual session affords us great pleasure, and that to be permitted to entertain you while here gives us the greatest satisfaction. We feel highly honored in having among us as guests, even though for a short time, such distinguished leaders, scholars and thinkers. Your faces may not be familiar to all of us, but I can assure you that your names (many of them) have been household words in this locality for many years. Your discussions and papers will receive an attentive hearing, and we contemplate much profit as well as entertainment.

I believe it will not at least be inappropriate for me to call your attention to our city and county.

Notwithstanding that at your last meeting at Ames my friend Sheehan was introduced as the gentleman from Minnesota, and it was an unsettled question whether Osage was in Iowa or Minnesota, the truth is both Mr. Sheehan and Osage are not only in Iowa, but are in the best county in Iowa. I would call your attention to our fine farms and comfortable homes (many of them elegant), our school houses, churches, broad streets and business houses. I would call your attention to the fact that throughout the length and breadth of our city and county there is absolutely not a single saloon or hole-in-the-wall, and what is especially gratifying, not the remotest chance of there ever being one.

On these farms and in this city lives a prosperous and contented people, where for forty years a kind providence has shielded us from a complete failure of crops. So, with a smiling providence above us, Minnesota air around us, Iowa soil beneath us, we are prosperous and happy.

Again, Mr. President and gentlemen of the convention, I give you a hearty welcome to our city and homes, hoping that during the recesses of your meetings you will avail yourselves of the opportunities which will be afforded you to look over our beautiful little city, in which we feel we have just cause for pride, and that when you return to your several homes your recollections of this annual meeting shall be those of pleasure, and in the not distant future you will honor us again.

THE CHAIRMAN: The next on the program is response by Prof. James Wilson, of Ames.

PROFESSOR WILSON: *Mr. President, Ladies and Gentlemen*—(Applause)—Of all the tasks imposed on me in my lifetime, one of the most trying has been

to foreshadow just what the mayor of this beautiful town in northern Iowa was going to say. This task has given me most active thought. I know something about Osage. I have kept watch of it. I have noted its growth for the last one-fifth of a century It has always been a pleasure to us to meet gentlemen from northern Iowa. We have had some doubt some of the time just where to locate them all. One practical result from the remarks of the honorable mayor is that we know now just where Daniel Sheehan belongs. It is a matter of great interest that possibly we might have spared Daniel Sheehan to Minnesota, but we could not very well spare Nora to Minnesota.

I thank you Mr. Mayor, for the hearty welcome you have given the breeders in behalf of your people. We may say that the man who is well-informed in regard to the growth of the state of Iowa, and in regard to her educational and material interests is a well-informed man, but he is a man we rarely meet. How few of us know how these cities and towns all over the state are springing into greatness. I notice only two or three of the gentlemen whom I met in the first meetings of the breeders. In those days the pioneer desired the counsel of his fellows, and this society was organized for the purpose of bringing us together once a year in convenient localities to discuss our own affairs; to take into consideration what the conditions were that we had to meet and grapple with; how we should best build up the state of Iowa in all that pertained to its growth; what should be needed in the state of Iowa and what would be peculiar to ourselves. It has been discussed every year what was in the minds of the farmers of Iowa at that particular time. Whatever concerned them most was discussed most.

I have never been in an organization where I could talk more directly to the point than to the breeders of Iowa. I have never seen a body of gentlemen who tolerated less those who didn't speak to the point, and have seen some sad results to gentlemen who didn't talk in that direction. A meeting now brings up some questions that are entirely new to us, conditions that are to be considered if the state of Iowa is to prosper as it has, if we are to maintain the high prosperity that we now have. We are now competing with all the great continents. Things that are cheap come to us from Europe, Asia, Africa and the islands of the sea. Russian grains find their way into the market; cattle from Mexico cross the border, and we have to compete, or to consider whether it is wise to attempt to compete with the class of grain that comes from Russia and the class of meats that are found on the table lands of our great sister over across our southern borders. Iowa lands have risen in value very rapidly. With cheaper money and cheaper labor, new conditions along these lines present themselves to us. Can we grow barley, can we grow corn and wheat and compete with the new systems of transportation that are being pushed in these other countries? The Russians are running railroads into Siberia. In Africa the great powers of Europe are building railroads on the dry table-lands of that country. Their cheap grains are being brought to compete with ours, too. The pioneer of Australia sends his wools and begins to send his meats to our markets to compete with us. One of the important questions that presents itself to us now is: How are we to meet this competition? Briefly stated, the civilization of Osage cannot be maintained on

cheap grains, cheap cattle, etc. We must send to all the world the products of our skill. Deftness of hands must accompany our products. We compete with the whole world. Transportation is becoming cheaper all the time. We are not sure that we will not have to compete in the Osage markets here with the cheap goods that are finding their ways to our borders. Cheap horses in the southwest; cheap wheat in Russia; cheap cattle in Mexico and South America; the great vessels can bring all these things to our own markets and compete with us.

It is the province of the intelligent gentlemen that comprise this association to indicate on what lines we can produce what the world wants, and what the world will pay big prices for. Horses are cheap, but the world wants horses. Europe takes horses across the ocean every week, but they want heavy horses, coachers, army horses, and no country on the face of the earth can compete with us on that. The world wants first-class mutton, and the world has a great abundance of poor mutton. The time has come when we can't afford to put on the pastures of Iowa cheap sheep to get cheap wool. The lands of the old world are valued four or five times what the lands in this country are. They can afford to put high-priced mutton there, and we can afford to do it. We are situated fortunately in the state of Iowa, but the scrub animal must go. We can't maintain our civilization with that kind of an animal. Wherever we go and meet the people of the world, whether in their markets or in ours, we must go with products of skill and excellence, and then we can meet competition anywhere

We thank this people of yours, Mr. Mayor. This is a good place to come to consider the new duties and responsibilities that confront us, that confront the state of Iowa and the breeders, in blazing the path whereby the people of Iowa can go on to prosperity. It is our duty to indicate to the state of Iowa what kind of agriculture will maintain and carry on to excellence this fine civilization of yours. We do not want any fewer churches in Osage. We want you to still improve your school system in Osage. We want your beautiful homes that you have spoken of to be still improved here and in the county of Mitchell, and we want all this done by improving the product and putting more skill and more excellence in getting these products to the civilized world. [Applause.]

THE CHAIRMAN: The next thing on the program is a paper, "Iowa's Wealth," by A. A. Berry, of Clarinda. In the absence of Mr. Berry, Secretary Franklin will read this paper.

IOWA'S WEALTH.

BY A. A. BERRY.

"Such is the patriot's boast
Where'er we roam:
His first best country ever
Is his home."

The true blue Iowa agriculturist is proud of his home and is ever boastful of the productiveness of its soil, of its climate and general advantages.

And not without good reason, as nowhere on the face of the globe can a state or country of comparative size show such a wealth of agricultural resources and general advantages. It is truly a farmer's paradise.

We recently heard an old farmer remark, "Iowa's good all over," and it is, as there is comparatively little waste or poor land as in other states

To prove its value we have only to cite the fact that Iowa land is rapidly increasing in value and rents becoming higher. And it is bound to increase in value at the rate of from 5 to 10 per cent per year until all good corn land will sell for $100 per acre, and it will not be long until it reaches that figure in many portions of the state.

Wherein consists Iowa's greatest wealth? may be asked. In her special adaptation for growing such immense crops of corn and raising most everything that grows well, except tropical productions. Corn is king and is being appreciated more and more every year for human as well as animal food. The area for producing this cereal is very limited. We have the wide world for consumers with but comparatively little competition. Its demand is steadily increasing. Just now corn is low in price as are many other farm commodities, caused by a combination of reasons, but it will not long stay at such figures; in fact there will be but little of it leave the state until it reaches a profitable price.

Take this year's estimate of our corn crop and it rounds up, by government statistics, 295,000,000 bushels, while our state crop official places the figure at 300,000,000 bushels, and we think this is none too high. This crop is worth 25 cents per bushel or more, and if the farmers sell at present prices (but we think but few will) there is plenty of capital waiting for a chance to invest by storing it up. If fed to cattle and hogs it will realize more than 25 cents per bushel—and the Iowa farmer feeds the most of his crop, thus realizing good returns.

At 25 cents per bushel the present corn crop is worth $75,000,000. And it is estimated by our state officials that Iowa has produced this year of—

	BUSHELS.
Wheat	14,500,000
Barley	17,000,000
Oats	207,000,000
Rye	2,000,000
Flax	2,000,000
Potatoes	23,000,000

—and in addition the state has produced a large aggregate of timothy seed, hay, millet, broom corn, sorghum, buckwheat, sweet potatoes, fruit and garden truck; and among the soil productions should be added $40,000,000 worth of pasture

Taking the average price for our products our soil has produced this year from $300,000,000 to $400,000,000 of wealth. This is aside from other industries and other resources of wealth of which the state has many. No other state can show such a record.

Corn, cattle and hogs are the stronghold for the Iowa farmer. His great fields of corn turned into beef, pork, mutton and dairy products are a source of agricultural wealth not excelled anywhere. And the Iowa farmer is not slow in grasping the situation as her pastures and barns show finely bred stock of all kinds. Iowa has more pure bred herds of stock

than any other state in the union, which goes to prove her special adaptation and the intelligence of the farmers in grasping the situation to make the most of her soil productions.

Corn and hogs have been the means of placing many a poor farmer on his feet and with a start of but little more than brain and brawn has enabled him in a few years to accumulate a farmer's fortune—a beautiful home and a well tilled farm, that has the capacity to provide liberally in food, clothe and educate his family, with many of the luxuries of life.

But one of the greatest evils which is brought on by the great ability to accumulate wealth from our soil is in many of our farmers not being satisfied with a small farm, but keep continually reaching for more land, cattle and hogs, and adds acre after acre and sweats and drives and worries, thus keeping himself and family on short allowances in every way. Such a course shrivels up a man's soul and dwarfs the intellects of his family This condition is brought on by the great posibilities of our soil and from the fact that he was forced to economize and manage well to get a start, and he sees some of his neighbors with large farms so he keeps driving ahead to his own hurt. But we think this practice is declining and the smaller farmers are contenting themselves with a good living for themselves and families.

There is no doubt but what the forty or eighty-acre farmer has a great advantage over the larger farmer, and if he only wishes can be the happiest man on earth.

Iowa's wealth is not only in her soil, but in the result of her productiveness and splendid class of people that pioneered it in our state. Her beautiful churches, school houses and social advantages are second to none. Iowa excels in these things and is the result of superior advantages of soil and thrifty class of farmers, that enables him to cultivate the mind and body as well as the soil, and obtain good results from both. Poverty begets ignorance and a low state of society, while excessive wealth begets opulence and indolence.

We are proud to say that Iowa has neither extreme, but a happy medium. A high class of intelligent farmers, beautiful homes, superior educational and social advantages, a church-going, temperate, happy, prosperous and cultivated people. Truly great is Iowa.

THE CHAIRMAN: We will now listen to an address, "The Granger's Cow," by Henry Wallace of Des Moines:

THE GRANGER'S COW.

BY HENRY WALLACE, DES MOINES.

Some years ago at a meeting of this association held in Iowa City, and during a discussion as to the character of the cow suited to the wants of the Iowa farmer, I was at a loss for a word that would fitly describe her. After stating the qualities both for milk and beef that she should possess, I could think of nothing that would more fitly describe her than the term

"granger's cow." The term may have been used before, but I do not remember to have seen or heard it, and I have thought of no better word since than "the granger's cow" to describe a type of animal adapted to the wants of the general farmer, who is neither a dairyman, nor a ranchman, nor a grazier, nor a feeder of beef cattle beyond the limits of the capacity of his own farm to produce, but a man who lives on and cultivates land so high priced that he cannot afford to keep a cow for the chance of a calf, nor can he afford to waste his large acreage of corn and grass by feeding it to the calf of the specialized cow, nor of the range cow, nor of the ranch cow. We have granger railroads, or railroads which derive their main revenues by hauling the products of the general farmer and supplying in return his wants as distinctly as other railroads do a mining, manufacturing or mercantile business; we have granger legislation, by which we mean the expression as embodied in the laws of most of the states of the judgment and will of the farmers on the subject of railroad control. Why should we not have a granger's cow, or a cow that meets the peculiar wants of the general farmer of the northwest? By the granger's cow I mean the cow of any breed that will give a quantity and quality of milk that will pay for her keep, both in food and in labor, and will at the same time furnish a calf that will make the most profitable use of the summer's grass, the winter's forage and the grain that must be fed on these farms if freight rates are to be kept within reasonable bounds and the fertility of the farm maintained. She differs from the special dairy cow on the one hand by giving a large quantity of fairly rich milk, not so large in quantity proportionate to her size as the specialized cow, but large enough to pay well for her keep and the labor expended upon her. She differs from the ranch cow, and I use the word cow to express the whole cattle kind, in that she is not fit to stand the exposure, the long, weary days of travel and other hardships incident to bovine life on the ranch. She differs from the specialized beef cow in being inferior to some extent in special beef qualities, but greatly superior both in the quantity and quality of her milk.

Since this doctrine has been proclaimed in this state, the friends of the special purpose dairy breeds have hooted at it in derision. They tell us that we do not go hunting chickens with pug dogs, nor do we go to a race track with draft horses They say that this is an age of specialization both among men and animals; that success is attained by man or beast in being able to do some one thing supremely well; that the man who is jack of all trades is master of none; that the horse that undertakes to trot and pull the heavy load does neither and is a failure; and that the cow that undertakes to produce butter at the lowest price and at the same time produce a calf that is fit for export will do neither and will be a non-paying boarder on the farm. With all of this, except the last, I fully agree. Our friends in their argument invariably use the term "general purpose cow," which is a misnomer. The granger's cow is as fully a special purpose cow as is the Polled Angus, the Hereford, or the Shorthorn, bred for beef, a specialized beef animal, and as fully a special purpose cow as is the Jersey or the Holstein a specialized milk cow. Her special purpose is, as I have heretofore stated, to give a quantity of milk and of sufficient richness to pay the expense of her keep, both in food and labor, together with the interest on the investment, and at the same time furnish a calf that will prove a package

of approved quality in which to market the grains and grasses that grow on the farm. This special purpose cow is no new invention or discovery; she is neither a theory nor an iridescent dream. She is here, has always been here, and in every other country where there are large areas of rich, high priced land, rich enough to give her the size and quality, and high enough priced to compel a type of farming that demands more in the way of a revenue than the chance of a calf. I have seen it stated that nine-tenths of the milk furnished in England is from Shorthorns and their grades. With all that has been said about the special purpose milk cow, she has not come into general use in that old country on fertile and high-priced land. She will be found in gentlemen's parks, or around the cities, or in dairies where the special object in view is the production of choice butter. She will not be found in the highlands of Scotland, nor the mountains of Wales, nor the mountainous parts of Ireland. She will be found specially in districts given over to dairying. I visited last summer a farm on which 100 Shorthorns were kept, averaging in point of merit with the herds of this state with scarcely an exception, and where every cow was milked and every calf raised by hand, the sales of bull calves averaging for three years £45 per head, or, in round numbers, $221.50.

In England what we call the granger's cow is called a milk Shorthorn, or a Red Poll, or on thinner lands an Ayrshire, and is distinct from the Guernseys, Alderneys, Jerseys, Kerrys on the one hand, and the beef Shorthorns, Holsteins, Polled Angus, Galloways, West Highlands, and Welsh cattle on the other. The nearest approach I know of to the granger's cow as a distinct type of cattle may be found in Chautauqua county, in New York, a county where dairying has been practiced largely for many years and where a type of Shorthorn prevails of very superior dairy qualities, and which when mature will weigh from 1,300 to 1,600 pounds. I once bought a car load of heifers of this class, coming 2 and 3 years old, somewhat stunted by the summer's drouth, which, when placed on Iowa land and under Iowa conditions on my own farms, developed into cows of the above weight, and when bred to good bulls produced steers that weighed out when fully fattened from 1,500 to 1,600 pounds, and I once sold a cow of this stock weighing, when shipped to Chicago, 1,760 pounds. Some of us have been urging Shorthorn breeders to develop this type of cow and give us the exact facts with regard to the quantity of milk, the per cent of butter fat, and the weights of their steer calves at thirty months old, when raised by hand. There are several reasons why the breeders have not done so, easily to be seen when we look at it from the breeders' side. The breeders of improved cattle, as a rule, have large farms and many of them are engaged in other business. Until recently the demand has been for bulls of the beef type; breeders have been educated to regard the beef type as approaching nearest the ideal. They have been compelled to place their cattle in charge of herdsmen who have the same ideas and who know nothing about dairying, or dairy qualities, not the management necessary to develop these qualities. They felt they could not afford the labor and expense necessary to develop the milking type in pedigreed cattle, nor could they see that there was likely to be a demand from the granger himself for the granger type of bulls. Had they been disposed, and could they have seen a profit in the transaction they would not have been able until within the last few years to secure satisfactory results.

The discovery of the Babcock test has taken one of the great obstacles out of the way. It is now possible, with a little care, skill and pains, to ascertain the exact number of pounds of milk given by any cow within a year and its exact per cent of butter fat, and hence to make a record of the milking qualities of pedigreed cows, as well as to make a record for their calves in beef production. The great stumbling block in the way has been the difficulty of securing milkers on the farms. We are in a fair way now to have this obstacle removed. If the milking machine should prove practical, as it now seems likely to do both abroad and at home, the greatest obstacle in the way of the development of the granger's cow will have been removed. It will be possible for a breeder of any breed of cows that have the type of the granger's cow, by using a machine, to have a daily income from the herd. Our agricultural colleges are educating a class of young men fit to take charge of a herd of this kind, and not only feed for milk but handle the milk in the best manner after it has been produced, and not only that but to balance up the ration for the calf and show what the granger's cow can do. The day of the granger's cow may be but dawning, the hour may not be quite ripe, but it is coming, and very soon. The milking qualities of the Shorthorn, so long neglected, will in due time be demonstrated to the confusion of the men who have derided her. At the same time the Red Polls will be developed as they should be into their natural milking and not in beef lines, and will become larger on our better pastures and under our more favorable conditions, and thus make their important contribution to the granger cow. When the type of the Holstein becomes somewhat more refined by selection and the richer pastures of Iowa, and the per cent of fat in the milk correspondingly increased, she will furnish one branch of the general class of cattle which I have attempted to describe under the term "granger's cow."

When all this is done, as I verily believe it will be, the granger himself will have plainer sailing. When he inquires of our breeders of any breed not for special dairy qualities for a sire for use in his herd, he will not be told in general terms that the family are great milkers and that his dam was particularly good, but will be furnished a record of dam and granddam, and will thus not be groping in the dark, but be following his business on well-defined, clear-cut lines, and with no doubt or uncertainty as to the results.

MR. GABRIELSON: I heartily endorse the entire contents of Mr. Wallace's paper, except the idea of using the word "granger's cow." The word "granger" he explained as having come from the time of granger legislation. I did object then and do now to the use of the word "granger." It was then used as a term of reproach, and is still used by people who sneer at farming. I hope it will be called something else, say, "farmer's cow," but not the "granger's cow."

MR. BENNETT: The Iowa farmers' cow.

MR. NORTON: The general purpose cow.

Professor Wilson, being called upon, made the following remarks: I agree with Dr. Wallace entirely in regard to the

cow we need in Iowa. The state of Iowa has conspired to bring about just such a cow. Where you get the small Channel Island or the Jersey cow, and keep them on the rich pastures of Iowa, in a few years they are larger. I know male Jerseys here that have reached 1,800 pounds in weight, and females that have got as high as 1,400 pounds in weight. It is the same with all the small breeds of cows brought from these countries. It will require, as this evolution of size takes place, care on our part to maintain the peculiarities that we get with the breeds that we get from foreign countries, because, as we feed our cattle better here than they were fed over where they came from, their fecundity will be less and milk less, and tendency to fatten greater. So, the breeder will be compelled to look out after that side of the cow. In regard to getting this cow from the different breeds, I have no doubt about it. I think it was three years ago, a Swiss cow gave us the largest yield of butter and milk that was ever yielded on the fair grounds. A Polled Angus the same year gave the largest amount of butter at the Royal Agricultural society in England. Mr. Sheehan's Nora is a marked illustration of that kind of cow. We can get that from all kinds of cows. It is natural for cows to milk unless man spoils them. The reason cows do not all milk well is because they have not been developed along these lines. We must also feed with discrimination. If we want cows from young heiferhood good, we must milk good and feed good. I am well satisfied that we can get them from any breed. It is a long time since this question has been a favorite theory of mine. It has been contradicted by some who look at it from other standpoints. If I lived in a town I would want a Jersey in the back yard. I would want her gentle, smooth; would want no calf; that would be for the town. But the Iowa farmer must find a market for his grasses and grains, and the best place to find that market is the cow on that place. Since the taking of the census, there has been talk as to why our country populations were growing less. Various reasons have been given. I think the fact is that careful scrutiny will show that farms are becoming quite valuable and being subdivided. I have been struggling all my life to get as big a farm as I wanted, and then pretty soon it will be divided up among the boys, and then more population. The point I want to make is that high-priced lands must be made to produce. Jerseys, Ayrshires and the like are too small to produce for Iowa. Iowa will develop its own cow.

It is done in all countries, among all intelligent peoples. It is something entirely unheard of that the general farmer will keep one cow for milking and one for feeding. I suppose that is what Mr. Wallace means. "General purpose" means those two combined in one. On the other hand, our northern neighbor outside the corn belt will keep a different kind of cow. The question of beef will not be considered so much: The state of Wisconsin, for example, does not raise enough corn to fatten its horses as we do. Consequently, the milk cow, the dairy cow, the special dairy cow, without the calves, is what is needed away up in the northern states. Out west it will be the same. Out in Colorado, where they irrigate to a certain extent and grow alfalfa, that is not our kind of cow, because they have not the grains to feed with. They are sending east now and taking grains to feed their sheep for the markets. It cannot be done on alfalfa alone. Further east, in the northeast and the middle states, where they are compelled to buy grains, of course a different kind of cow suits them. We are in the middle of the grain and corn belt. We need such a cow. Everybody else outside tells us that we do not know what is good for us, that we ought to keep a special dairy cow, just the same as they keep one special cow for one special purpose. They do not understand our situation. The man who will make 80 acres pay best is the man that gets both milk and beef from the same cow. [Applause.]

MR. WALLACE: With reference to the use of this word "granger," words come into the English language and find a place if there is a place for them. The word granger was used by corporation rascals as a term of derision. We have now granger railroads, granger states, granger legislation. That term comes in and has lost all idea of reproach, and comes in to describe the general farming class. If it is worthy of the place it will stay in the language and you can't kick it out. If it isn't you can't tie it in.

MR. BAKER: Did you not state that the cow made the land fat?

MR. WALLACE: I don't remember.

MR. BAKER: If I understood you right, that is the way I got it. But I have found the plant makes the land fat and the cow, too. Whenever the plant fails, the land fails and the cow, too.

PROFESSOR KENT: I confess, Mr. President, that I am a little bit confused in this discussion. It seems to me that I have caught on to the idea of special purpose, and then again, the idea of general purpose. It seems to me that the logic of the text hardly conforms with the philosophy of the index, taking into account what has been said on it. When it comes to the question of general purpose cow or general purpose anything else, that is my position. I think, as the gentleman has just said, the whole matter is said in that kind of remark, only he might enlarge on it a little. It is the soil that makes the plant fat, and the plant that makes the cow fat, and the cow that makes the man fat. When the original fattening condition fails then all else shrivels up after it. When we get as hard up to get a livelihood in the state of Iowa as they are in some sections of the earth, then the cow will shrivel up just like the Jersey, Channel Island, etc. Some have said that man is the creature of environment. It is the circumstances that make the animal. There is no such thing as a Guernsey cow being a perfect milking animal in every particular. There is no such thing as a Shorthorn cow being a perfect milking animal in every particular. This has been previously illustrated by the mention of Lilly Flag and the succession of breeds among the prize winners. So we are at sea. We find one capable of producing as well as another; it is the individual rather than the breed. When I went on to my farm this summer I wanted a couple of cows to make milk and butter for my family. I found a man who had cows in his field. I said to him, "what will you take for that cow?" "$40!" "Is that your least price?" "Yes, sir, she is a good looker; if I had her in Chicago I could get that and enough more to pay freight." She appeared to be a good Shorthorn; had all the characteristics of a good milk cow. I told him that I would take her. There was another cow a few steps from her, about as mean looking specimen of a cow as you could find in any herd. I asked his price. "$25!" "I will take her." I paid $40 for one and she was a good looker. I paid $25 for the other, she was a very poor looker. The $25 cow proved to be the better cow, so far as making butter is concerned. She had only three teats, but made more butter than the other cow, notwithstanding the other cow gave about eighty pounds of milk a day on her full flow of milk; that was while she was on the best of feed and the highest flow of milk. That first cow gave something like

two thirds of that amount, but made as much butter as the second cow. But as they progressed, the cow that gave the most milk went dry, and the cow that looked so ugly still gives about forty pounds of milk a day. This ugly cow had a strain of Jersey blood and it happened to go back and get a good flow of milk. I want to say that from my experience there is no such thing as a uniformly special purpose animal. It is misleading to undertake to set up that proposition. Just what the paper undertakes to establish in the way of a granger's cow, I don't quite get the author's meeting. Of course he doesn't undertake to say there is no such animal; I don't know but that he undertakes to say that there is such a cow that will serve such a purpose in every herd, and the selection is left to the individual. That is, you must train the man instead of the cow. You must have a man who will go out among the herds of the state and when his eye falls on the cow that will make him money, he will buy that cow, no matter what the breed. One of our greatest dairymen in this state said: "Sir, when I want to buy a cow I look at her—look at her all over; if she suits me, I buy her, not asking what breed she is. I am looking for the animal that nature has accidentally produced that will suit my purpose in the dairy business." That man is making more money out of the dairy business than any other man I know of in the state. It all goes to dollars and cents. We are here to learn how to make money, also make better men and women in our communities, live better lives and become better citizens. So far as business is concerned, we are here to learn how to make the most money out of milk and butter. The man who is making the most money is the man who goes out and picks up the best cows. They are doing that everywhere, in Elgin and all over. They have men from there out picking up the cows that will succeed in the dairy and make the money. If he wants to advance this theory that if one wants to develop the cow that will breed to milk as true as life, that is one proposition that will take generation after generation to carry out. But from the practical standpoint, the man to make the money is the man with brains to pick up the cows to make him that money, regardless of the breed of the cows. [Applause.]

MR. COUNSEL: He told us about buying two cows for his family. How much butter did they produce a day?

PROFESSOR KENT: I didn't put the cows in experiment to be able to answer that question in close figures. The cow with

the sixty pounds made as much butter as the eighty-pound cow, in round figures. The big cow helped me along in furnishing skim milk at the table.

MR. DUNKELBERG: I feel sorry that Mr. Kent has slopped over that way. If breeding is an accident, we are in the wrong place. We talked here yesterday that breeding is a science. Kent tells us we must produce the man to go out and select the cows.

PROFESSOR KENT: Let me explain. I certainly grant here is a science of breeding. I certainly said, if the proposition is that, we shall go on trying to develop an animal that is true as life. That is one proposition. Then, if the proposition is to produce a cow that will make the most money, that is a business proposition rather than a scientific proposition. If we are here to find out how to make the most money out of milk and butter, we must not buy any certain cow, but go out and buy the cow that will make the most money. There is more money in it in that direction than in the other. One of the meanest cows I ever tried to milk was a Jersey cow. I have seen them that would hardly give enough milk to feed a pup. You could not persuade them to give anything. I have seen some of the finest specimens in the Shorthorn cows—not quite so much butter fat, but they would give both milk and butter. That cow is not in existence to-day that breeds uniformly in quantity and quality of milk. We have not got to that standpoint. I can't tell my friend to go out and buy a great lot of Holstein cows, and he will get richer with that herd and faster than with any other herd. The same with the Jerseys. I must tell him that if he wants to get rich, he must be sure and be competent to select a good cow. If he wants to breed from a scientific standpoint for the purpose of maintaining a breed, that is another question altogether. We discuss the other question as men trying to make a living for our families and pay our taxes.

MR. LYONS: Can he tell us who that expert is?

PROFESSOR KENT: Mr. Morton, of Cresco.

MR. LYONS: I don't believe that man lives. I have never seen him. We heard yesterday of the Elgin man that picked up cows promiscuously. Then he used a Babcock test when he got home, and sold those which were not good milk cows for beef, and the rest he kept for milk. I don't understand or think that you can pick up good milk cows from all over.

HON. R. T. ST. JOHN: From the name of the association I supposed we were to discuss the methods of improving on the breeding of fine stock. I am anxious to get points on this matter. If we were looking for cows we might go out and buy up the different breeds as Mr. Kent has indicated. But we are here as breeders, to get information in regard to the matter. Mr. Wallace's paper in regard to the "all purpose" or "granger's" cow is very interesting, but the question with us is: How are we to get that cow? Am I to go out over my herd of Shorthorns or over some other breeder's herd of Shorthorns and improve on those, or go somewhere else and get it? I can't understand that by buying up different breeds and using the experience that we have, and keeping a record of it, and thus get a "granger cow;" it is a mystery. I would like information. How are we to have a fine grade cow, useful for beef and milk, and have a record of it? This summer three carloads of Jersey cows were shipped in from New York and sold out to farmers at ruinous prices. Men with Shorthorns are buying them. Is that right? That is mongrel breeding. If that is what the association is for, where will we get any good out of it?

MR. WALLACE: Suppose a man drops down from Illinois into Mitchell county and buys a farm at $50 per acre. He says, I am going to keep up the fertility of this farm. I am going to make it a stock farm, but I cannot keep the farm for calves only. What kind of a cow am I to get? I cannot get a special purpose cow. I must have a package in which to send this grain and grass to market. I want a "granger's" cow. I want one that will pay for what she eats and my labor and interest on the investment in her milk. Where can I get it? I have tried to answer that question. I must have expressed myself carelessly, because I am not understood. I say, if there is near him a breeder who has Shorthorn cows that appear to have milking qualities, let him look them over and buy a sire that is from a cow that is a good milker, and whose dam was a good milker, and then select, if he is in a Shorthorn neighborhood, from high grade Shorthorns or any grade of Shorthorns, the cattle that come closest to his ideal. Then, I would take the Babcock test and weigh and weed out. If I lived in a neighborhood where Polled Angus were prevalent, I would select them, because they come within my definition of a granger's cow—a package in which to send this rough grain and grass to the east. That can be produced from any breed. You take

your smoother Holsteins. Twenty years from now they will fill the bill. They won't now. Why? Because they have been fed for roughness. In speaking of the granger's cow, I don't advise any man to cross and mix these breeds up. That would be nonsense and folly to breed the Shorthorn on the Holstein or the Red Poll on the Holstein. Whatever else you do, never undertake to mix thoroughbreds. I have pictured this man coming in from Illinois, to let him get this general idea in his mind. Get the cow that will produce a calf that will make a package that will condense freights. Get a breed that will do it most conveniently. Grade up on the one breed and in the one line. At one time I talked with a gentleman that had some experience in swine breeding. He had hogs fearfully and wonderfully made. I asked him: "How did you get these results?" "I will tell you. I first had the Chester White; then I came across a big Russian hog; after I got that, I thought the Poland China would do on that; I got the best Poland China that I knew of; I was not satisfied with that; I got a Berkshire and put on that; then the Jersey Red on that, and I bought him, and I have a hog that the devil can't build a fence high enough or close enough to hold."

PROFESSOR KENT: Just name the breed that has got the furthest along in that direction. I would like to get it specifically in that direction.

MR. WALLACE: I believe that the Red Polls, where they are not spoiled by being bred on beef lines, are nearest to it. They fail in being too small. They come from very ordinary lands that won't grow a Shorthorn. You take certain Shorthorns; they come nearer than the Red Polls. They are larger. The use of the words "family Shorthorn" is so misleading, that it can't be used. I use it in the ordinary sense of the word. It comes nearer it than any other. Then, as I have said in the paper, the milking Shorthorns in Chautauqua county, New York, is the nearest I have come to it.

MR. DANIEL SHEEHAN: I want to say a word on that cow question. I think the paper is all right and Professor Kent is all right from his standpoint. But, Mr. St. John has asked a question. They had a meeting last week down at Charles City to educate men. While we like to educate the men, this is called an "improved stock breeders' meeting." We are here to learn of each other, as I understand it, how we shall improve our live stock. There will no man dare get up here and say

but that we have got a good lot of men, and everybody knows that Iowa has the finest and most intelligent women in the world. We don't need to come here for that. But, Friend St. John asks this question. I know Mr. Norton of Cresco. How many men are there here that can go out and select those cows? If they do that and select this dairy, what are the rest of us going to do? Suppose Thomas Bates, when he started out years ago, or any of the great breeders of the old world, had gone out and made the selections instead of the breeding, would their names be known to-day? Would you pay these fabulous prices for their stock? I would call this cow the Iowa cow, the cow that would give the good amount of milk, and her offspring will pretty nearly top the market, and make the profit for the owner. The man that raises that kind of cows and establishes that breed of cows, I say of him, glory! He is the man to tie to. I believe the way to do it is to take some improved breeds that we have, and make selections, and year after year, and it won't be long before we have a pretty good herd of dairy cows. I run a creamery eight or nine years in Iowa, and I had about as good a chance as any man ever had of testing cows. I had a herd of Shorthorns that I had been breeding quite a while. I bought a cow of Ninstedt, living at Dubuque, now at Rudd; she was a pretty good milch cow. From that cow, it was but a few years, with the right kind of selections, that I had a herd a cows that I was willing to put up against any herd in the state of Iowa. Any man can do that. There is no patent right on it. I say the man that has the judgment that Bates and Cruikshanks had, that he will be able to make the herd and have them named for him, and that will enrich their owner, and he will be worth more than a thousand such men as the man from Elgin or the man Norton. Now how does he do? How many cows does he keep that he buys? How long does he keep them? He takes and tests them. If they don't come up to his idea of what a cow ought to be she is disposed of. Those men are scarce. The men that can pick out the cow are just as scarce as the men that can raise them, select them and breed them. I say to the farmers of Mitchell county and the farmers of Iowa, if you can go and select for beef and for milk, you are on the high road to success in farming, if you can do that.

PROFESSOR KENT: I don't want to be misunderstood. I agree with everything that our friend, Mr. Sheehan, says. He

says that the men who can go out over all the herds of Iowa and select out a good commercial herd are extremely scarce. He says the men who can pick up and breed successfully are also extremely scarce. What are the rest of us going to do?

MR. SHEEHAN: Who is the greatest benefactor?

PROFESSOR KENT: The greatest benefactor of the public is the man who gets left himself. The man who does most good for his family is the fellow that goes out and gets the cow that furnishes the most milk. He is the man who knows what constitutes a good milch cow and goes out and gets her. Mr. St. John's idea is commendable. That is one of the objects of this association—to talk about those breeds. But we can't all go home and be Bates, and Booths, and Blakeleys. We have to go back after this convention and work just as we were before. I think the line should be drawn between the practical and the scientific phases of the question. I think I am on both sides.

MR. A. C. TUPPER: This gentleman has pointed out the very difficult thing to do—selecting the kind of cow that will pay. I will tell the farmers one thing they can do. They can do it. They can buy a little Babcock machine, and see what they are worth. If they are not worth anything, get rid of them. Beef them! Put them on to the Elgin buyer, if you can.

MR. SCHERMERHORN: I haven't much to say, only to relate experience. I had Dr. Wallace's cow. I kept her until she was 14 years old. She was one of the best dairy cows I ever owned. Lots of chances to sell her, but nobody could get her. "Old Brindle" was typical in form, had a nice udder, and gave a nice mess of milk. Everything on the place was for sale except that cow. I kept her until she was 14 years old. I kept every one of her heifer calves. I sold her then for a canner and got $14 for her. Well, she never gave me a heifer that was anything like her.

MR. HARKER: In regard to this all-'round cow, I think this is a breeders' association meeting. We are here for instruction in this line. I can say for myself that I have had something to do with the Shorthorn. I have handled the Shorthorns some, and I find in my experience that the Shorthorn cattle are the cattle called for. I have handled stock cattle, and I find in all my correspondence all over Iowa and parts of Missouri, in asking what I have in stock cattle they ask me invariably if they are red and Shorthorns, and I can produce those letters. So

that I know that the Shorthorns are the cattle that are called for. In regard to cows, I can remember one herd of Shorthorn cattle that I handled for three years. They belonged to J. C. Confert. Among those cows were cows that were good from the time they first began to give milk until they were taken off the farm. The heifers from those cows were like their mothers. They produced the milk and produced the beef. I think we can breed so as to get both milk and beef. I believe to-day, and I have had quite a good deal of experience, that the Shorthorn cattle are the cattle that we ought to raise, so far as beef is concerned or as milk is concerned. I have seen Shorthorns, and many of them, that are equally as good, and more of them, as any herd of Jerseys that I have ever come in contact with. I think the Shorthorn cattle are the cattle that we can breed for beef quicker, and get a better cow, than any cattle to-day.

MR. LYONS: So far as I can, I want to answer Mr. St. John's questions as to how he would get a milking cow, a dairy cow. I can only, perhaps, draw from my own experience. I made my selections from a herd of that class that should combine both milk and beef. They used to say that could not be done, but they don't say it any more. I have been laughed at in some conventions of this kind, several years ago, for making that statement. I believe it is now settled, perhaps not the very highest quality, but a high quality in both directions. I spent a week or two in looking over the various Shorthorn herds that I wanted for the nucleus of my herd. I selected those cows and heifers that promised to be good milkers. Their dams were good milkers and were of milking strains, and from that I have continued all of the time in that line. I don't want thin cows for milking. I want short-legged, easy-keeping cows, even for milking. Of course you don't always get them in that way, but a larger proportion of your herd, if persisted in in that way, will bring you good milkers. My experience is not like Mr. Schermerhorn's. He gave himself away. Brindle! She was a scrub. She was never a Shorthorn. That is why he could not breed regularly and positively. I have a cow 15 years old. At her best she made me four pails a day. Now, when fresh, she gives me two. She has raised twelve calves, and is about ready to drop another. Almost invariably her females have been good milkers, and some of them extra. She is a thoroughbred Shorthorn. I milk every cow with one exception. That exception has a double opening to her teat,

and it milks in both directions. That cow, I put three calves on her and she raised them right along. One I sold when 6 months' old for $75, her own calf brought $85, and the third is held at $100. She raised all three. That is the way I try to get milking stock. Of course we don't always get heavy milkers, but if you persist in that direction, get your sires in that way, also get them from milking strains so far as you can; I think it is all right. I think, as Professor Wilson says, it depends on the feed. Another thing is to breed these young cattle early. That is important to get heavy milkers. If you wait too long they develop a tendency to beef.

MR. E. C. BENNETT: How early do you breed them?

MR. LYONS: It depends on the animal. If the heifer shows an unusual development towards fat, breed her a little earlier than otherwise; if she is not so fat, hold for a little. I mean to have every heifer come in when between twenty and thirty months old. If too fleshy, breed them quite early. I think, too, that the feed has something to do with it. I think an intelligent feeder has much to do with that. I can't always regulate that. I have to depend on hired men to do that, and very frequently they will feed certain cows the wrong feed. Certain cows need a little more corn. Another does better with bran and oats and no corn. Some cows will take more feed. Those cows that run to milk a good deal and get thin, put in a little more meal—corn meal.

MR. ST. JOHN: I think the gentleman's answer is very instructive. That is what I wanted to bring out. But the difference between those two cows. One represented her family. The family was pure bred. Mr. Schermerhorn's cow undertook to represent her ancestors, and there she could not be depended upon.

WEDNESDAY, 7:30 P. M.

The large audience was called to order by President Johnston, who announced the first number on the program, a vocal solo, by little Miss Gracie Wilson, "Baby Isn't Old Enough to Know." After a response to a hearty encore Dr. W. M. Beardshear, of Ames, was announced. The subject of his address

was, "The American Farmer." Dr. Beardshear spoke as follows:

Mr. President, Ladies and Gentlemen—It is a real pleasure to come and assemble with this state association of Iowa in any village or community of our noble commonwealth, but it is doubly pleasureful to meet with the association in Osage and in this county, from which as a college we have so many excellent young men and young women. And judging by them, father like son, like mother like daughter, we know that the community is one of the royal rural counties and communities of our beloved Iowa. I am pleased, moreover, to couple my lot for the time with the gentility, cordiality and substantiality of the stock breeders of Iowa and those that are enlisted with the larger life and larger hope and larger purpose of the men and women who are the producers from that nearest place on earth —the farm—that nearest to heaven and nearest to God, and that which had so much to do with the upholding of citizenship.

THE AVERAGE FARMER.

BY E. C. BENNETT.

The newspapers state that at the Atlanta exposition there are shown some Iowa products for the purpose of letting our southern brethren know what Iowa is capable of producing. Among them are a few bushels of corn that went over 100 bushels per acre; barley, eighty bushels per acre; wheat, fifty-four bushels per acre; mangels weighing fifteen pounds and cabbages weighing fifteen pounds. These were all grown on the Agricultural College farm at Ames.

Now suppose that the southerners in their innocent simplicity should think that all of us habitually grow crops at that rate, and that they should send a delegation up here to spy out the land and select a place where they could come and do likewise. What a surprise would be theirs to see the crops of the average farmer!

This association numbers in its membership farmers who came to the state with their total earthly possessions in a "red bandana trunk with a pin lock." By diligence and economy they have gained a competence and more than a competence. They have added to their original farms, they have healthy bank accounts, good stock, good buildings, everything that is needed. They tell us freely how they did all this, and they advise us to get good stock and hold fast to it and to be thorough in all our undertakings. But how many of us poke listlessly along, year after year, heeding not what they say.

Let us turn the subject over and look at it from the other side, that of the average farmer. "The Lord must love common folks very much or he would not make so many of them." And, to be just, we must concede that it is not fair to compare the average farmer's usual crops with some one's unusual crops and deride him for falling short of maximum attainments. These big records are exceptional; the average farmer who makes the average records has to give average results. He has good land, and land not so good. He has hail and wind, and drouth, and wash-outs, and insect pests, and sickness in the family, and sickness in the neighborhood, and he leaves to help the sick and the afflicted. He makes mistakes, and they all stand against him; but when these great yields are reported this is not the case. It is the yield for the one year with everything favorable, and if the yields for several successive years were averaged, things might look quite different.

At our state fairs for instance, the exhibits are not accompanied with statements showing that they are the average of the flocks, and herds, and grains, and pumpkins grown on the farm. We may likewise assume that the exhibit now at Atlanta from our Agricultural college is not accompanied with a statement of the yield of all crops grown on the farm for a series of years, with drouth and insect foes to contend with. So much from the standpoint of the average farmer. Let us now ask ourselves if average farmers are worth bothering about.

Average people are worth more than the phenomenally great. Moses was grand, but his grandeur counts but for little when weighed against the mass of weak and erring wanderers in the wilderness. To get Moses into the land of milk and honey was not the main idea, for if so, the exodus was a failure; it was to get into their inheritance the great mass of the common children of Israel, those young enough, and teachable enough, to learn.

Great men are truly great only when the result of their actions is to benefit the common people. A leader is honored, and only truly honored, by the acquirements of his followers. Good teachers are needed, not for their own sakes, but for the sake of their pupils. Pioneers are needed to "make straight the paths" of advancing civilization. "Fancy farmers" are useful—for what?

Before answering this, let us pursue this line of thought a little further. There are epochs in life, whether of individuals, of associations, of races or of nations. Moses was first to be trained and schooled, then the common people. The pioneer comes first, and he does a work in subduing the wilderness that is grand; a work paving the way for a coming generation that will crowd him out and surpass him in civilization.

There was a time when the Indian belonged here, with his wild and crude modes of obtaining a livelihood. Then there was a time when the pioneer had a rightful place here, and we cannot too much honor and venerate him. By successive stages can progress be traced from the wilderness of the past to the fields and gardens of the present. We can see the successful farmer who has added to his landed possessions as silt is added to the valley of the Nile. He has bought grain from his neighbors, and saved them from paying freight bills. He has bought their stock and fed it, and made a home market for their cattle. He has bred and introduced improved stock, and his increased possessions in land and in credits testify

to the succesful outcome of his plans. He is worthy of much commendation—in his place.

It is considered unfortunate for a speaker if he fails to gain the sympathy of his audience at the beginning; it chills and depresses him, and he feels as if his efforts will be labor lost. It is equally depressing when, after gaining the interest and the assent of an audience, then in part or in whole it expresses dissent and withdraws the sustaining power of sympathy. To this stage, perhaps, I am now come. The place in my argument has been reached when it is asked if the large farmer is longer a public benefactor; whether it is well for the farmer of the future to copy his methods; whether we should not array ourselves on the other side, advise taking a new tack and going in the other direction.

We can admire the strategy of him who can buy out his neighbors one by one and increase his already large farm, and run it without increasing his force of laborers; using two or three men, perhaps, when as separate farms it required fifteen or twenty, and necessitated the support of several families. But if making families move off and using few workers to a large acreage is a high type of civilization, then the Indians were higher than we. The highest idea is, not to support the fewest people on a large acreage, but the most. If this is true, dividing large farms into smaller ones is nobler and better than aggregating several small farms into one large farm, and blotting out homes in doing it. On this point we differ. Having stated the opinion honestly held by myself, the matter is dropped that a thought may be introduced to which general assent may be expected with some confidence.

This association has the welfare of the masses honestly at heart. It goes from place to place to do missionary work. It is interested in the average farmer, and it is desirous to help the masses to a better living and to a better life. It urges the improvement of stock, because the improvement of stock eventuates in the improvement of the people. It has done a good work; it is doing it still. It is not appreciated as it deserves to be, because its aims and its achievements are not well enough understood. Its advice may, to some, suggest the need of coming out from the common herd and being numbered with the elect; but those who follow the advice find themselves a vanguard of the common farmers, and their example is followed by others and the mass of farmers gradually take advanced ground. Take a plain illustration: Last year this association introduced the corn-binder to the Iowa farmer. This year probably every county in the state has tried it. It saves his corn fodder; it paves the way for the use of the husker and shredder: it marks a new era and it puts the average farmer right into it. The founders of this association are the pioneers of improved farming. Some papers read at former meetings, possibly some still to be read, apply mainly to such conditions as the founders are in; a condition different from that of the masses, and, in some cases, conditions that the masses should not covet; but in the main the teaching of the addresses and the gist of the advice are calculated to advance the welfare of the average farmer—the middle class—and the middle class is the hope and the mainstay of our country.

Pardon me for dwelling upon this point. The lawyer who wins a difficult case, and is successful, perhaps, in clearing great criminals, is

called great, but this "clearing" of the guilty clouds his own manhood and weakens respect for the law of the land in the hearts of all the community. The truly great lawyer is he whose work results in upholding the majesty of the law and promoting equity, that the whole people may have a fair field and proper safeguards in their ordinary pursuits. The greatness of the physician is not established by keeping himself healthy, but in curing others. The greatness of the preacher does not depend upon sermons and prayers, and keeping himself unspotted from the world, but in leading common, weak, erring mortals to live purer and happier lives; and he can not do this by standing in the sacred desk and making disparaging comparisons between himself and his less pious fellow beings, and thanking the Lord that he is not as other men are.

The nobility of a country does not consist of the rich, nor of the professions, nor of the scientists, nor of the statesmen, nor of leaders of any or all kinds, but of the great body of the people, of the common folks. "The Lord must love common folks very much or he would not make so many of them," and send His beloved Son, not to restore the supremacy of the Jewish hierarchy, but to be heard gladly by the common people, and when lifted up to draw all men unto Him.

My sympathies are with the average farmer, with the great mass of common people. With them life is a serious affair, and their weal or woe is a serious affair to the nation.

What, then, shall we say of the "fancy farmer?" I like him. Not that I am one, but for other reasons. I like the poet, not because I am one, but because you and I and all earth's toilers are better for his sweet verses. I like the artist, not because I am one, but because we are all better for his refining influence. I love the beauties of nature and the author of them, not because I am a "natural beauty," but because, as one of the common folks, I can share in the enjoyment of the sweetness, the beauty, the loveliness, the grandeur with which the All-wise so lavishly adorns the land in which we live.

And so I admire the so-called "fancy farmer," he who has a high ideal, a poet's inspirations, an artist's tastes, an ardent love for his chosen occupation and a glowing enthusiasm that enables him to win success. I extol him, not only, nor chiefly for his own sake, but because of his helpful work for the common farmer. Note the following, clipped from a late edition of an agricultural paper: "The effect of a third of a century's improvement in the cattle of the country is emphatically illustrated by J. R. Dodge, formerly statistician of the agricultural department, in an article on the evolution of exportation, in which he shows that the average value of all the beeves exported by the country in 1861 was $19.65; in 1878 this average had risen to $48.68, and in 1894 to $93.14 a head. The view which this statistical statement gives as to the improved character of our stock is striking."

Now for the application. This improvement did not originate with the average farmer, but with the fancy farmer. More than ordinary skill, more than ordinary thought, more than ordinary tenacity of purpose are required to lay the foundations aright and rear the symmetrical superstructure of an improved breed, and always keep the highest ideal in mind and patiently work up to it. The fancy farmer did this and handed down the

benefits to those of his brother farmers who bought of his young stock and shared in the fruits of his labors. This increased export value is for improved stock, and it is the result of the improvement. Scrub stock, like the poor, is always with us to bear testimony against the negligent and slothful.

But the financial gain is not the only recompense. Satisfaction is the fruitage of love. A result which does not interest us is not a satisfactory result. Work which is not interesting is not satisfactory work. Caring for stock which we do not and can not love, is that abortion of work called drudgery. The farmers and breeders who have improved our cattle have a joy and a recompense in the doing of it which sweetens work and enriches life, and other farmers, to the extent in which they take counsel of them, and follow their example, have a taste of the same blessings.

More forcibly still may this be shown by reference to improved swine. The work of men like Moore and Magie, of Ohio, and their disciples, has in one generation of men, transformed the unsightly scavenger into a model animal that is judged by the score card and conforms so closely to the highest ideals as "almost to make a Jew forswear his religion." The common farmer is sharing in these benefits, as a glance at the loaded trains filled with hogs from the average farm will show. Not all of us have been able to sell a single hog for $500 as has the worthy president of this association, but we all have a share in the benefits of improved swine due to the faithful work of such as he.

But enough has been said to show that the so-called fancy farmer is a public benefactor. He deals with the poetry of farming, and the prosaic life of the average farmer is made pleasanter by fraternally opening the gates and taking some of the improved stock into his own pastures, and more of poetry into his own home. If there were no poets and no poetry in life this would be a dreary world; if we were all poets it would be a hungry world. And then, after all, the term "fancy farming" is a misnomer. Ideal farming would be more fitting, but it is far more than ideal, it is also eminently practical. To keep it practical meetings like this are needed, where the improved stock breeders of Iowa can meet in a county like this county of Mitchell, where the great body of average farmers are an honor to their profession, and an honor to the matchless agricultural state of Iowa, where improvement of stock is the watchword, and from whence came the famous cow that outranked all others of her breed at the great World's Fair.

The association was favored with a recitation rendered by Miss S. I Baker, of Osage. After an encore, the gentlemen's quartette of Osage sang "Annie Laurie" to an appreciative audience, and in response to an encore favored the association with "Treat Your Old Mother with Love and Respect."

Mr. A. G. Lucas, of Des Moines, was introduced amid applause, and delivered the following address:

STICK TO YOUR BUSH.

BY A. G. LUCAS.

Mr. President, Ladies and Gentlemen:

As I received your secretary's letter asking me to name my topic for this meeting, a matter about which I had not previously been able to give any thought, I chanced to see the following lines from an unidentified poet:

> One day in huckleberry time, when little Johnnie Flails
> And half a dozen other boys were starting with their pails
> To gather berries, Johnny's pa, in talking with him, said
> That he could tell him how to pick so he'd come out ahead.
> "First find your bush," said Johnny's pa, "and then stick to it till
> You've picked it clean. Let those go chasing all about who will
> In search of better bushes; but it's picking tells, my son—
> To look at fifty bushes doesn't count like picking one."
> And Johnny did as he was told; and, sure enough, he found,
> By sticking to his bush while all the others chased around
> In search of better picking, 'twas as his father said;
> For while the others looked, he worked, and so came out ahead.
> And Johnny recollected this when he became a man,
> And first of all he laid him out a well-determined plan;
> So while the brilliant triflers failed with all their brains and push,
> Wise, steady-going Johnny won by "sticking to his bush."

It occurred to me as I read this that here was a good starting point for a few minutes' talk in behalf of tenacity of purpose on the farm, which might not be wholly unworthy of your attention. We are all striving to wrest from success her secret. Perhaps when we discover it, if we do, it will be found to consist of a number of elements, but an important one of them will certainly be, "Stick to your bush." Some one has said that "Genius has glue on its feet." However that may be as to genius, it is true of that intensely practical thing called success, which is won only by that tenacity of purpose which the expression implies.

"First find your bush." It is only fair to assume that most of those who compose this assemblage have found their respective bushes as best they could in view of the circumstances which so largely control us all and limit our efforts, and that the bush has been the farm and some department of farm work. Let us stick to it then, provided the choice has been upon a "well-determined plan." Life is not long enough ever to pick it clean or exhaust its possibilities. Happiness, I take it, is the highest form of success; no life succeeds that misses this; none fails that attains it; and no calling furnishes better opportunity for success of this higher form than the farm. I do not mean that it is always attained, for it is unfortunately too true that few of us make the most of our opportunities. Destiny is kinder

to us than we are to ourselves, and furnishes us abundant opportunity that we are too often too indolent, too timid, or too short sighted to embrace. But I do think it true that the farmer may, if he will, find greater happiness and greater success than the same acquisitions, mental and material, will secure for him in most any other calling. Cincinnatus returning to the plow the moment his country could spare him is the archetype of thousands of great minds that have longed for and by preference returned to the calm delights of rural life, after proving themselves capable of shining pre-eminently in the world of ambition and turmoil.

The independence of farm life has often been remarked, and the general opinion of this feature of it is true, provided no false comparisons are made. The poor farmer, ground down by debt, undoubtedly is very far from being independent, but the same is true of those in like situations who are engaged in any other calling. Very considerable wealth is necessary to any substantial measure of independence in other occupations, but comfort and independence are possible on the farm under conditions far short of considerable wealth. Another feature which gives farming its high value is the opportunity it affords for the development of all the faculties. We are here with physical and mental powers and aptitudes, and it has been wisely ordered that our happiness and well-being depend upon their use and well-rounded development. Some of us have been endowed with but one talent, some with three and some with five, but heaven has not been so unjust as to leave any of us without any. Whether we regard the talents of the parable as abilities or acquirements, the farm affords opportunities for their exercise to a degree that challenges those of any other calling. There is labor for the body, but there is exercise for the mind no less. Time was when popular opinion classed the farmer among the "hewers of wood and drawers of water," and for too long, perhaps, he was inclined to take the same view of his occupation and limit his aspirations accordingly; but that day is past. Much of the best intellect of the country now occupies itself with farm problems, and the practical farmer finds in them unlimited opportunity for the exercise of his mental powers, even though they be of the highest order.

It may require some courage in this era of low prices to take a hopeful view of the financial aspects of agriculture, but while there is much in the situation to regret, there is nothing to warrant despair. Agricultural products are low, but so also are products in other lines in which practical monopolies have not been established. So far as agricultural prices are disproportionately low, remedies are to a considerable extent in the hands of the farmer, either in his individual or his aggregate capacity, whenever he pleases to avail himself of them. He need not give aid and comfort to the "bears" in their systematic efforts to exaggerate production; he need not tolerate gambling in his products by men who do not own a dollar's worth of them and never expect to; he can justly set the foot of an American citizen down upon all forms of fraud and adulteration in food products which undermine his market; he can rigidly observe and require his neighbor to observe the laws that have been made to protect his swine from the fatal disease which is now decimating the herds in seventy-two out of the ninety-nine counties of Iowa; he can, to a large degree, avoid giving away the bounteous crops of this year for less money than it will

probably cost him to replace them next year. I do not mean by this that there are not many debt-ridden farmers and tenants who will be obliged to sell for whatever they can get. Unfortunately there are too many of these, and it would be a heart of stone that did not feel for them; but their more prosperous neighbors can help them and themselves at the same time by resolving to sell no corn that does not have to be sold for less money than it costs to produce it in average years. No man can afford to prophesy without divine warrant, and I shall not attempt it; but instead I will state a fact or two. In 1889 the corn crop closely approximated that of this year, being in excess of 2,100,000,000 bushels; prices were very low, and Kansas burned a good deal of it for fuel, and sold a great part of it for 12 cents at gathering time. The next year the crop was but 1,400,000,000 bushels, and the Chicago price went up to 61 cents. The same thing was repeated in 1892 with the crop of 1891 which exceeded 2,000,000,000 bushels. Again, farmers in western Iowa last year were tempted to sell old corn before the crop of the year was made at 35 cents, the prospects apparently being good. It proved to be a serious mistake, for many of the same farmers hauled back to their farms the same corn re-purchased at 48 and 50 cents. Whenever a big crop is in sight, we may rely on it that the reports are bigger than the crop, and that the price at gathering time is out of all proportion lower than it will be the next May and June, and under these circumstances the corn crop is a good bush to stick to.

These are some of the lines on which farm prosperity might be improved, and others will occur to the thoughtful farmer. The movement of population away from the farm which has been going on for a number of years will also tend to relieve those who remain. Roughly speaking, 40 per cent of the people of this country are feeding themselves and the remaining 60 per cent as well. With normal consumptive power restored by the return of good times, this fact can hardly fail to improve the agricultural situation, and unless a man seriously feels that he is a misfit on the farm, it will be wise to "stick to the bush."

When one has "laid him out a well determined plan," which I think in this place means—has established a good rotation after considering his surroundings, soil, labor supply, markets, stock requirements and other elements influencing the selection—he should "stick to his bush," and not lightly abandon it because one of the crops may happen to be temporarily low relatively to others. The farmer who in next year's planning runs after this year's prices, almost never overtakes them, he is invariably a day after the fair. Last year potatoes were remunerative as compared with most other crops. This year, with a large increase in area and a favorable season, the bottom has dropped out of the market, and in many localities they hardly repay digging to say nothing of growing. I know of one case where a man was offered 6 cents at the village where he usually dealt; he hauled them to the county seat fourteen miles away, and got 8 cents. The price-chaser is largely responsible for this, and that too without any gain to himself. The man who "stuck to his bush" and only planted his usual quantity loses less; next year if he adheres to the steady-going policy he may make some money, for the inconstant, purposeless fellows will have dropped out, discouraged by this year's results, and will probably be found trying to ruin the market for some other crop. The same thing occurs in

live stock growing. Cattle depression has produced real scarcity, and has also led to some deterioration through careless breeding; but those who kept on in the even tenor of their way, and who now have a lot of good feeders that have been kept going from birth, have some good property, while those who have "chased around in search of better picking" are envying the "luck" of the steady goer.

Can one say a word in behalf of the horse in this audience and escape with his life? The horse has been man's greatest assistant in making the wheels of progress go 'round for centuries, and I, for one, cannot believe that the world is through with him. I do not believe that any modernized version of Richard III will ever make the hunchback monarch offer his kingdom for a "bike." Paul Revere might ride from Boston to Concord in a trolley car until he was gray headed without being able to get the minute men out in time for the battle of Lexington. The horse survived the transition from the stage coach and the Conestoga wagon to the freight and passenger train, and the world only wanted more of him because of the change, and he will survive the electric car and the bicycle, just the same. He has for some time past been under a cloud, but it is because he had an unhealthy boom, which collapsed, as all booms do and must, and which happened to do so about the time the panic struck us. The effect of the double blow was so severe that it dazed us all, and made us believe that for the horse the end of the world had come. It is only a little while ago since everybody wanted horses badly, and in their eagerness committed all sorts of faults in breeding them, for which the industry is paying dear now. Three years ago this fall the horse ring at the Iowa state fair was a sight worth going a long distance to see. There were full rings of Shires, Clydes, French Drafts, Percherons and Belgians, with Cleveland Bays, French Coachers, Oldenburg and Backneys, standard bred trotters, roadsters, carriage teams and saddlers, and hot competition everywhere, and the three-year-old ring of nine Oldenburgs was the prettiest sight of the kind I ever saw, although there were several other rings that were a close second. This year the horse barns were used as pig pens. What a fall was there, my countrymen! And yet it expressed the situation. Somebody writing in a Chicago paper says that he traveled all over Illinois and Iowa this year without seeing a sucking colt, and the prospect for next year's crop is not a whit better. How many horses have been turned into prime mess beef during the past year we shall never know until the coming of the day when all things shall be revealed. Still, I have faith that the horse will come out all right in the end, and the few that "stuck to the bush," and, having the right kind of dams, bred them right for the past two or three years, will perhaps find that when the colts reach available age they will come as near paying their way as anything on the farm. The old "cayuse" crosses of scrubs brought from abroad on scrubs originating at home, that used to be common, will have to be stopped, for nobody wants them; but with good breeding it need occasion no surprise to find horses very much wanted in the opening years of the twentieth century.

The sheep is another victim of the price-chaser which is gradually recovering from the double blow of panic and wool legislation. Only a little while ago everybody wanted sheep so badly that they were almost willing to steal them; a little later those who had them left them out in the far-

pasture in the hope that somebody *would* steal them, so anxious were they to get rid of them. They are recovering along mutton lines, and those who understand sheep have recovered the confidence in them that they never should have lost. Without pretending to any deep insight into things in general, if to buy when everybody else wants to buy, and to sell when everybody else wants to give them away, is the way to make money, then the sheep business differs greatly from any other that I know anything about.

I shall only mention one more bush that is good to stick to and then I shall tax your patience no longer. I refer to the Iowa bush. The Almighty could have made a better country, but if he did no Columbus has ever yet discovered it. I took a flying trip west this summer and during the journey tried to keep my eyes open all the way to see, if I could, what it was that made so many stones roll westward and what moss they were gathering. Passing through Iowa the scene was an ever-changing panorama, with, however, one constant and unchanging feature—plenty in the fields, apparent comfort in and about the farm homes, and ample provision for the comfort of the farm animals. The corn was tall and of a rich green and the ears hung down like those of a circus elephant; the oats seemed as through the man who had forty acres to cut had had to rent an adjoining eighty to shock the crop on; the fruit crop of southwest Iowa was rich in the promise that has since been so fully performed. On every hand nature had lavishly poured out rich gifts on the state.

Crossing the river a change became almost immediately apparent. The corn fields looked as though "Dad had planted the little yellow kind." The small grain seemed to have been "sun-scalded," the stand not being thick enough on the ground to shade its own stems. Instead of grazing the cattle seemed to be traveling between grass blades, and to be very weary before they reached the next one. The further one went the worse it became. Agriculturally speaking, Iowa was the broad, well-traveled road; across the river it dwindled into a lane; the lane presently became a cow-path, the cow-path a squirrel track, and finally the squirrel track ran up a tree. One could not but feel compassion for the poor fellows who, because Iowa happened to be a little warm in July to put up ice, or a little too cool in January for good haying weather, had moved on in the hope of finding what did not exist—something better than Iowa. I saw a good many Iowa men out there, too; I could always tell an Iowa man's farm, because an abortive effort to grow clover had always been made on it. They longed for the flesh pots of Egypt. They do not complain though, for thank God, the Iowa man is always courageous and bravehearted wherever you find him; they did not complain, but there seemed to be an undercurrent of regret in their manner which said:

> I've got no quarrel with my luck,
> Smooth paths my feet have trod—
> But oh, to get my feet square-set
> Once more on bluegrass sod.

They did not complain, but they appeared to realize that they had made a mistake by not "sticking to their bush."

Prof. R. C. Barrett, of Osage, was greeted with applause, and delivered an address, "The American Boy."

THE AMERICAN BOY.

BY R. C. BARRETT.

In this, the era of the new woman, it would not have been a surprise to me if the committee on program had assigned me the subject of the American Girl. That, surely, would have been a delightful topic to all American boys, of whatever age, color, or previous condition of servitude.

She, however, is well known to us all. We have seen her painted in long and short skirts, and of late in the divided skirt, and in the very present with no skirt at all.

From the day she graduates from the school, dressed in white and decorated with the choicest of flowers, until she enters upon her bridal tour with some European dude who has successfully "doed" her fond papa, she is seen and known and then forgotten until—until she returns in due time to visit her mamma for an indefinite period, bringing her sheaves with her.

But what of the American boy? Who is he? A heterogeneous conglomeration? The fibers of the American boy are variegated and numerous. He is a cross; a mixture of all that is good.

If we remove the epidermis and the perimysium and examine the minute fibers that enter into his make-up, there will be seen strands of Irish, others of Scotch, still others of English, together with large bundles of Dutch, or Scandinavian, all united with the blue of the Yankee.

The American boy of the earlier years was noted for such excellences that made him a much envied youth in the community.

Who has not heard of the seemingly incredible things done by woodchoppers; of the wrestlers who were never thrown; of the cradlers who were never beaten, or of the spellers who were never turned down?

Those boys were the heroes at cabin raisings, corn huskings, candy pulls and spelling schools. But where are they now? Gone; and curved pitchers, fast oarsmen, expert bicyclists and dudes rattle around in their places.

The swing of the ax which made Abraham Lincoln famous among the hardy pioneers of Indiana is almost, if not quite, forgotten in the struggle and excitement which accompany the swing of the base-ball club of to-day.

The success which characterized the efforts of our fathers was due in large measure to application, industry and perseverance.

The boy of to-day is not content to plod as did his father. It's too slow for his rich blood. He speculates in options; runs Sunday excursions as well as hotel and tailor bills; buys western land at $1.25 an acre and sells it at $100 a foot; is a millionaire or a county charge at 30.

Before he scarcely reaches his teens he criticises his father, whom he dubs "the old man," and when out of reach, if not of hearing, he speaks disrespectfully of his father's wife's mother. Strange, as it may seem, he

is seldom reproved and never chastened for this gross breach of household etiquette.

Washington is spoken of as "an old fogy." "He," says the American boy, "never saw a greenback or a mugwump; never struck a match on the sole of his—pants; slept in a Pullman sleeper; went 'round in the Ferris wheel, or took a 'header.'"

As for Shakespeare, the American boy has "ciphered" him out. Even Bacon could not pass an examination for a county certificate in Iowa. As for the wisdom of Benjamin Franklin, he sincerely believes that he is running on a broken record, and emphatically protests that he could not, at the time of his death, give the source of the Missouri river, the essence of the Monroe doctrine, nor the exact population of Des Moines, according to the census of 1895.

He travels much and at lightning rapidity. Soon he hopes to breakfast at the "Hub," take his lunch at the foothills of the Rockies, and his dinner at the Golden Gate. Even at that high rate of speed I am not sure that it was not eclipsed by one of William Penn's Quaker boys who, it is said, ran 400 miles in one day. Sometimes I think one cipher should be omitted in the distance traveled, but am fearful to make the suggestion of a possible error lest the historian eliminate Penn from history and place him in retirement along with William Tell and Pocahontas.

The American boy is a great builder. He opens up a ranch in Montana: builds a barn 180 feet wide, 300 feet long and 7 stories high. His nearest neighbor, living in an adjoining township, goes him fifty feet better each way and puts in steam elevators. Not to be outdone, his second nearest neighbor builds a barn covering a whole ten-acre lot, stretches the proverbial blue canopy above it and on top builds a henhouse large enough to take in both of the other barns and then mortgages the whole country about to pay the carpenter and hardware bill. The sequel, "busted," was written on the sides of emigrant wagons returning from the west last year. But let us consider him more seriously.

The American boy is a solver of problems. Scarcely a single great question has been presented during the century that has not been solved by the genius of some American youth.

International communication was solved by one of America's favorite sons, and so universal and swift is the telegraph that all important acts and incidents from the emancipation of a race to the "knock-out" to prize fighting at the ungloved hand of Governor Culbertson, is known and applauded in the most remote hamlets of our country in an incredibly short time.

So perfect is the system that a message sent from Boston is received in San Francisco several hours in advance of the time it was sent, and, according to Joseph Cook, three-fourths of all the missionaries in the world can be reached within a day from any large city.

The telegraph may soon enable us to write messages to the outermost parts of the world, and it is no wild dream to think that in the near future we may see what takes place at the end of a wire in central Africa.

Hand in hand with communication goes the transportation problem. The steamer and the railroad carry the grains of Manitoba and Australia to the markets of the world with but small increase of cost. "In fact, it is

said to cost less to send the product of an acre of wheat from Dakota to England than it does to manure an acre of land in England so that it will grow good wheat."

The luscious but perishable fruits of California are unloaded fresh and sweet upon the Atlantic seaboard. The orange blossoms of Florida are sent in rich profusion to all parts of our country. So complete is the net work of lines that the cry of the Russian for bread is scarcely heard before shiploads of Iowa grain appear in the harbor of Cronstadt before St. Petersburg.

New modes of traveling are more than likely to come. With proper roadbed and suitable equipment there is no reason why electricity will not drive a train twice or three times the rate now traveled.

Aerial navigation is no longer considered an absurdity. So firmly do I believe in the inventive genius of the American boy to solve this problem, that I am strongly inclined to promise an aerial side trip to the sunny side of the north pole for a toboggan slide when you shall come among us again.

In touching upon the next point, that of *production*, I am keenly aware that I have a practical and critical audience before me.

If I am right, this problem has been solved by the American boys of our land. The question is not so much what shall we produce and how shall we do it? but "overproduction."

Charles Dudley Warner is authority for the statement that one per cent of the arable land in the cotton states will produce all the cotton the world can use. If this should seem like a low estimate, certainly five per cent will do this. When North Dakota alone, in a single year, produces 63,000,000 bushels of wheat, it needs no argument to convince us that a small fraction of the west will easily produce enough to feed the world.

We have been able to accomplish this only by the agency of labor saving machinery, which is another product of the American boy. "Steam plows prepare the way for the drill, the drill for the reaper and binder, the binder feeds the thrashing machine, the thrashing machine feeds the flour mill, the flour mill and bakery hand their produce to the locomotive and steamboat, and these feed the world."

Imagine, for a moment, what the result would be if all transportation lines running from Chicago into Iowa were cut off for a single year. The tonnage of the state for a year is more than 17,000,000. To move this great amount of produce with teams and wagons would demand so large a number of men that every industry would be revolutionized and all business would become stagnant.

Yonder in the woods of Kentucky is born a lad destined to be ranked with the noblest of the world's rulers. See him as he sits beside his mother's open grave in the midst of solitude and desolation; follow him as he crosses the prairies of Indiana and as he leads his companions in a successful campaign against the enemy of the hardy American pioneer; listen to his thunderings against the extension of slavery; note his election to the presidency of the United States, and hasten that you may see the shackles fall from the bleeding limbs of three millions of slaves.

President Lincoln's name is to-day revered by patriotic citizens, both north and south, but history is written and it must not be forgotten that the act of liberating the slave was but the fulfilling of a vow registered in heaven that if the loyal American boys were successful at Antietam the

victory should be crowned by the emancipation proclamation. The boys were successful and the human slave was freed.

At the close of the war education was given much attention. Young men who had laid aside their books and gone forth in defense of country, returned to complete the college course.

Physical force and chemical action soon became so well and thoroughly known that nearly every known element became our servant. By the use of coal the steam engines of the world now accomplish more than it would have been possible for three hundred times the number of freed slaves to have accomplished in the same length of time.

"In labor performing machinery we have at least 2,000,000,000 of men of steel and iron." Statistics clearly show that taking the world at large there are six steam and iron slaves working for every man and when limited to our own country there are eighteen at work for every man and six for every individual.

It will thus be seen that while one American boy was striking the iron bands from the slaves as though by magic, another was welding and riveting that which bound many times the number liberated. In a recent number of the Cosmopolitan, Samuel Peacock writes as follows:

"We are all familiar with the magnificent advance in all material prosperity; but the progress in the practice of agriculture is not so generally known. By the aid of scientific investigation, the productive capacity of the soil has been increased many fold and the preparation of food materials from the products of the farm greatly widened. The cost of producing milk and butter, for instance, is now very much a matter of scientific supervision. The cattle feeding rations are regulated by the nutrients contained in their composition. It is possible to so adjust a ration for poultry feeding as to materially increase the number of eggs laid in winter months when prices are highest—that is, when they are most in demand for the comfort of man. Soil fertility is now largely recognized as a matter of supplying certain ingredients—combined nitrogen, phosphoric acid and potash—to the soil, as same are removed in process of crop harvesting." How to supply these ingredients has been a problem of great importance; but the proper and complete solution is near at hand. "In 1890," says the same writer, "the capital invested in the United States in the manufacture of commercial fertilizers amounted to $40,594,168 and furnished employment to over 10,000 men. The output of fertilizers was about 1,250,000 tons, valued at $39,180,000. In 1894 the output closely approached 2,000,000 tons, while the capital invested increased in still greater proportion."

Other, and it may be greater questions, remain to be solved.

The distribution of wealth products is among the number. "Increased wealth, of itself, has no power to produce a millennial life." England, during the past four centuries, has increased seventeen-fold in wealth, while the population increased only four-fold; still to-day in London "considerably over one-tenth of the deaths are in the work-houses."

In our own country poverty, in the sense that any man willing to work could not secure the necessities of life, did not exist fifty years ago. To-day, especially in our centers of population, are found thousands who exist only by the hand of charity or by theft.

In the United States wealth has increased ten-fold during the past half century, and the population only three-fold.

Statistics show that in 1890 there were 23,000 evictions in one single American city for unpaid rent, and in New York city nearly the same proportion are buried in the potter's field that die in the workhouses in London.

In the face of the great growth in wealth, never, we are told, was there so great want and discontent as prevailed in our country last year. What shall be done? Is a question that is troubling more people than are found within the ranks of any political organization.

There are some who believe as did the Missourian who went to a respectable judge and said: "The laws of society are not properly constructed." "What is the matter with them?" said the judge. "Why, you are rich and I am poor, and I think we ought to divide." "If I did divide with you," said the judge, "at the end of six months you will have spent all your money; what will you do then?" "Why, divide again, of course." That man was a communist, and his dangerous doctrine is advocated by two classes in this country. First, by a small number of talented men who are always clamoring for a change. Of this class there are usually some who are of the opinion that any radical change will have a tendency to correct evils such as they think exist and burden society. Second, by that class who have an intense hatred for those who have made a success in life, and who possess more than they.

It will be no mistake for the American boy to consider how men acquire wealth. We have only to look about to see how it is done. That man yonder, enjoying his pleasant home, worked harder and was more economical than his neighbor who is poor. He saved a small sum. With this he began business for himself. Profits were added to original capital. He employed an assistant. By skillfully directing his enlarged business he made a small profit, which he continued to invest. Other assistants were needed and employed. His increased business required still greater skill. In time he became well-to-do. That is one way of growing rich. Many men in comfortable circumstances to-day traveled that route.

Others have succeeded by the invention of some simple device. A tinkering farmer named Mitchell, who was blessed with a family of children, saw that they soon kicked out the toes of their shoes. "Copper-toes" followed, and the inventor cleared nearly $100,000. Brass springs for holding lamp chimneys in place gave the inventor an annual income of $50,000. A certain form of railway mileage ticket, invented a few years ago, brings the patentee a royalty of $20,000 a year. It is not luck, but pluck and intelligence, that brings success to that boy of ours.

The commercial and agricultural depression through which we have been passing is not without its lessons to all, but especially is it an object lesson to the young man who has not learned "to do without." Never in the world's history was the desire to get money so strong as to-day. This is the money age. Along every avenue there is a scramble for pelf. Honestly sought, this is no detriment, but it would be well for us to give some study to—how to do without great wealth. Among the habits learned by the American boy should be the habit of living within his income, whatever it be. I sometimes think we have too many "plum pudding boys" these days; boys who do not have any appreciation of the "exquisite taste of common dry bread" or the lusciousness of mush and milk. I very much

fear that neither home training nor the school program include this study of—"to do without."

Another great problem that now faces us is that of municipal control.

Municipal corruption, such as Dr. Parkhurst, of New York, has unmasked within the past year, has never been equaled. If one man, almost unaided, can revolutionize a great city like New York, there is no city that cannot be well governed if its best people will unite.

There are still other great questions, among which are immigration, drink traffic, civil rights for the black, and even the "hired girl problem," awaiting solution at the hand of the American boy.

I am of the opinion that we are at times too critical in speaking of that boy of ours. He may not be perfect, but the chances are that his father before him had an occasional fault. He may not be "the round man," but our schools and colleges are open to him and will assist him to attain the perfected manhood that is desired.

He has not only filled the granaries of the world with the grains from off our fields, but the pages of history, as well, with acts of heroism.

That was a perilous moment at Wall street exchange when more than 50,000 citizens had gathered to receive the latest word from Washington. Lincoln was dead. Butler had just come on from the capital city to explain the situation. The most intense excitement prevailed. Two men lay bleeding on one of the side streets; one was dead and the other next to dying. They had said, but a moment before, that "Lincoln ought to have been shot long ago!" They were not allowed to say it again. "Vengeance" was the cry. It was a critical moment; what might come no one could tell. Just at this time an American boy, grown to manhood, jumped forward, and with a small flag beckoned to the crowd. A momentary hush came over the great audience. The man lifted his right arm toward heaven, and, in a clear, ringing voice, said:

"Fellow Citizens: Another telegram from Washington. Clouds and darkness are round about him. His pavilion is dark waters and thick clouds of the skies. Mercy and truth shall go before his face. Fellow Citizens: God reigns, and the government at Washington still lives."

The effect was magical. The crowd stood riveted to the ground with awe, and gazing at the motionless orator and thinking of God and the security of the government in that hour.

It was an American boy who stood upon a public platform in England and faced a riotous mob and when taunted by the remark: "You said you could crush the rebellion in ninety days, why haven't you done it?" said: "Because we are fighting Americans instead of Englishmen." It was an American boy who stood yonder in the second story of a hotel in Chambersburg and watched with eager eyes a group of confederate officers engaged in deep consultation. He saw them separate and heard the command given to march. Then he stole down a back way, followed along silently until he saw Lee's forces take the right hand road toward Gettysburg, then seizing a horse he rode with thundering speed to the nearest telegraph office and wired the governor of Pennsylvania what he knew. That boy was immediately wanted by the governor. An engine was sent to convey him to Harrisburg. He was brought into the presence of the governor and his staff and questioned. At last Governor Curtin arose and said: "I would give my right arm if I knew that this boy told the truth." An officer stepped forward and said he knew the boy and his family and vouched for the correctness of his statement. Soon the order was given and the troops of Pennsylvania went forward toward Gettysburg and the valor of the American boys upon that historic field is known to the world.

Following Professor Barrett's masterful address, Miss Rodamacher, of Osage, favored the audience with a solo, after which the convention adjourned until Thursday morning.

THURSDAY MORNING, 9 O'CLOCK.

Meeting called to order by President Johnston.

The president appointed the following committees:

Committee on resolutions: E. C. Bennett, R. T. St. John, C. W. Norton.

Committee on location and officers: C. W. Norton, George H. Dunkelberg, D. J. Patton, D. A. Kent, James Wilson, E. S. Fonda, Daniel Sheehan, G. T. Harker, R. Baker.

Secretary Franklin read his annual report as secretary and treasurer of the association.

CHAIRMAN: In accordance with custom, I would like to have some one make a motion for appointment of committee on this report.

It was moved by Mr. Patton and seconded by Mr. Baker, that a committee of two be appointed by the chair for the purpose of examining the report of the secretary and treasurer. Carried.

Mr. Gabrielson and Mr. Murdock were appointed as such committee.

CHAIRMAN: There is one member of this society who has always been highly respected by this society, who from his bed has dictated a letter to us. I will have that letter read. I mean Hon. John McHugh, of Cresco.

Secretary Franklin read Mr. McHugh's letter.

CRESCO, Iowa, October 25, 1895.

George W. Franklin, Secretary Iowa Improved Stock Breeders' Association:

DEAR SIR—I am reminded that the Iowa Improved Stock Breeders' Association holds its annual meeting in Osage during the coming week. Through your courtesy I have received an invitation to prepare a paper on

some topic that might be of interest at your convention. It grieves me very much to inform you, and through you such other members of the "old guard" as may be present, that providence in his own irresistible way has been pleased to withhold from me the pleasure that it would afford to attend the meeting and see a few, at least, of the old familiar faces who took such prominent parts in promoting the object of our association. For the present I am unable to leave my bed or walk, even with the aid of my crutches. Without murmuring against the decree of divine providence, it seems hard for one who has been so uniformly active to suddenly find himself in my prostrate condition. I had intended, when learning through the press that Osage was to be the next place of meeting, to be present with you and assist in helping to make your meeting a success. I may state that I feel much like a caged lion at being so near and yet so far from those with whom I have spent so many happy hours. If it shall be so ordered by the divine architect that I shall have to obey the final summons, the Improved Stock Breeders' Association shall be one of the last thoughts to disappear from my mind. Trusting you will have a successful meeting, and that improvement in all of our stock departments will result therefrom, and asking to be remembered to those present, I remain,

Yours respectfully, JOHN MCHUGH.

PROFESSOR KENT: Mr. President, I want to make a few remarks and a motion following that letter. I have been sick myself for the past year, and I know how to sympathize with and feel for my fellow man when he is afflicted. I have been as strong a man perhaps as any of my fellows for the first forty-five years of my life, and then suddenly was afflicted with a disease pronounced sciatic neuralgia, which brought to me as severe pain as mortal man is heir to. My brother McHugh is lying suffering with such pain and affliction as can hardly be borne. He is certainly lying in as great agony as ever overtakes mankind in this mortal sphere. I move that this association extend to our brother, Hon. John McHugh, in his affliction our most sincere sympathy and our hopes that divine providence may yet favor him and spare him to further association with us and with his family, his friends and his fellow men.

The motion was seconded and carried unanimously.

MR. GABRIELSON: Mr. Chairman, your committee to whom was assigned the duty of investigating the report of the secretary and treasurer, will say that we have examined the vouchers handed in by him and find that the account is correct. (Signed by the committee).

On motion of Mr. Patton, seconded by Mr. Baker, the report was received and adopted.

CHAIRMAN: The next thing on the program is "Deductions on the Capacity of the Soil," by Prof. D. A. Kent, of Jewell Junction.

SOME DEDUCTIONS ON SOIL POSSIBILITIES.

BY D. A. KENT.

Among the various definitions of the term soil none is more comprehensive than the expression, "A soil is such a mixture of finely divided rock material and organic matter as will contain the necessary elements of plant food." To illustrate: If limestone rock be burned and slacked to a finely divided state, it possesses an earthy character; but it is not a soil because it contains only two elements of plant food. If woody matter be burned to ashes, the earthy character is again obtained; but the product being largely potash, the elements of plant food are still wanting and the substance is not a soil. Likewise the pulverization of any single plant nutrient would fail in the constitution of a soil. Sand and the compounds of aluminum are the great dilutents in all soil formations, yet too much sand makes a soil too light and hot. Too much of the aluminum compounds, or clay, makes a soil too hard and indurated, and therefore too difficult in the circulation of the air and the formation of plant roots.

The annual rainfall is of great importance in soil formation. A knowledge of the geological formation and the number of inches of annual rainfall are sufficient data to determine the character of the soil and its availability for crops, without personal examination. In localities having heavy drenching rains the soil is always thin and poor because the impalpable and soluble matters are largely washed away. In rainless districts the impalpable matters are blown away, and the sand is left alone to heat under the burning rays of the sun and wither up nearly all forms of plant life. The meager rainfall of the Mississippi valley permits of the accumulation of animal and vegetable matter with the detritus of the rocks in the formation of the rich prairie loam. Should some sudden change of the physical features of the continent take place which would double the present rainfall, it would not be fifty years before the present mantle of black mould which now covers the surface of the Upper Mississippi valley would be washed to the sea, and there would be nothing left but a hard clay or barren field of sand like the prairies of Arkansas and the weather-beaten hills of the east and south. Again, if the continental change would result in making the district rainless the winds would blow the rich soil away, and instead of the beautiful knolls that decorate the prairies in their garments of green, undulations of sand dunes would rise in desert waste.

We deplore the drouthy seasons, still the drouthy seasons are blessings in disguise. Unprecedented crops have grown this year where drouth held sway last year. The same experience obtained in Russia. The first year following her last terrible drouth produced more grain than her dense

population could take care of. During the last session of this association much was said concerning the lessons of the year, the greatest of which was the forced economy in feeding. The great lesson of this year is the one taught by the use of the high land and low land as well. Former dry weather had lowered the ground water to such an extent that even the rains of the past summer did not bring it back to the surface even in the low lands; hence, these lands produced in great abundance and demonstrated how they could swell the cribs and granaries every year should this lowering of the ground water be made permanent with tile drains.

The phenomenal yields of crops that have been reported comes by reason of the forcing power of the low lands, and such yields can never be realized, however favorable the season, when the low places are full of water. The past season in many localities would have been a very wet one and productive of many floods had the earth not been so badly dried up in the beginning of the year. It must be remembered that under ordinary conditions of soil moisture a rainfall of two and one-half inches would cause a flood on the river plains, while at the present state of soil moisture such a rainfall would scarcely start the water flowing in the smaller creeks.

Now is the time to effect the drainage. While the soil is dry and light it can be handled for one-half the expense of handling mud. The plow and scraper can be used with surprising rapidity. The plow itself can be made to throw out the first eight inches which is the most expensive, by throwing two furrows in opposite directions. A man and team can easily scrape out thirty rods in a day to a depth of two feet and the width of the scraper. A modern road grader will do all the ditching necessary, to the depth of two feet, on a farm of 160 acres, in a day or two, and spread the dirt out far enough to farm over the ditch.

In an experimental trial on my place with a machine made by the Western Wheel Scraper Co., we made forty rods of ditch about two feet deep in just one hour, employing three men and eight horses in the operation of the machine. This dry weather is a most auspicious time for draining the low lands. You may depend upon it that the wet time is coming again. The pseudodoxical teaching which has assumed that draining the ponds and marshes of Iowa would perpetuate the drouth is liable to mislead a great many good practical farmers who rely largely upon the leadership of popular men in such matters. It is sufficient to close this phase of the subject by remarking that the Creator of the universe never based the perpetuity of any part of His work on so perishable a thing as a duck pond or buffalo wallow. The winds are the great transporting agents of moisture in all parts of the earth and their interchange produces rains.

The capacity of a soil in sustaining life is remarkable in many instances. Take for example, the black soil of Russia, which covers an area about as large as the state of Iowa and supports a population of twenty millions of people, which is ten times as many people to the square mile as there is in the present population of Iowa. And the people in this densely populated district have large amounts of grain for export every year. This black Russian soil is very much like the black soil of Iowa, there being, perhaps, a little more potash in the Russian soil.

In like manner dense population follows the districts of rich soil formation as is noticeable in the valley of the Nile, the Euphrates, the rivers of India, and China. We may expect the same dense population on the rich prairies of North and South America. But as a sociological question is it desirable? We can not enjoy a high degree of comfort in tilling the soil and watching the flocks and herds when it becomes a struggle for existence. There can be no development when there is but meager support of life. As the soil thins out vegetable matter diminishes, as vegetable matter diminishes animal life degenerates, and as animal life degenerates the mentality, emotions, and souls of men sink after it. The social philosophers who spend a great deal of time figuring out the number of hundreds of millions of people that can subsist in the United States, and in encouraging the development of such population are counseling in dangerous grounds of social economy. Ever since the hosts of Israel were marshalled against the Pagan world, the great effort in national life was to aggregate a population whose marshalled forces would be invincible against the rest of the world. But the recent experience in the last war with China and Japan where 35,000,000 put 350,000,000 people to flight, the question of population has found its limit. It has shown that the United States might be more formidable with 200,000,000 people than with a billion. When a population becomes too dense its spiritualism sinks into animalism and it turns to devouring itself. If the Iowa Improved Stock Breeders' Association expects to perpetuate itself and forever recite its lessons in the development of the domestic animal, it must enlarge the code of principles so as to take in the consideration of man himself.

The sanitation of soils is a matter of great moment in the present stage of development. Every Iowa herdsman must fully understand that the rich soil which mantles his farm in a treasure of wealth, is also the home of a deadly germ which may cause the ruination of all the profits of the rich farm. It was long thought that all paroxysmal fevers had some connection with the soil, but until microscopic life became better understood the matter remained in doubt. But the rationale of the subject now is that the farm that will grow large crops and maintain elegant flocks and herds will also generate foul disease and send it up with the water that is drawn or the air that escapes. If we would prosper we must stay here and build in the best possible manner, for the Iowa farmer cannot live in the mountains and farm on the plains.

The soil of the building site is therefore a matter of vast importance. If you build over the black earth, the air that rises out of it and diffuses through the building is rich in carbonic acid and moisture, and laden with effluvia, organic substances, carburetted hydrogen, ammonia and sometimes other poisons which pollute the air to be breathed, and the grain and hay that is kept in store. If you build over a wet, damp soil, rheumatism, neuralgia, catarrh and malarial fevers will follow.

Pettenkofer remarks that in the case of two royal stables near Munich, with the same arrangement as to stalls, food and attendance, the same class of horses suffered very unequally from fever; the only difference between the two places was, that in the healthy stables the ground water was five to six feet and in the unhealthy stables only two and one-half feet from the surface. Draining the latter stable and reducing the ground water to the same level made them as healthy as the former ones. Fodor says that at Buda Pest the rise of enteric or typhoid fever mortality accompanies the

rising ground water, and that they fall together. Lewis and Cunningham report that at Calcutta cholera in 1873-4 followed the curve of the ground water level inversely, and the investigations of Pettenkofer, in Germany, support the same view.

It is well known that the marshy and malarious districts of foreign countries and sections of our own country, like some parts of Illinois, Indiana and Ohio, have been made healthy by proper drainage. Water is one of the essentials in the support of germ life, and its removal stops germ development.

Prof. James Wilson of Ames, read the following paper; subject, "Feeding Dairy Cows."

FEEDING DAIRY COWS.

BY PROF. JAMES WILSON, AMES.

During the winter and spring of 1895 the Iowa station continued its work with dairy cows. Eight were selected from the college herds and selected with a view to their advance in the period of lactation. They had dropped calves from September 10th to December 7th. There were four Holsteins, two Shorthorns and two Jerseys. They were not selected as representatives of their respective breeds but because they were free from the extremes of fresh cows or strippers. We desired to ascertain the quantity and quality of milk, butter and cheese made from turnips, mangels, sugar beets and red table beets during a period of seventy-seven days. Then we desired to ascertain what results would come from feeding the same ration without roots over forty-six days, and finally to ascertain what results would come from turning the cattle on pasture with grain and without grain. During the first two periods we fed a foundation ration of hay, corn fodder, bran, gluten meal and oil meal, until the cows went to grass. This foundation ration is well known to produce good dairy products. The root feeding period of seventy-seven days was subdivided up into special periods of twenty days each; ten preliminary and ten test days for turnips, the same for mangels, and a like period for sugar beets and seventeen days for red table beets. The rations given to the cows during each of these root periods was twenty pounds of roots, ten pounds of corn fodder, two pounds of gluten meal, two pounds of oil meal, ten pounds of bran and four and one-half pounds of hay. The several constituents of the ration were mixed together and wetted twelve hours before being fed. This was done in all preliminary and test periods while roots were given. Toward the close of the twenty days when turnips were being fed it was ascertained that the two Jersey cows would not eat their quota of the ration. After this they were fed just what they eat, weighing being carefully done to ascertain their comparative consumption and production.

The butter yield resulting from the four tested roots varies. There were 106.38 pounds of butter from the turnips, 102.98 pounds from the mangels, 99.28 pounds from the sugar beets. This amount was from ten days' milk in either case, and from the red table beets 84.71 pounds for nine days. Another element of the yield has to be considered in connection with the feeding of these different roots. During the ten preliminary days of turnip feeding, the eight cows gained sixty pounds; during the ten test days of turnip feeding they lost sixty pounds. During the ten preliminary days of mangel feeding the cows lost twenty pounds while still partially under the influence of the turnips; during the ten test days of mangel feeding they gained 110 pounds. During the ten preliminary days of sugar-beet feeding the eight cows lost thirty-five pounds, and during the ten test days of sugar-beet feeding they lost five pounds. During the eight preliminary days of feeding red table beets they gained seventy pounds; during the nine test days on red table beets they gained 136 pounds. I may observe generally with regard to the feeding of these four kinds of roots that the cows lost weight on turnips and sugar beets and gained on mangels and red table beets.

Dry Matter to Pounds of Butter Fat.—While the cows were eating turnips it took 20.51 pounds of dry matter to make a pound of butter fat; while they were eating mangels it took 21.87 pounds of dry matter to make a pound of butter fat; while they were eating sugar beets it took 23.83 pounds of dry matter to make a pound of butter fat; and while they were eating red table beets it took 25.28 pounds of dry matter to make a pound of butter fat. It will be noticed by comparing the yield from the different roots that during the turnip period while no gains were being made, but rather a loss of weight incurred by the cows, the least amount of dry matter was required to make a pound of butter fat, and while they were making their greatest gains in bodily weight on the red table beets it required of course a greater amount of dry matter to make a pound of butter fat.

Nutritive Ratio.—Nutritive ratio means the relation that exists between the digestible protein and the digestible carbhydrates. During the turnip period the nutritive ratio was 1:4.1; during the mangel period the nutritive ratio was 1:4.5; during the sugar beet period it was 1:4.7, and during the red table beet period it was 1:4.4. Our nutritive ratios are narrow, that is, there is a large per cent of protein. We did not feed corn, because corn was dear last winter. The crop on the college farm was like the crops on other farms, very light, and we were compelled to buy feeds for the winter to add to our roots and corn fodder, and I may remark here that the ration of the Iowa cow is usually wider, because corn is almost universally fed, and it is generally fed with little additional in the way of by-products of the mills. We fed as other people would under like circumstances We bought what by-products would make us the cheapest butter.

Water.—We made careful weighings of the amount of water fed to the cows out of the pail, also of the amount of water necessary to mix their rations twelve hours before feeding, and computed the amount of organic water in the different nutrients fed, to get data with regard to the amount of water the dairy cow requires. It is a necessity for all animals, but especially for the dairy cow. It may be said generally that one-half of the animal body is water. The younger the animal is the greater per cent of

water its body contains. Very fat animals have been reported by Laws & Gilbert to have as low as 35.2 per cent water. The dairy cow doing good work is in thin condition. The fats made from her feed should go toward milk production after the animal organism has had enough to oil up the system and keep it warm. The product of the dairy cow is 87 per cent water, in which 13 per cent of solid matter is contained in emulsified condition. She cannot do good work and yield profitably without plenty of water. From the three sources named, the moisture in the plants, the water used in wetting the ration, and the water drank, each cow had during the several root periods the following amounts: During the turnip period 111 pounds per head per day, or 4.78 pounds of water for each pound of dry matter eaten; during the mangel period each cow had 119 pounds of water per day, or 4.94 pounds of water for each pound of dry matter eaten; during the sugar beet period each cow had 108 pounds of water per day, or 4.27 pounds of water for each pound of dry matter eaten, and, during the red table beet period each cow had 119 pounds of water per day, or 4 69 pounds of water for each pound of dry matter eaten. I made inquiry into the amount of water drank per 1,000 pounds of weight of cow per day, and found that there is not a very great variation. Excluding the moisture in the feeds and the water used in mixing the feeds and basing estimates on the amount of water drank daily, I find that it bears more relation to the weight of the cow than to anything else. One Jersey weighing 757 pounds drank 2.32 pounds of water daily for each pound of dry matter. A Holstein cow weighing 1,236 pounds drank 3.02 pounds of water daily for each pound of dry matter eaten. A Shorthorn cow weighing 1,261 pounds drank 3 55 pounds of water daily for each pound of dry matter eaten, and an aged Holstein cow weighing 1,290 pounds, drank 3.67 pounds of water daily for each pound of dry matter eaten. So that the size of the cow and the surface exposed to evaporation is the principle factor controlling the amount of water drank.

Daily Yield of Cow.—The yield of butter is found by adding one-sixth to the butter-fat, that being the average over-run of the Iowa College creamery, and the conversion factor adopted by the association of agricultural colleges and experimental stations at its late meeting at Denver. From turnips there was an average of 1.32 pounds of butter per day per cow during the ten days of testing. From mangels 1.28, from sugar beets 1.24, and from red table beets 1.17. It will be remembered that the greatest bodily gain in weight came from feeding mangels and red table beets. During these seventy-seven days some allowance of course, should be made for the gradual decline that takes place in the yield of a cow as the period of lactation advances. The average of the eight cows during the seventy-seven days was 1¼ pounds of butter per cow per day.

Gain in Weight.—The gain or loss in weight of dairy cows depends upon what they are fed principally, but to some extent upon their inheritance toward milk giving, or fattening. We have found that gain or loss in weight while eating green nitrogenous soiling crops can be controlled by the amount of grain fed with the ration. In one experiment we fed cows twelve pounds of corn and cob meal a day with green feed. They gained in weight. Where we fed, in another experiment, four pounds of corn and cob meal a day to each cow they lost in weight. Where we fed nine pounds of corn and cob meal daily to each cow there was neither gain or loss in weight, indicating that this fattening process can be controlled by properly arranging the feed the cow gets. The ration most suitable for fattening a steer will fatten the dairy cow, provided she possesses the characteristic of fattening as well as milk giving. Milk is a highly nitrogenous product; fat is carbonaceous

When the ration is constituted for milk, fat is not likely to be formed. Fat is deposited in the fat tissues proper, and also in the muscles between the fibers. The dairy cow is generally a matured animal not requiring, like growing animals, more protein for the support of her body than is necessary to maintain it, not more carbhydrates than she requires to make milk or keep her warm outside of the fat which she turns into her milk. If she gets more carbhydrates than she requires to make milk or keep her warm it is either wasted or is deposited as fat in her body. During the seventy-seven days alluded to, with the ration I have described, the two Jerseys neither gained nor lost. One Shorthorn cow gained twenty-six pounds and the other Shorthorn cow gained ninety-one pounds; one Holstein gained ninety-eight pounds, one fifty-two pounds, one ninety-one pounds, and the fourth Holstein cow lost twenty-six pounds. There is as marked an individuality inside of breeds as there is contrast between them. The two Jerseys are cows of the most approved milking families. Their weight remained stationary on turnips and mangels, they lost slightly on sugar beets and made it up on red table beets. The two Shorthorn cows gained twenty pounds on turnips and fifty pounds on mangels, and lost fifty pounds on sugar beets and gained seventy pounds on red table beets, making a gain of ninety pounds in weight in seventy-seven days. The Shorthorns fatten easily. In this case they were fed liberally and made only such gains as are desirable to provide cows for good results in summer on pasture, but the gain was mostly made by one of them, indicating that this characteristic is more prominent in some cows of this breed than others and suggesting to us selection in the direction of the dairy. The Holsteins lost ten pounds on turnips and gained forty pounds on mangels; they gained forty pounds on sugar beets, the only breed that gained on this root, and they gained ninety-six pounds on red table beets.

Some light may be shed on this disposition of feed made by the breeds by consulting bulletin 20 of the Iowa station and comparing the Shorthorn page 665, Holstein page 671 and Jersey page 682, as beef cattle. The weight of dressed beef with tallow is given in each case as follows: Shorthorn dressed beef 1,068 pounds, tallow 141¼ pounds; Holstein dressed beef 818 pounds, tallow 148¼ pounds; Jersey 763 pounds dressed beef, tallow 190 pounds. These cattle were thoroughly fattened. The tallow spoken of is caul fat, paunch fat, intestine fat and bed tallow fat. During nine months' feeding the Shorthorn had gained 718¼ pounds, the Holstein 629¼ pounds, and the Jersey 573 pounds. The Shorthorn had 13 2 per cent of loose tallow, the Holstein 18.1 per cent, and the Jersey 24.9 per cent. These animals were good types of their respective breeds. The beef breeds deposited fat in the fat tissues and among the flesh fibers. The milk breeds did this to a less extent and when fed quite fat deposited a larger proportion in the abdominal cavity than the beef breeds. The disposition of the Holstein to lay on fat seems midway between the Shorthorns and Jerseys in that experiment. In our experiment under consideration, the Shorthorns and

Holsteins behaved similarly regarding gain in weight. Much more care must be taken in compounding rations for the easy fattening dairy cow than for one less disposed to fatten, when gain in weight is not desired. Iowa meats are made with grass and maize almost entirely, without much attempt to add more protein even in winter, justified by the low price of corn and not only so, but the dairy products of the state are made from the same ration, in a majority of cases. The dairy products of the state from this ration excel all others, as maize gives butter and cheese fine flavors, but cows with a tendency to fatten are spoiled for dairying by the ration. Added weight is an element of value when the cow is to be turned to the butcher at the end of her milking period and when the farmer desires to raise calves from his dairy cows for feeding, the fattening disposition is valuable, and to the extent that the cow should be put into good order during winter to fortify her against the drain of summer milking. But when neither of these objects is in view, the tendency to gain weight in feeding is undesirable and requires skill in feeding to avoid.

The results had from feeding the several roots during the seventy-seven days, gives us some indication of their effect with regard to fattening. Our cows have lost weight uniformly while eating turnips. There has been a tendency to gain in weight in our different experiments while feeding mangels. We have only fed the sugar beet for milk and tested it under exact conditions in this experiment. The indication is that the sugar beet does not contribute toward fattening, but rather the contrary. The red table beet spoken of is the common beet we eat in vinegar on our tables; they were grown for the students' table. At the end of the college year we had about a ton of them left and I concluded to ascertain their value with regard to making dairy products with the results indicated.

Dry Matter.—Some little interest attaches to the dry matter eaten per thousand pounds of weight, and the dry matter per pound of butter fat, and along this line I call attention to the results from the different breeds. From the Holstein a pound of butter fat was had during the seventy-seven day period from 24.17 pounds of dry matter. From the Shorthorns a pound of butter fat was had from 23.28 pounds of dry matter. From the Jerseys a pound of butter fat was had from 20.43 pounds of dry matter. No credit is given here for gains in weight to the Holsteins and Shorthorns that diverted part of their feed to their bodies. The dry matter eaten per 1,000 pounds of cow was, for the Holsteins, 21.19 pounds; for the Shorthorns, 20.07, and for the Jerseys, 27.07 pounds, the average of the three breeds being 23.20 pounds consumed for every 1,000 pounds of weight. The small cow in this case showed larger consuming capacity than the larger. During the forty-six day period when no roots were fed and no gain in weight made by the cows, 26.41 pounds of dry matter were required to make a pound of butter fat during the first eleven days of the period. During the next eleven days, 26.67 pounds of dry matter were required to make a pound of butter fat. During the last ten days of the forty-six day period, 30 87 pounds of dry matter were required to make a pound of butter fat.

Feeding Without Roots.—After the seventy-seven day period I have been speaking of was ended we fed the cows during forty-six days without roots. From March 19th to May 7th we substituted the dry matter in the roots with bran as nearly as practicable, so that the same amount of nutrients would be fed during the period without roots. It may be said at the outset that during these forty-six days the cows made no gains, that is, there was gain shown by the figures of fourteen pounds, but that is within the limit of error, and the stomach contents of cows change so much under slight varying conditions that there was substantially no difference in the weight of the animal. Our tables show that there was a loss of weight during the days in which the roots were being gradually taken off, that was gradually gained again. The nutritive ratios did not vary much from those of the seventy-seven day period, in fact, were a little narrower. The cows were divided into two lots of four each, consisting of two Holsteins, one Shorthorn and one Jersey. The one lot was fed as they had been in the previous seventy-seven day period as regards having their ration moistened twelve hours before feeding, and the other lot was fed without the feed being moistened. There is slight yield in favor of the moistened ration, but it is not pronounced.

The striking feature of this forty-six-day period is that the cows consumed more dry matter to produce a pound of butter without gain in weight. During the forty-six days we got about a pound of butter a day from each cow, but at this stage of the period of lactation cows are likely to gradually gain in weight. The cows seemed to miss the root feature of the ration. The four cows eating dry feed seemed to require a few more pounds of dry matter to make a pound of butter fat than those getting the feed wetted twelve hours before feeding. The pounds of water drank to the pound of dry matter consumed increased. The benefit of roots to assist in digestion is strongly indicated, while the rations were as nearly the same as they could be compounded during both the seventy-seven-day and forty-six-day periods, except that in the latter period bran was substituted for roots. The cows were then turned onto grass and during a period of thirty-two days the grain was gradually taken off until the cows had pasture alone. The amount of butter per cow per day increased during these thirty-two days, but the noticeable feature was the considerable gain in weight of the cows as well as the gain in butter per day. The cows were now far advanced in the period of lactation; most of them were bred again and pregnant, at which time gain in weight is more likely to take place. I have made some inquiry into the per cent of fat in the milk of the several cows under consideration and compared this with their yield. The greatest yield came from the Holstein cow, that gave us 1.59 pounds of butter a day, with 3.45 per cent average fat in her milk. The second highest was another Holstein that gave us 1.53 pounds of butter per day, with 3.10 per cent of fat in her milk. The third highest was a Jersey that gave us 1.48 pounds of butter per day, with 6.93 per cent of fat in her milk. The fourth was a Shorthorn that gave us 1.35 pounds of butter per day, with 3.71 per cent of fat in her milk. The fifth was a Shorthorn that gave us 1.18 pounds of butter per day, with 4.16 per cent of fat in her milk. The sixth was the second Jersey that gave us 1.04 pounds of butter per day, with 5.11 per cent of fat in her milk. The seventh was an aged Holstein cow that gave us .98 of a pound of butter per day, with an average of 2.60 per cent of fat in her milk; and the eighth was a young Holstein cow that gave us .90 of a pound of butter per day, with 3.21 per cent of fat in her milk. These averages were taken from the seventy-seven-day period when roots were being fed. When we come to consider the economy of butter production, the high per

cent Jersey stands at the top because she gives us the most butter from a given amount of feed; then two Holsteins follow, then a Shorthorn, then the second Jersey, then the second Shorthorn followed by two more Holsteins.

There are two lines of improvement suggested by these figures. The Jersey that makes her butter cheapest is scarcely big enough nor vigorous enough for Iowa conditions, and we might safely increase the size of her descendants several hundred pounds. The low per cent Holsteins should be weeded out, and farmers will find the readiest means of increasing the per cent of fat of the Holsteins in the direction of using sires from dams having high per cents of fat; four per cent or over, which would be a decided improvement for the Holstein breed. Taking these eight cows and separating them into breeds I find that the Jersey makes butter cheapest, or something under 11 cents a pound; the Shorthorns and Holsteins make butter at a cost of a little over 12 cents a pound, not considering gains in weight; and the eight cows taken together average not far from 12 cents a pound. All the computations regarding this matter have not been completed, but the figures I give are very close to what they will be eventually in our bulletins. It will be remembered that feeds were dear last winter, probably 20 per cent higher than the average cost of feed for dairy cows in the winter in Iowa. Bulletin 25 gives the cost of making butter in the winter of '93-'94, and shows that it cost 10⅞ cents a pound during the experiment conducted at that time with feeds similar to those fed in the winter and spring of '95.

I desire to call attention also to the fact that these cows were not selected as the finest representatives of their breeds. When we get ready to conduct an experiment we are compelled to take the cows that are in condition for our use. Our herds are all thoroughbreds, and we cannot turn them to the butcher as readily as grades and scrubs are disposed of. There is perhaps as good a lesson from the feeding of average cows of a herd as from selected animals where the whole nation is scanned to find specimens of great excellence.

MR. A. G. LUCAS: I understand you to say that the Jersey made the cheapest butter. I also understand you to say that you think that the Jersey is too small for our conditions and could advantageously be increased by several hundred pounds. I would like to have your judgment as to what the effect of that increase in size would be upon economical production?

PROFESSOR WILSON: It is a little difficult to be sure about things of that kind. We have these Jerseys of ours there—the richest Columbian Exposition Jerseys. They are very nearly what they were when their mothers came over from there. Their enlargement would no doubt change their production. I don't think the Jerseys, as they are, are vigorous enough for our climate. The Channel Islands are mild. This climate is a little apt to affect their lungs. We hear a good deal of complaint of the Jerseys in that regard. I doubt whether we can change that Jersey to make her producing powers of butter any

greater than at the present time. But, I say that the change will come about anyway, in spite of us, if she has all she wants to eat. Over there she is tethered out by a rope. I doubt if she ever had all she wanted to eat in the Channel Islands, of grass, in her life.

MR. BAKER: Could that Jersey cow, by judicious crossing, have a fine, long, woolly hair coat to cover her and make her more comfortable?

PROFESSOR WILSON: Yes, and you would lose her individuality as a Jersey.

MR. BAKER: Yes, but we would gain in the matter of profit by her comfortable condition.

PROFESSOR WILSON: We must shingle her in the barn by actual shingles first instead of shingling her with a thicker hide.

MR. OAKLANDER: I would like to ask you in regard to pasture, whether it is proper to turn the cow out at night?

PROFESSOR WILSON: We make our cheapest butter from grass and we turn them out at night in grass season because that is the cheapest we have at that time. By all means turn her out at night. When it comes this time of the year the delicacy of the Jersey counts. She doesn't fortify herself with the thick coat that she should have when cold weather comes. Only let the Jersey out now an hour or two nice sunny days. That is my theory in regard to that.

MR. SHEEHAN: I would like to ask Professor Wilson one question, knowing, as I do, that he has been an experimenter and a farmer in Iowa, knowing, too, that he is very nearly an Iowa product. Do you think, professor, that it is practicable for the Iowa farmers to raise roots, mangels, turnips and all kinds of roots for their stock? Do you think it can be done with profit? Can you keep them as cheaply on those as on other grains?

PROFESSOR WILSON: I think so. The Iowa farmer can put up mangels for about a dollar a ton, and they are beneficial to the health of every animal on the farm. All animals want roots in the winter time, and I don't believe any man can afford to carry hogs through the winter without roots, and the horsemen can't afford to carry their horses without roots, and particularly the dairyman should have some roots for the purpose of aiding digestion. We had it pretty thoroughly indicated to us that when we got through feeding we got a little less gain in butter and no gain at all in weight. I know of no way by which you

can contribute to the good health of the animal in the winter time that will equal the raising and feeding of a few roots to them. Of course you can make ensilage, but you can't feed a cow on ensilage very freely, and very heavily, and very long, and very continuously as you could on roots and get as fine a product and maintain a cow's health as well. I don't say but that if you make the very finest ensilage you can maintain it a long time, but it is very apt to be not always first rate. I think the time will come in Iowa when we will grow sugar beets here to make sugar. And the pulp of the beets will go to the dairy cow. In ———— it is not a particle higher than analyses of the sugar beets raised at the college farm, and not nearly so high as that raised on the Muscatine island; so that it is only a question of time when we will grow sugar beets in Iowa to get the sugar. We can grow something like three tons of sugar to the acre. It only requires skill. And then we will get the pulp as they do in Germany, and when we feed that pulp out it will be an entirely different nutrient. I have seen remarks made that we can't grow beets in Iowa with enough sugar in them to make them profitable. That is not so. We can grow, usually, twenty tons of sugar beets to the acre all over the state of Iowa, and their percentage is 13 and 14 per cent a ton, and down in Muscatine it is 17, 18 and 19 per cent a ton, richer than anything in France, Germany or Belgium.

MR. MURDOCK: Two crops of beets are not practicable on the same ground?

PROFESSOR WILSON: Yes, if you put back what you take away. You grow truck in your garden every year, but you manure every year.

MR. MURDOCK: How big a portion of a 160-acre farm can be devoted to the production of beets?

MR. BAKER: The gentleman asks as to a profitable area to be devoted to the production of beets. An acre a rod wide, giving you fifteen rows a foot apart; there ought to be a ton in a row. An acre a rod wide is half a mile long, 160 rods; hence one acre of beets would turn out an exceedingly large amount of fodder if every seed produced its beet, and there were no gaps in the rows; and the one acre of beets would make a tremendous number of rations for a few cows.

PROFESSOR WILSON: Where we had a complete stand we had thirty-three tons of mangels to the acre. We didn't have a complete stand anywhere. The whole patch averaged under

twenty tons. But we did have thirty-three tons to the acre where there was a complete stand.

DR. WALLACE: Will you tell the people the most economical way of taking care of roots through the winter; that is, with ordinary farm conditions, with a farm of 160 acres, keeping fifteen or twenty cows, how many beets would you raise, and then just how, supposing you didn't want to put them in the cellar under your house, just how would you undertake to keep those beets in the most economical way, and what time of the year would you feed them out?

PROFESSOR WILSON: The agricultural college has a great big barn, and on the north side of that barn they have a bin for their roots twelve feet wide by twelve feet high, and the barn is about 100 feet long. There are two things to be observed. Don't let them freeze. Don't let them sprout. If they begin growing they won't stop. It wants to grow seed, as nature intends it shall do. If you can put them in a root cave, and ventilate thoroughly until cold weather comes, and then put on enough covering to prevent freezing, and where it will have decent drainage without water coming in, it will keep perfectly well. Anybody that has kept potatoes knows. These are all the conditions required. Don't let them get too warm. Let them be covered sufficiently to keep off the frost and not enough to keep in the heat. As to feeding, just as the cow leaves the pasture and comes in on dry feed, then give them to her. The amount depends on how many you have raised. I think five or six pounds for sanitary purposes will do if you don't want to raise any more than enough to keep the cow healthy. They make the finest butter, and color the butter without any of the aniline coloring matters that we have to buy for the creamery. It is very palatable. The difficulty is to get into the knack of raising them. They should be planted about the time the corn is, before moisture leaves the ground. They must be planted clean and kept clean. They soon cover the ground so as to keep the weeds down.

A MEMBER: Are potatoes profitable to feed to a cow?

PROFESSOR WILSON: They have been fed for hundreds of years. We have experimented with them. They don't make first class butter if you feed them heavily. They fatten ruminants if you give plenty of them. They will eat fifty pounds a day when used to them. For many years in Europe they have been fed to hogs, but for that purpose, to be available, they should be

cooked. The question arises, can we afford to do that when we have fifteen-cent corn? but there is no doubt in my mind that feeding a few potatoes to every animal on the farm is a benefit, even to a horse.

A MEMBER: Are they good to fatten cattle?

PROFESSOR WILSON: Yes, they are. I have seen cattle fattened regularly on them. They will fatten cattle quicker than you will with corn and oats.

MR. LUCAS: Will a mere healthy ration of five or six pounds of potatoes be calculated to injure the butter?

PROFESSOR WILSON: No, sir; not at all. When we injured the butter—a little injured its flavor—we were feeding thirty pounds. We were feeding up to that point to injure it, if possible. Mangels, however, don't injure it. I will say that we were feeding the strap turnips. We have never succeeded in raising rutabaga turnips nice, and tender and sweet. We failed this year. We did not get over ten tons. I am satisfied now that I was getting seed that was not right; that is the trouble. I propose to try it once more, and send to Europe to get Swedish turnips. That is the right kind. I mean, in these experiments, the strap leaved, purple top turnip.

MR. BAKER: Are those as rich in protein?

PROFESSOR WILSON: No; nothing like the rutabaga. The round turnip, white and yellow top, do not compare with the rutabaga.

MR. FRANKLIN: You say that if you keep mangels clean in the beginning, you have no trouble with weeds. How do you keep them?

PROFESSOR WILSON: There is no way that I know of, except to get a one-horse cultivator, and grow them on a slight elevation, four or five inches, so that when quite young you can run with the cultivator within a couple of inches on each side, and then you are all right. Thin with the fingers.

MR. FRANKLIN: I have had a great deal of experience, but how to get the weeds out of the row is a serious question. I think it can be done only with the fingers. Have you ever tried harrowing?

PROFESSOR WILSON: If you grow above the level you can run the cultivator close, so that it will break but very little. But I was trained to it when a boy, and can get at it with my fingers. They must be thinned out, anyhow. You can put in ten times as much seed as you want to grow. That insures you

a stand. You run your hand around all that grows on seven or eight inches, and then go on that way.

MR. FRANKLIN: You never tried the harrow?

PROFESSOR WILSON? Crosswise?

MR. FRANKLIN: No, lengthwise.

PROFESSOR WILSON: No; you would hurt, and miss, and take out when they should be left in.

MR. FRANKLIN: I never tried that, but thought maybe you had.

MR. BAKER: It can be managed to save hoeing, with a cultivator that has drags on either side, under the handle, to drag it down, and then have two small mouldboards, one on either side, on the cultivator, and then turn a concave furrow and let it lap on the roots of the turnips below the leaves. It requires skill, however.

MR. LUCAS: Isn't the hand care the chief obstacle that the farmer of Iowa meets with in growing turnips?

PROFESSOR WILSON: Yes, no doubt about it. In Europe they get boys and cheap labor. Our own people want to farm by sitting on the cultivator, with whip in hand, and canopy overhead.

DR. WALLACE: I have seen that done in Belgium, and it is done by women. I have counted twenty in a row, on their hands, their elbows touching, wearing wooden shoes, and going over the field, taking out everything except the beet, and thinning them out to the exact space that they ought to have. Hand care is the only way, it seems to me. They are coming to it in Nebraska.

A MEMBER: That is the secret of the forty-ton crops.

DR. WALLACE: Yes, sir. I was sitting in a bank in Nebraska some years ago and a German girl made a deposit. The banker said to me: "That girl is growing beets." I said: "Where is your factory?" "Forty miles away," he said. "She understands growing beets, grows a few every year, is making money, and she is depositing it in this bank, so I know just what she makes." As a rule it is the foreigner who has to do that kind of work. The Americans won't do it until they have to do it.

PROFESSOR KENT: I would commend the paper all the way through. Just a little experience from this year. Professor has given us a very nice experiment and illustrated it all through. I think it is, as has been said, the bugbear is the

raising of roots, not the recognition of their worth. I have a patch of carrots raised as follows: I first prepared the ground as thoroughly as it could be prepared with modern machinery, like an onion bed. Then sowed thickly. I waited until it came up nicely and took a three-horse harrow and harrowed them as if I would harrow every carrot and weed out of the ground. I harrowed thoroughly, covered up carrots and harrowed out weeds. The point was that the carrots had a stronger anchorage to the ground than the other weeds and they withstood the action of the harrow, and there was still enough left for a good crop, a good stand. Then I waited until they were up pretty well and strong enough to stand any amount of harrowing, and I harrowed them until all the weeds were out with the exception of a few big weeds that were strong enough to grow and they were pulled out by hand. That brought the hand-work down to the very smallest amount possible. Then when ready to harvest I run a mowing machine and mowed the tops off, and plowed them out. I picked them up by hand. I got the expense down to a minimum. I didn't keep an accurate account of the cost. But I took out the back-bending by that process.

MR. BAKER: Were your teeth perpendicular in the harrow?

PROFESSOR KENT: No, sir; a man with perpendicular teeth in his harrow is behind the times these days.

MR. BAKER: You had them at 45°?

PROFESSOR KENT: Something like that.

THURSDAY, OCTOBER 31, 2:30 P. M.

In the temporary absence of President Johnson the convention was called to order by Mr. A. C. Tupper.

CHAIRMAN TUPPER: Professor Stalker has been here but was called away last night by a telegram announcing that his brother-in-law, Dr. Irving Smith, of Charles City, is dead. In his absence the secretary will read Professor Stalker's paper. The subject is: "Some precautions against imparting disease while we are improving the blood of our live stock."

SOME PRECAUTIONS AGAINST IMPARTING DISEASE WHILE WE ARE IMPROVING THE BLOOD OF OUR LIVE STOCK.

BY M. STALKER, STATE VETERINARY SURGEON.

The importance of physical soundness as a prime essential in successful stock breeding, need hardly be emphasized. It seems to be axiomatic. Nevertheless we find it helpful to occasionally take an inventory of our knowledge on this, as well as many other subjects, to the end we may know where to find our store of facts, and refresh our minds as to the necessity of employing them. I shall then rather call your attention to "that which you do know," than impart new and strange truths. More of the misfortunes of life come from failure to rightly employ the knowledge we have than from blind ignorance of things about us.

We sometimes hear it said that more consideration is being given to the health of our domestic animals than to our own physical well-being. If this were really true, some grounds of justification could be found for this discrimination in favor of the lower orders of animal life, aside from reverence for our ancestors. While a sound body may be essential to the very highest mental results, there are countless illustrations of the fact that much work of a high order has been accomplished by men laboring under the restraints of bodily infirmities. A man may be a very useful member of society without being able to pass the examination that would admit him to an athletic club, or constitute him a good risk for an insurance company. While good health is to be desired above fine gold, the absence of it is not a legitimate excuse for abandoning all the responsibilities of life to others, or sitting constantly upon the ground to "tell sad stories of the death of kings." With the unclean beast it is different. A disorder that a man might carry through life as a slight inconvenience, may render so powerful an animal as the horse entirely worthless. He can hardly expect to become a life pensioner on the granaries of his master, for sentiment does not long survive the shekel-earning quality of the equine. If an animal belongs to the laboring classes of the brute creation, but is unable to take his appointed place, it becomes him to begin to prepare his opinion as to the choice between cremation and the soap factory.

If, on the other hand, his relation to his owner is not that of a laborer, but a contributer directly to the food supply of those who control his destiny, a clean bill of health is worth more than a college diploma or a 60 per cent permit. Not only do bodily infirmities make against the profitable conversion of grain and forage into fat, flesh and dairy products, but science now tells us, and experience confirms the statement, that many of these maladies are more than a formidable threat against the health of the

human family. In the light of these last years of the nineteenth century sanitary science and police regulations which discard the relation of our food supply from the animal kingdom, to the public health, is unworthy of any claims on public consideration or support. Not only are the diseases which the food supplying animals are actually suffering from, in many instances communicable directly to the human family, but in all probability in a still larger class of cases such food supplies may be the carrier or infecting material. In dealing then with disease of our live stock, we cannot divorce ourselves if we would from the important consideration of the public health necessities involved in the case. But the purely economic aspect of the subject is entitled to have its claims seriously considered. If there are losses occurring which can be prevented or lessened, these should be looked to, and the adequate remedies applied. But so long as the seasons continue to come and go we are not to expect total immunity from the infirmities of the flesh. But that we shall find it possible, and that we are finding it possible to materially curtail many of these evils, is unquestionably true. We have then learned something of the means that may be employed to lessen disease in our flocks and herds, but we do not always live up to the level of our highest knowledge on these questions, nor are we always willing to accept demonstrated facts nor adopt the precautions that legitimately follow such demonstration.

Is animal vitality necessarily lowered, and is disease necessarily engendered by the processes of improving the quality of our farm animals by what we know under the name of breeding up? These causes are frequently assigned to account for serious losses from disease. Pigs are said to have cholera because they are bred too fine. High grade cattle of various strains are said to be the victims of pleuro pneumonia or tuberculosis because of the high breeding. These may not be the utterances of the best informed men on these questions, but they find their way to the public ear, and are not without a host of believers.

I am not inclined to the belief that the conditions of civilized life, either for man or beast are necessarily attended with loss of vitality. On the contrary nearly every point of excellence is exemplified by higher results growing out of the conditions of civilization. No Patagonian could stand up before Corbett for a half round, Iriquois could run the life out of any wild horse on the plain or desert, a sprinter from a class of college boys could distance a Camanche, especially if the Camanche were after him with a scalping knife. A Shorthorn can stand up under as many bacilli of tuberculosis, as could the long-horned Texan of twenty-five years ago, and cholera can not kill the most elegant specimen of the Poland China any deader than it could the roached backed rooter of the last generation. During the last year's work some of the worst instances of tubercular infection that came under my observation were in herds of a decidedly scrubby type. True, certain of these diseases have been seen more frequently under the existing order of things than formerly. Not as a result of decreased power of resistance to infection, but to multiplying the conditions by which one animal may convey the disease to another. As animals are brought together in the closer relationships of farm life that frequently go along with what we call high breeding, any form of infectious or contagious disease with which one animal may be afflicted is very likely to be conveyed to other individuals. Propinquity is a prime factor in multiplying cases.

While this is true, the higher state of domesticity enables us to have our animals under more immediate observation, and thus more readily detect, and more successfully combat disease. The half wild brute must take his chances with whatever disease he is beset. But the well bred and thoroughly domesticated creature can have his case as critically examined as though he were a human being. A single case thus inspected and followed by prompt removal where danger exists, may be the means of saving many valuable animals. But it is not always convenient to have this done. And not unfrequently the owner is in doubt as to the wisdom of this or that course. He is not a judge of disease himself. And out of the multitude of conflicting statements he has heard or read, he is not able to formulate a distinct opinion as to whether the animal would be the worse or the better for having the disease anyway. So indifference, procrastination and a desire to not know the facts conspire to prevent active measures. Thus one case becomes the parent of many more. This is not theory, it is the result of every day experience and observation.

Recently I had occasion to test a valuable herd of milk cows. Eight out of the herd were found to be seriously affected with tuberculosis. The history of the farm herd showed that the owner a few years ago purchased two valuable Shorthorn cows for the improvement of his herd. They possessed superior excellence and their owner confidently expected to be able after a few years to replace the less valuable strains with this blood. A few months after the purchase one of the cows began to show decline and died after suffering several months from lingering disease. A little later the second cow of the purchase began to show similar symptoms, and in the course of time was sold to a skinner for a trifle. Other cases followed these and with the eight found diseased at the time of examination comprised a serious percentage of loss. There was very little of this to start with but in the end it cost the owner in loss of animals what would comprise a respectable dairy. This is preventable. Any one may know with positive certainty whether he is placing such an animal in his herd and can, if he sees fit to employ means within his reach, protect himself against such loss. The sacrifice of an animal in this instance, or of two at most, would have saved a herd. And this would have only required the sacrifice of animals that proved valueless in the end. So far as tuberculosis is concerned, the man who has the disease in his herd in this day has it there by choice. It is as inexcusable as lice on children's heads. If every individual will attend to the precautions for his own herd, the problem will be settled for the state. Every stock owner knows he must provide food and shelter for his animals or it will not be done. If the profits in the business are being absorbed by disease, is it not equally important that he should look to this source of wastage? What is true of this disease is true with certain modifications of others. It is a fact that recent discoveries enable us to determine the presence of tuberculosis with more certainty than any other disease, in the absence of clinical symptoms. But due precaution exercised along other lines of prevention will do much to ward off disease. Hog cholera and swine plague are preventable diseases, but they continue to do an incalculable amount of damage each year. These diseases are to be prevented not by breeding animals of an inferior quality, but by preventing

infection. No hog was ever too insignificant for cholera to attack, or possessed of such excellence that it would die from the disease without exposure and from pure obstinacy.

It is not necessary for me to say in this presence that every animal selected for the improvement of the blood of its kind, should possess individual merit. Constitutional vigor, as indicated by a well proportioned and well developed body should be sought for.

This has been one of the potent factors in the formation of breed, and must be in their perpetuation. But prepossessing co-figuration and external appearance of robust health are not guarantees of soundness. Under just such disguises pleuro pneumonia and tuberculosis were transplanted from the herds of Europe to those of America. And under such disguises the latter is being passed around in most parts of this country to-day, and the same would be true of the former, but for the strong hand of the government arresting its progress.

Increasing intelligence among the masses and consequent increasing alarm compelled this action on the part of the government. The loss from glanders and Texas fever in this state have become so trivial as to be scarcely worth mentioning. This is the result alone of wholesome restraint. It now remains for us to accomplish the same results with the swine plague, hog cholera and bovine tuberculosis. But they can not be bred out, or fed out or weeded out. But they must be commanded just as Lady Macbeth did the blood gouts on her hand, and this command must be followed by the measures that will enforce it.

CHAIRMAN TUPPER: Is there anyone has anything to say on this subject? Are there any questions to ask?

There being none, we will have the reports of the committees. Is the committee on resolutions ready to report?

If not, is the committee on location and officers ready to report?

Mr. E. S. Fonda, secretary of the committee, reported as follows:

MR. PRESIDENT—Your committee to recommend place for holding next annual meeting and also to nominate officers of the association, begs leave to submit the following report: For president, C. W. Norton, Wilton Junction; for secretary and treasurer, C. Murdock, Waterloo; for vice-presidents, O. H. Lyons, Rockford: J. P. Manatrey, Fairfield; G. H. Harker, Mason City; John Cownie, South Amana; Richard Baker, Jr., Farley; Daniel Sheehan, Osage; Prof. C. F. Curtiss, Ames; W. W. Vaughn, Marion; J. R. Crawford, Newton; C. L. Gabrielson, New Hampton; B. F. Elbert, Des Moines.

For place of holding next meeting, Fairfield.

Adopted.

THE CHAIRMAN: What time will you have your next meeting?

PROFESSOR KENT: When I was at college and didn't have corn husking every day myself, it didn't make very much difference; but since I have got back on the farm and am busy, I think it will suit better to call the convention a little later. The farmers in this locality, I think, are absent because they are afraid the winter will catch them with a lot of corn lying on the ground.

It was moved by Mr. Franklin that the constitution be and hereby is amended so that it will read, that we hold our annual meetings hereafter, until that order be changed, on the second Wednesday of December of each year.

Said motion was carried.

Mr. E. C. Bennett, chairman of the committee on resolutions, read the report of that committee:

RESOLUTIONS.

Resolved, That we commend the recent year's work of the state fair managers in promoting the agricultural interests of our great state, and that we pledge our most cordial support to its further efforts in devising the best methods for the display of the products of the hand of industry in the fields and shops of Iowa.

Resolved, That the printed regulations of transportation companies and the contracts which we as shippers are required to sign, are contrary to law and equity and we emphatically protest against them.

Resolved, That we return our sincere thanks to the citizens of Osage and Mitchell county, for their great efforts in behalf of this association, and for their kindness and boundless hospitality.

Resolved, That the thanks of this association be tendered to George W. Franklin, our late secretary, for his very thorough and honorable service for the last eight years as secretary of this association.

E. C. BENNETT,
R. L. ST. JOHN,
O. H. LYON,
Committee.

It was moved by Mr. Dunkelberg, and seconded, that we adopt the resolutions.

It was suggested and agreed that the vote should be on the resolutions separately.

The first resolution was read.

Mr. Wallace moved the division of the resolution, the first part being as follows:

"That we commend the recent year's work of the state fair managers in promoting the agricultural interests of the state of Iowa, and that we pledge our most cordial support in their further efforts in advancing the best methods for the display of the products of the hand of industry in the fields and shops of Iowa."

The resolution was so divided and the part quoted above was put to a vote and carried.

Mr. Wallace moved as a substitute for the last portion of the resolution as proposed the following:

"That we urge the directors of the agricultural society to dispense with all complimentary tickets of every kind and place everything on a cash basis."

Mr. Wallace moved and Mr. Fonda seconded the adoption of the substitute.

PROFESSOR WILSON: I have had experience, being a member of the association for some seven or eight years. I once came within one vote on the board of directors of having this resolution adopted. It is the only basis that it can be put on. Put every American citizen on an equality in regard to admission to the grounds. The question has been discussed very often, "What are we going to do with the exhibitor who has things there for premiums?" The directors can't get around all these things. It is productive of so many evils. If everybody pays as he goes in, all right. What are you going to do with the editor? Pay him for his advertising. If reporters render services for the state fair, pay them in some other way. Let them have a report or book of the agricultural society. I think I can say this, having been familiar with that institution for twenty years or more, that I believe they have the best board of directors they ever had. I have been a member when I could not, to save my life, get the inside workings of things and never thought it was run as it should be. I believe we have the best management there that we ever had. Of course our voting doesn't settle matters, but cumulative voting may help these gentlemen to a conclusion. [Applause.]

MR. SHEEHAN: If there is anything that brings me pride and pleasure that has been done during the few days at this association here, in Osage, where you have known me for a great many years, it is the resolution that is offered here to-day by Dr. Wallace, a member of the press of Iowa, a man who has been a member of the press for a great many years. The insinuation has gone out that the state agricultural society could not live without the press. It is correct. There can nothing live without the press—like the locomotive and the telegraph. But it shows to the people of Iowa that—I won't say what is done year after year to get admittance to the grounds and get in free—it shows, I say, that the press of the state has

started the ball rolling, and I thank you for doing it, and doing it right here in this town.

MR. WALLACE: I give you my reason for offering that resolution. I don't believe there is ever any more thankless task laid on the shoulders of a man in Iowa than to be a member of the board of directors of that agricultural society. I have never been a member, never will be. They have a thankless task, and they are subject to criticism, and just so long as you allow complimentary tickets and passes, you make it impossible for them to do their full duty without being subject to criticism. A great many things have been said in the Register and other papers the past year—a great deal that is wrong. Every member, I think, has aimed to do his whole duty. I am satisfied that he has not been able to do his whole duty, because it is not in the power of man to be perfect. The system is bad. Let us do our work with the system. Let us get it down to an absolute cash basis and let the people of the state know that no one man is better than another. He pays his 50 cents down and is just on a par with the governor of the state or the president of the United States. Let the press get paid for its advertisements and let it pay for its tickets.

MR. BENNETT: We would like to inquire if any fair has ever been tried on that basis—where no one has entered except by paying for his tickets. We recognize the evils of the old system and ask as to the practicability of the new.

MR. FONDA: The agricultural society many times has adopted a report from the committee that is supposed to be clothed with power to suggest a report cutting off these complimentary tickets, but in some way for some reason they have never been able to fully carry it out, and I think the indorsement of every convention of this kind should be given to that measure, and the hands of the members of the board should be strengthened in this way, that they may come up next year with the balance on the black side of the ledger, and they can't do it without the admittance at the gate.

CHAIRMAN: Unfortunately, I am a director of the state fair. I didn't know much about this question until I got on the board of the directors of the state fair. I know now that this thing is unpopular in the state of Iowa. A funny thing has come about. They say all over the state of Iowa that we are a set of thieves. Yet we have always been generous enough to sign notes for the fair. I would rather pay $10 apiece for

complimentary tickets than to sign notes for $20,000. Then again, suppose you give me ten complimentary tickets for my acquaintances. If I hadn't one, then I would say I haven't them. But with ten tickets, how am I to satisfy my ten thousand friends? I have talked with members of the Illinois state board. I have been in favor always of putting it on this basis. I am known practically all over the state of Iowa as a kicker, but I don't care. I believe the prices for privileges should be cut down. I think that this other matter should be taken care of. I believe exhibitors should have ground tickets good on the grounds but not good at the gates. I will be glad if the board will carry this out. I supposed that last year we would have only ten tickets apiece. I didn't suppose that any member would draw over those ten complimentary tickets. But the arrangement was that we were given them and then drew what more we wanted. I have been afraid to sign these notes. The thing is unpopular. It is an unsafe thing for a business man to do, and I don't believe the legislature will help us out. I think this thing is worth trying. It can't be any worse than it is. If we do that, it will be without partiality. I favor this substitute.

MR. ST. JOHN: There was a resolution handed in to the committee that every person that passed through the gates should pay 50 cents into the treasury of the society. We knew that would not work. We thought we would put it in the shape we did and bring it before the association. I am glad you have done it this way.

MR. BENNETT; We all agree on that.

The motion to adopt the substitute was put to a vote and carried without dissent.

The following resolution was read by the committee, offered and adopted:

Resolved, That the printed regulations of transportation companies and contracts which we as shippers are required to sign, are contrary to law and equity, and we emphatically protest against them.

The following resolution was read by the committee, and its adoption moved:

Resolved, That we return our sincere thanks to the citizens of Osage and Mitchell county for their great efforts in behalf of this association and for their kindness and boundless hospitality.

MR. WALLACE: Those of the members of the association that have been in the habit of attending the meetings for the

past fifteen or twenty years all know of the hospitality that is lavished on us at every place. I am reminded of a passage of scripture—I am a little rusty—"Many daughters have done bountifully, but thou excellest them all." If that is not scripture, it ought to be. If it don't apply to Osage, it ought to apply. We all have, without exception, the utmost feeling of kindness and appreciation for the generosity and efforts that the people of Osage and the surrounding neighborhood—I don't know how far it goes—have shown towards the members of this association. They have treated us magnificently. We have never been treated better and seldom as well. I can say that nothing but this exceeding kindness and the sacrifices that they have made for the members of the association could have induced me, and I know others feel the same, to stay for to-night. I hope this resolution will pass by a standing unanimous vote. [Applause.]

MR. LYONS: I don't think I can add to anything that Mr. Wallace has said. We have not had time to formulate a resolution that would be much more complimentary than the one that we have formulated. If not shortened up for time we would have been glad to have put a great many more adjectives to the resolution.

MR. WALLACE: It is the heart, not the adjectives, that gives strength to the resolution.

MR. LYONS: I think so. I hope we will give it emphasis in the hearty vote. [Applause.]

PROFESSOR WILSON: It occurred to me in the study of localities and the study of environments, I question whether the world has anything entirely equal to the northern Iowa towns. I question it. Their appointments are beautiful. They are beautifully laid out. They are clean. You have the conveniencies. It is said that no great men are raised in town. We must go to the country for all our great men. The conditions for great men in early life must be those of the farm. I have been thinking of these beautiful Iowa towns that are settled with the best of people, that they have all the conditions necessary to rear and nurture great men and great women here. I think I see the coming in the future of leaders in society, leaders in church and leaders in state that are to spring from these healthy surroundings of Iowa villages and towns. I heard an intelligent lady remark once that you can raise a boy just as well in the town as in the country, but it takes a great

deal more work to do it. When he goes down town in the evening one of the ladies should go with him. There is no down town in these northern Iowa cities here. It is all "up town." When we requested to be taken to the poorer quarter of your town, we were taken to residences costing about $2,500 and told, "That is a sample of the poorer quarter." You haven't any poor surroundings. This is emphasis to the feelings we have towards you. We put our ideals a little higher than we did when we came up here. We will speak of these people when we go away. We will prove by this that the days of hospitality that were supposed to have been ended with the days of the log cabin were never ended at all. There is just as unbounded hospitality and kindness as in pioneer days.

After other members had attested suitably their appreciation of the Osage people as hosts, the resolution was put to a rising vote and carried unanimously.

MR. FONDA: In behalf of the citizens of Osage, we thank you most heartily for your kind words. We hope you have enjoyed your visit here. It has been a great pleasure to renew old acquaintances of long standing. We hope the day is not far distant when you will come again. Come again, gentlemen. [Applause.]

The association was then declared adjourned.

THE AMERICAN FARMER.

BY PRES. W. M. BEARDSHEAR OF AMES.

[Received too late for insertion in proper place.]

Our American sage, Emerson, has said: "Our tokens of love are the most part barbarous. Cold and lifeless, because they do not represent our life. The only gift is a portion of thyself; therefore let the farmer give his corn, the miner his gem, the sailor coral and shells, the painter his picture and the poet his poem;" but the American farmer has given more than his corn or his cotton to the promotion of individual and national life. The poetry and generosity of his calling have entered into all professions. It has ennobled the very blood of our cities. It is the basis of our truest poetry, our highest art and our soundest civilization.

Farm life has been the conservator of largest patriotism and sincerest love of home. The destiny-shaping years of our early national life received eleven of its most sterling presidents, including Washington, the Adamses, Thomas Jefferson and Andrew Jackson, from the farm. John Adams, of Quincy, during the last years of his presidency, sighed for the larger life of the farm, and said: "I am weary, worn and disgusted to death. I'd rather chop wood, dig ditches, make fences upon my poor little farm. Alas, poor farm and poorer family, what have you lost that your country might be free."

Thomas Jefferson has said: "The greatest service which can be rendered to any country is to add a useful plant to its culture, especially a bread grain. The best bread grain that is being added to the service of this country is the American farm boy and girl, reared in good homes and educated in our public schools."

The last United States census returns show that the "debtor classes" in America are the owners of railroads, bankers and merchants. The per cent of mortgage obligations of these interests is far larger than those upon the farms of America. Of over four and one-half millions of separate farms in the eastern, Pacific and middle states, 80 per cent are occupied and managed by their owners. More than one-half of these are free from any mortgage whatever. The principal indebtedness in the west is around Chicago, and, more remarkable still, that of the real estate indebtedness of the entire country far the greater amount is in and around New York city, reaching the immense amount of $1,279,343,703, so that the incumbrance in and around the eleven counties of New York exceeds the mortgages of all the farms of the United States.

The young farmer has been led to believe that the most money and the most of it could be had in mines, stocks and railways. In refutation of this

theory take the comparative statistics of a state like Iowa. For a single year the value of the animal product of Iowa oxen and other cattle not including cows, exceeds the total gold output of the United States for a year, over $14,000,000, the swine of Iowa for a year exceeds the gold output over $22,000,000, and the Iowa horses surpasses the gold yield $50,000,000. The Iowa corn crop for a year exceeds the total anthracite coal output of the United States $18,000,000, and almost equals the total gold and silver output of the entire United States. It exceeds by a million of dollars the entire imports at Boston, Baltimore and New Orleans for a year, and more than covers the cost of the original Pacific railroad, which amounted to over $94,000,000. The Iowa butter product for a year exceeds total gold output of the United States, the total petroleum of the United States, and twice the natural gas production of the nation. The Iowa hay and corn output more than exceeds the total gold, silver, lead, zinc and quick-silver output of the entire nation for a year, and the gold production of the entire world for 1889. Iowa hay, oats, corn and wheat for a year amount to more than double the dividends paid by all the railroads in the nation for 1891. The hay and the oats crops exceed the total cotton crop of Mississippi and Louisiana. Any young man of average intelligence ought to receive his share.

Near my childhood home on a farm in Ohio stood two trees. The one had an oval trunk which towered nearly fifty feet without a branch, that was graced at the top with a noble crown of branches, whose every branchlet and twig seemed to leap up toward the heavens to embrace the sun. The other had a strong, sturdy trunk near the earth, which extended up a few feet and gave off circles of branches that grew out in vigorous form and turned down toward the earth as if eager to grasp the earth, in spite of the winsome influence of the sun. Up from these branches went a long, slender, dead and shaft-like trunk, a resting place for every wandering bird and the delight of the lightnings of many a storm. These trees are emblems of two farmers. The one of the farmer who keeps his communications with the times, fresh and vital. He practices the newest and best of the old methods, and the oldest and best of the new methods, with now and then an occasional touch with the newest of the new. He is alive at the top. The other tree is emblematic of a farmer who clings exclusively unto the methods of the past. He raises the same crops that his grandfathers raised. He makes but little study as to the variation of crops. He goes by the tides of commerce, when all raise wheat he raises wheat; when all raise cotton he raises cotton; when all are going to horses, he raises horses, and so on. He is dead at the top. These emblems of farmers are not confined to any one section of the country. They are found both north and south. The time was in this country when the farmer, dead at the top, could do pretty well, but since the virginity of the soil has been drained by numerous crops, a man must farm with his head as well as with his hands. The time was in Ohio, for example, when anybody could raise fall wheat in prolific yields, but now there has to be the most thoughtful care as to the rotation of crops, and proper enrichment of the lands, in order to make it pay. In the early settlement of Iowa spring wheat could be raised almost as easily as the myriad grasses of her thousand acred prairies, but now few Iowa farmers raise enough spring wheat for their own use. They have gone into other

methods more profitable. The development of the country brought about demands of this character. I am creditably informed that even the Dakotas, known world wide for their prolific yield of wheat, are giving signs of needed change. In fact the wheat lands are wearing out the world over.

Education, and especially agricultural education, is doing a vast deal in bettering the farm and farmer. It has taught him how to breed better farm animals and the best methods of feeding and preparing them for market. It has taught him the nature of the diseases that inflict domestic animals and play havoc with the profits of the farm. It is teaching him the character of his crops, the constitution of the soils and the wondrous relation and adaptability of one to the other. It is bringing into his command the laws of the season, and pressing their energies to his utmost utility. It brings to his ken the climate conditions that are vital to the truest welfare of the animal and vegetable kingdoms alike. It is insuring purer food products and guarding against the frauds in impious adulteration of farm products. It enables him to tell the value of a dairy cow before purchase, and to estimate in advance more fully the best markets of the world, and teaches him how to employ these markets to the best advantage. It is transforming his home and making a veritable castle and palace, supported by the enlightenment of his children and fortified by the conscience of his neighbor.

This brings us to the greatest need of the farm—an educated farmer or the intellectualized farmer. Under no sun of the heavens did nature ever tempt a man to be somebody as in America. The time is fast coming for the farmer to know as much about his calling and intelligently as the lawyer about law, the doctor of medicine, and the clergyman of theology. The educated brain and skilled hand of the farmer will most readily command an increase of the boundless resources of our agricultural industries.

The theory has long been prevalent that if a man did not have sense enough to do anything else in the world, he could take farming as a last resort. It is a most pernicious error. Nature will no longer endure such abuses of her intelligence. There is much said to-day about the fields opening for our educated young men. Suppose our young men farmers who can go to school would take a thorough collegiate education, as do our young lawyers and doctors, and then put two or three years on specific study of the sciences that have to do with agriculture—what a wondrous transition it would make in the calling of the farmer! I will venture the assertion that it will pay more money and afford more congenial and intellectual thought and incentive to the educated young man than can law or medicine, worthy and noble callings as they are. While at present we may expect such thorough education on the part of a limited number of our young agriculturists, yet all of our young people must take every advantage of our agricultural colleges, our dairy schools, in fact of all our higher institutions of learning. Farmers, as a whole, must read more carefully the literature of our experiment stations and agricultural departments of state and nation. The current literature of the time, and the many books now issued, can prove a basis in the theory for a more efficient and profitable practice on the farm.

APPENDIX.

FIFTEENTH ANNUAL MEETING

OF THE

Iowa Shorthorn Breeders' Association,

HELD AT

OSAGE, MITCHELL COUNTY, IOWA,

OCTOBER 29, 1895.

OFFICERS FOR 1895.

PRESIDENT.

HON. JOHN MANATHY ..... Fairfield

VICE-PRESIDENTS.

JOHN MCHUGH ..... Cresco
H. D. PARSONS ..... Newton
A. C. COOLEY ..... Osceola

SECRETARY AND TREASURER.

C. W. NORTON ..... Wilton Junction

DIRECTORS.

J. C. FRAZIER (one year) ..... Bloomfield
L. BRODSKY (one year) ..... Plover
T. R. WESTHOPE (two years) ..... Harlan
B. L. MYERS (two years) ..... Corning

IOWA SHORTHORN BREEDERS' MEETING.

The fifteenth annual meeting of the Iowa Shorthorn Breeders' Association was called to order at the opera house in Osage, Mitchell county, Iowa, Tuesday, October 29, 1895, at 7:30 P. M., by the secretary of the association, Mr. C. W. Norton, of Wilton Junction, Muscatine county.

Mr. Norton read a letter from President John Manatry who could not be present on account of sickness in his family. It was moved and seconded that Mr. O. H. Lyons, of Rockford, Iowa, act as president *pro tempore*. The motion was carried and Mr. Lyons was escorted to the chair.

CHAIRMAN LYONS: I thank you, gentlemen, for the honor conferred on me in choosing me as your presiding officer this evening. As the convention was not called to order this afternoon, I suppose it is in order to go on as soon as possible with this program.

PROGRAM.

TUESDAY, OCTOBER, 29TH—2 P. M.

Welcome—Hon. John Sheehan.
Response—Hon. John McHugh.
President's Address—John Manatry.
Appointment of Committees.
Enrollment of Members.
"Where Draw the Line between our Beef and Milking Shorthorns"—John McHugh, W. W. Vaughn.
"Why Put so Much Stress 'on' the bull?"—H. D. Parsons, R. J. Johnston.
"The Shorthorn as a Dairy Cow"—Daniel Sheehan, John Cownie.

EVENING SESSION—7:30.

"The Shorthorn of 1875 and 1895"—C. S. Barclay, B. F. Gove.
"Lessons of the Show Yard"—Prof. C. F. Curtis.
"The Breed of Cattle for Iowa"—Prof. James Wilson, Hon. L. S. Coffin.
"Model Barns"—Prof. D. A. Kent.
"Balanced Ration"—R. Baker, C. F. Curtis.
"The Farm the Road to Success"—Albert Bartelle.
"My Ideal Calf; How Produced"—Henry Wallace.
Secretary's Report.
Election of Officers and Reports of Committees.
Question Box.

The first on the program is the address of welcome by Hon. Daniel Sheehan.

MR. SHEEHAN: Mr. Chairman, gentlemen of the Iowa Shorthorn Breeders' Association of Iowa, I would like to see more of the Shorthorn breeders of Iowa here to-night. I see some that have come quite a distance. I assure you that in behalf of the people of Osage I bid you a hearty welcome. I am sure that they would like to see more of you and get better acquainted with you. I think when you know them better, as you will before you leave, that you will think that this is about as hospitable a little city as you have ever been in in your life. They not only welcome you to their homes and will be glad to see you at their firesides, but want to get acquainted with you and mingle with you. Our stores, even our banks, are open to you, provided your check is good when you call on them.

I feel sorry that more of the breeders are not here. I think if you will wait until to-morrow you will find quite a large gathering of the improved stock breeders. The improved stock breeders meet to-morrow. I am not going to take up any of your time talking to you, because the people that are here have heard me time and again. I know that there is not a man living in this town, but who will be glad to entertain you and take care of you. You will see a lot of nice stores and nice macadamized streets. You will go home to the southern part of the state thinking a great deal more and better of northern Iowa than you have ever thought before from what you have read about it. We are only about seventeen, or eighteen or twenty miles from the state line, but we want you to understand that we are Iowans through and through. In behalf of the people of Osage and of Mitchell county, I bid you a hearty welcome. [Applause.]

CHAIRMAN: Upon the program the response is assigned to Hon. John McHugh. Mr. McHugh is not present.

MR. NORTON: I received a letter from his daughter stating Mr. McHugh was sick and much regretted his inability to attend the association. I wish Mr. R. J. Johnston, of Humboldt, would respond on behalf of the association.

MR. JOHNSTON: I want to say I am more of a worker than I am a talker. I will say this much. I have passed through this city, the first time about fifteen years ago, and since then about three times. I have always said that I thought the town of Osage was one of the nicest and cleanest towns in the state. I am glad that I have come here and will meet all of the people. We have been traveling around for a sort of missionary work. We want you to follow us up. We want you to become so much interested that you will follow us up. I can see now by the right hand of welcome extended by the people of Osage that the people will be well taken care of. The trains to-morrow will be well loaded. I hope they will all go away saying that they were never as well treated at a stock breeders' association convention as they were at Osage. [Applause.]

CHAIRMAN: The next topic on the program is the president's address. He being absent, we must omit this. The appointment of committees will be deferred until morning. The topic, "Where draw the line between our beef and milking Shorthorns?" is next upon the program. Messrs. John McHugh and W. W. Vaughn, to whom this topic has been assigned, are absent.

MR. SHEEHAN: I would like to hear from our president. I don't believe there is a man better able to answer that very question, where it should be drawn, or whether it should be drawn at all.

CHAIRMAN LYONS: You take me by surprise. I can say but a few words, if anything at all, on that subject. I am not exactly clear as to what the design of this question is, as to where this line should be drawn, whether from a breeder's standpoint, who should breed beef cattle, or who should breed milking Shorthorns or dairy Shorthorns, or whether that is the line that is intended to be drawn out or some other phase of that question. But, I would say just one word in relation to that phase of it. That I believe our environment makes all the difference in the world about the cattle we should rear. That if I was on the range, and didn't want milk or milk products,

that I should seek beef Shorthorns and those cattle that had been reared as beef Shorthorns for several years back. If I was living in northeastern Iowa, where perhaps as much dairying is done as in the other three-fourths of the state, I should certainly say in that event, the milking qualities of the Shorthorns should have very large attention. I believe that in this part of the state there is no reson for drawing any line between the two. I believe there is some of the same qualities goes into the milking as the beef Shorthorns. One is good digestive and assimilative qualities, assimilating the food which they eat. These qualities must be ever present both in a beef and a milk animal. It depends also on training whether you get beef or milk. You all know that the original Shorthorns were glorious both in milk and beef. Thomas Bates started out that way, both milk and beef. I don't think anybody will question but that he had as good as any in his time. The original glory of the Shorthorn was that the Shorthorn gave both milk and beef. I believe it can be obtained in the same animal. I suppose some people will prick up their ears at that. I know I went to an association about ten years ago when other breeders disputed that, and about two-thirds of the Shorthorn breeders would dispute it. I don't make the assertion that both can be obtained in the highest degree, but they can be obtained in a high degree by good training and selections, that you can get both good beef and good milk from the same animal. I believe that has been demonstrated time and time again. That has been my experience. I think I may say I raised about as good a calf as I ever raised in my life from a cow that would give one and one-half pails of milk longer than any other cow I ever milked. I raised a calf that weighed 1,125 pounds when a year old. We have it from Amos Cruikshank that the indispensable quality that he would have in a good cow was, first, that she should be a good milker. Amos Cruikshank makes that statement. I believe that is my experience, and Mr. Sheehan's, and of most men. There are some men that don't want the milk. Then they should seek the beef cattle. I have heard some men say in these meetings that they sold some Shorthorn cows that gave too much milk. I believe it has been my experience that I have had good beef animals from cows that gave the largest percentage of milk. So, I don't believe it necessary to draw the line. This question may be asked: How far the breeding of milk stock will have the tendency to drive out the beef qualities? It is possible it may be carried too far in that direction, but I believe that much is due to training and feeding. I believe that was the original glory, both beef and milk. It has been bred out in the western states perhaps, a good deal, but where I was raised the Shorthorns were the best beef and the best milch cows. I think one way to obtain good milking Shorthorn cows is to milk them. It can't be done by letting the calves suck. Another way to get good milch cows is to breed the heifers early. If cows have a tendency to be good milkers, perhaps their breeding may be deferred a little later. I think usually, it is essential to breed quite early. I don't see that there is really any necessity for drawing the line between milk and beef, except so far as environment may determine it for yourselves. I have, and I think Mr. Sheehan has, and others have exhibited milking Shorthorns in competition with strictly milking cattle, and got out of the contest at least as well as our fellows. [Applause.]

Mr. C. W. Norton was called upon to make some remarks on this subject.

Mr. Norton: I will just state where I got this question. In looking over the minutes of the Waverly meeting, my son, Oak G., (now dead) asked this question: "Where draw the line between milk and beef in Shorthorns?" I recollect Mr. Cownie among others spoke on that question. It was not settled then, it is not settled to-night, and likely will not be. It seemed to me in coming into this part of the state where the dairy holds over the beef that this would be a fit question for discussion; I find that down near the Rock Island railroad we don't have all the corn belt by any means. I made that discovery in coming up this way. Our friend has spoken of Mr. Cruikshank and his mode of handling cattle. In 1889 I visited his herd in Scotland; I saw his calves, I saw as fine milking cows as ever I saw in the United States. In America, he is called a beef breeder of Shorthorns. He doesn't claim that he makes such a specialty. Many of his cows are as good milkers as could be found in Mr. Bates' herd. Mr. Duthie pays a great deal of attention to the milking qualities. Those Scotchmen allow their calves to run with their mothers evening and morning, but still keep up the flow of milk. Mr. Cruikshank said he didn't have any trouble in keeping up the flow of milk, if the calf is allowed to take milk night and morning, but is not allowed to run with the cow during the day. Mr. Wm. Duthie's plan is a little different in that respect

from Mr. Cruikshank's. Many of the bull calves especially have little places where they can crawl through into an enclosed yard with feed boxes. In the boxes would be a little oil cake (not oil meal). They could get that extra. That was the bulls, not the heifers. Of course Mr. Bates made a specialty of milk. He was a dairyman. That was his specialty. You who have noticed recently that Mr. Duthie's sale of young bulls averaged $400; some sold as high $650 and even as high as $800 and $900. These buyers came largely from England. Mr. Duthie has the best herd in that country now, from which we have a good many in the United States. The experience of our neighbor and friend, Mr. Sheehan, along this line, is certainly very gratifying. In 1893, at the World's Fair, the Shorthorn cow "Nora," from Iowa, led the "dairy," beating nearly all the Jerseys and all the Shorthorns. The little two year-old Jersey heifer led the Jerseys, and there was only about 2 or 3 cents a day difference in value between her and the Shorthorn heifer. Of course the opportunity to select Shorthorn cows was not equal. The Jersey men knew just where to go to get good cows, twenty-five good Jerseys, and they imported twenty-five Jerseys. We got twenty-four Shorthorns altogether, and put in the whole twenty-four. It was said by our Jersey friends that there were no milking qualities in our Shorthorns; they were simply good *beef* cattle, but before they got through the Chicago test they said, as Mr. Hoard, the great dairyman from Wisconsin, who is a Jersey man, admitted, "that the Shorthorn was really a good dairy cow." [Applause.]

Mr. R. J. Johnston was called for and spoke on the question as follows: "I think that the president struck the nail on the head when he said that the main reason why the Shorthorn was not a good milker, is that she is not milked. If you let a calf run with a cow, she will never make a good milker. Ninety per cent let the calf run with the cow. Few milkers have blind teats. Those cows were all sold. I think some of the best Shorthorn cows in the country were slaughtered on that account. I believe that for milking purposes you should milk them. If you let the calf suck her and then let the cow stand awhile, that will dry her up."

MR. SHEEHAN: I have always thought you ought not to draw the line. I have no interest in Shorthorns now. Thoroughbred butter is all I have got. I am not talking from an interested standpoint. But, this is my opinion. If you will

take the history of the race of Shorthorn cattle, if you will look from the days of Thomas Bates to the "Columbian," there is no necessity of drawing the line. Thomas Bates and Booth were the two great rivals in Shorthorns. Mr. Booth started out with his great cow, N————. He swept the country. Thomas Bates took his thirty-second Duchess and walked her eighteen miles and she would give her four or five gallons of milk. She was a milk cow and a beef cow. Take down to the Columbian. Their owners there didn't have charge of them. Didn't feed them. Hardly allowed to look at them. A Shorthorn cow went in there and came out with the record for milk and beef combined. I have fed lots of steers. You have all done that. It takes a pretty good steer to gain two and one-half or three pounds a day. There were cows in there very nearly six months. They had no grass. There was a little yard to turn them into. They gained two pounds a day from the time they were put into the test until they were taken out and sent home. Put two pounds of beef on their back and came out with that record in the fifteen-day test, the thirty-day test and the ninety-day test, milked every day they were there and came out with a record of very nearly two pounds gain a day. What is the use of drawing the line? Their best yield was two and three-fourths pounds of butter a day and four pounds of beef on the back. Why do you want to draw the line if you can do these things? You gentlemen who come from the southern part of the state, who think you have the corn belt, are awfully deceived. If you will come down to the depots here, if you take the same time at home, if you ship out more beef and more pork than from this county, I will give you a new hat. I don't see the use of drawing the line between the beef and the milk. You want to draw the line on the breeder. You want to draw the line on the man that raises these cattle. Thomas Bates could make milk and could make beef. There is no man on $50, $60 and $70 land, and from that up to $100 land, who can afford to-day to keep a cow to raise a calf and do nothing else. There is no man that ever raised horses or hogs or Shorthorns, that would all be fit to breed from, all first class. There is nothing as hard to keep up as the milking qualities, year after year. I defy a man in the state of Iowa to-day who has been raising cattle year after year for thirty or forty years—he can have Holsteins, Jerseys, Red Polls, Black Polls or Shorthorns—that can get up and say, they all proved

to be good milkers. I don't care what breed of cattle they were. At the Columbian it was proven beyond any controversy. Cows that were claimed to be three and four and five pounds a day cows, those very cows were taken in at the Columbian, and those very cows were taken out, rejected, not put in the test at all. They had fifty-three Jerseys altogether when they came to the test. They made large records at home. Three-pound cows they were called, but when they got there, there were not any of them able to stand up to the rack. President Lyons has the honor of owning the cow that has the best record of any cow living for beef and milk combined. There is not a cow living to-day that has got as good a record as the cow that Mr. Lyons has. The nearest to the Columbian was week before last at the great dairy show at London. They had thirty-one cows in the test. We all like to brag about home. There were a lot of Englishmen there at the fair. They said, "What a pity they didn't go over to England. They could get a lot of cows that would lick the world." But not one of those thirty-one at the test at the London show was able to make the record that the "Iowa Shorthorn" cow and the Jersey cow of the United States did. Out of the thirty-one in that test there were but five cows in the test that were able to make but two pounds of butter a day. That is taken from the papers. If I was going into the Shorthorn business again, I would never draw the line. Gentlemen, I believe there is no place for the line, no matter what part of the state you live in. The way is to combine the milk and the beef, and the beef and the milk. Then you make a success. If you haven't the money one way you have the other. [Applause.]

MR. NORTON: I infer from Mr. Sheehan that we would like to draw the line. That is not the case. My son asked that question. He said and thought and believed, as Mr. Sheehan says, that we should not draw the line.

MR. GABRIELSON: I confess that I have very little to say on that subject. I have always believed that it was possible for a cow to give a good mess of milk, and then when dry lay on beef. I have been a failure as a breeder of dairy cows. I have not succeeded to my satisfaction. It is very difficult, as Mr. Sheehan says, that is the very difficulty. It is as difficult to breed a dairy cow as it is to breed a fine trotter. A high class dairy cow is just as rare as a fine trotter. It is humiliating for me to say this. I have tried with all the intelligence and all

the skill that I have been master of. I have known Mr. Lyons' and Mr. Sheehan's cows, but unfortunately, I have never had any of them. I have raised good cows, but no phenomenal cow. I can not boast any phenomenal yield. I have made money. The best cow I ever owned was a grade Shorthorn, one-half Shorthorn. I bought her when I first came to Iowa. She had all the qualities of a milk cow. She was wedge-shape. She was hard to keep when in milk, but when dry would lay on flesh. From that cow I raised quite uniformly a good class of cows. The only mistake I made was in not keeping her own calves, even if by a scrub bull. I came on the farm without knowledge of farming and made those mistakes. I believe I would have better cows if I used that cow's calves even on her own calves.

CHAIRMAN: The next topic is: "Why put so much stress on the bull?" The speakers are H. D. Parsons and R. J. Johnston. Mr. Parsons is not present. We will be pleased to hear from Mr. Johnston.

MR. JOHNSTON: Mr. Chairman, I have always been a great believer in having a great bull, a great boar, a great stallion. It has always been said that the sire is half of the herd. Any person that will keep twenty females will come to the conclusion that a great sire is more than half his herd. There are lots of different kinds of sires. There 's once in a while a sire that will produce something wonderful once and never anything more. There is where a great many people are humbugged. If I get a sire that is valuable to me and to everybody, it is one that breeds even, and never produces a world beater. I have noticed this in Shorthorns and in Poland Chinas, that the best kind of animal is one that mixes well, extra well with almost any female of that breed. Those are scarce. Once got, you can never take too good care of it. They are usually abused. A part of the year they have good care, a part of the year not, and the next year will not breed as well. You must put in good money to get a good sire, and then put in money taking care of him. You must feed him just right, neither too little nor too much. You must know the animal. An animal that produces a very good animal and then is a very plain breeder is not the kind. That is what people are running after. But it isn't the right kind. You want a sire that breeds well to all kinds of females. You must have a bull that will breed well with all the herd, and if you can get that kind of animal I think it is worth more than half the herd.

MEMBER: How do you know that; how do you tell that?

MR. JOHNSTON: I think it is a mistake to pay big prices for an untested animal. You should know how he breeds before you put big money in it. He must first be tested.

MR. GABRIELSON: By the time that the animal is tested, by the time the get of the animal gets into use, the average bull will have passed the days of his usefulness.

MR. JOHNSTON: That is just the point. If he is handled right he will breed twelve or fourteen years to advantage. He should be taken care of. If you put him in the stall, and he is not properly cared for, he is not impressive. The female becomes stronger than he is. Then he is gone so far as breeding uniform.

MR. SHEEHAN: That reminds me. I saw Mr. Houston's 32d Duke of Airlie. I knew he was 13 years past, coming 14. I had seen what an animal he was, what a sure getter, and that he was as good at 13 as when he was 2 or 3 years of age. I noticed in the morning he was taken out, had his exercise, had a yard to exercise in. Even had one or two miles walk every morning. He was tried and he was preserved. I think he was used until he was 16 years old. The point is, do you take care of them? Do you know? You keep him until you know he is a good one. Keep him until he is developed. Any good breeder will tell you, Blake, Cruikshank, will all tell you that the young sire is not to be depended upon as is the old one after he has been proven, provided he is cared for. A man can't pay too much money—any reasonable amount—for a good sire. For, John Thornton says: "The sire is all of one-half of the herd, if not more." I think whether milk bred or beef bred, it makes no difference, you ought to lay much stress on the male animals.

MR. GABRIELSON: If there were more young men here who are starting out to breed, we could speak more advantageously. There are few 32d Dukes of Airlie. Where there is one such as that there are a thousand that do not come up anywhere near that standard. We don't find the value of such until he is overworked. The question of heredity is a very small point. I believe environment covers 80 per cent, and heredity, say the other 20 per cent. It is the same in the human family. Maggie, the charity child, lived in the county house in New York, and through want of care, became the mother of criminals. There were 260 criminals known to be due to that woman. If placed in a good Christian family, the whole current would have been

turned. There may have been some streak in her heredity that would have cropped out, but were it not for environment 80 per cent of that crime would not have occurred. There was $100,000 criminal expenses traced to that woman. The same holds to animals.

CHAIRMAN LYONS: I want to protest against the sacrifice of bulls before they are four or five years old. It is a terrible loss to the country. He is at his best usefulness oftentimes at that age. It has taken to this time to show his value. As Mr. Gabrielson says, when you find what a bull is, you are ready to dispose of him. That ought not to be done. Possibly, on a small farm, you could not keep that bull yourself. But, I think every thoroughbred bull worthy of that name should be kept much longer than that. You certainly ought to be able to trade with some one who wants to do the same. He ought not to be put on the beef market. It is too much of a sacrifice. Again: There are so many poor bulls. There are so many poor farmers and breeders. You take care of your hogs and your horses. Nine-tenths don't take care of cattle. Ninety-nine-hundredths don't take care of bulls. He wants to be in fine lusty condition always. I don't care how well bred bulls are, after they get out on the farms, they take no care of them. They give no milk, and they don't feed them. My experience has been that no animal needs the care that a young bull does. After he gets four or five years old he can take care of himself better. When he is young he needs especial care.

MR. NORTON: One reason they dispose of him is that they are fearful they will be annoyed by them. I think I have owned three different bulls eight years. By the time we know they are valuable, that is the time to keep them. A bull I paid $1,000 for, after using him eight years, I sold with six heifers this last summer. He went into Iowa county and beat everything there except his son, Charles 5th. He came to Victor and beat one of his sons five years old, and all in the ring. He kept in fine condition and a sure bull all these years. There was not a kernel on him all these nine years. How do we keep such bulls? Let him run in lot by day on grass and in box stall by night. If you have no lot, when he gets two or three years old put a horse halter on him; tie him to the most gentle cow; put a wide strap around the cow's neck with a ring to it, and tie the bull to the ring. The cow will always take care of the bull; if he wants to get near the fence she takes him elsewhere.

perhaps in the middle of the field. [Laughter.] Now, you laugh; that is right. Try it, and you will have no anxiety about your bull. I could not attempt to answer the question as well as Mr. Johnston has. The bull is worth more than half the herd. If you have $2,000 to put into a herd, I would say $1,000 into the bull; rather half the money into the bull and the balance in the herd. You can get good bulls for $100 or $150, but you can't get the best. I suppose this question is somewhat along the line of the scrub compared with the thoroughbred. Men who have very much experience know the difference. The bull gives you the type of the herd. Every breeder must have a type. He sets out with a plan. If he wants high standing rough cattle, get an up standing, rough, coarse bull; otherwise, get a bull perhaps more compact, that will mature earlier. Every breeder should have his type, his *ideal*. In selecting a bull he must look at the father and mother, and the grandfather and grandmother and so on, if you can find them. If he finds something that he can't agree with he rejects the animal.

MEMBER: One of the most difficult things we have is that we have to change the bull in order not to breed to the offspring; how do you avoid that?

MR. NORTON: That is difficult. If you have much of a herd you must have two bulls. You can keep the bull six or eight or ten years. In case you have only one bull and have perfect animals you may breed father to daughter. "You are not breeding for brains, are you?" That is the way the Scotchman said to me in reply to this same question. An example is the produce of Baron Victor 2d, that was three years ago, coupled with his half sister; the produce, "Baron Cupbearer," was shown at the Illinois State Fair, 1895, the greatest fair in America, and took second prize weighing 1,900 as a two-year-old; was only beaten by one "Columbian" bull winner that was never beaten. We are not breeding for brains. When you have got *good, perfect* animals you can do that. If there is a weakness in one you double that weakness. But with two perfect animals it is safe to make one cross; that will help you out with one bull. We say, in the United States, we don't dare do that because we are not old, established breeders as they are in England and Scotland, where "breeds" are made; yet our older breeders with twenty five to forty years' experience and always having bred the best should have a "type" of cattle, and be able to maintain it without inbreeding.

MR. JOHNSTON: I think I will have to call Mr. Norton down. That may work once in a while, but it is a dangerous thing to do. My judgment is that 95 to 98 per cent of such tests will be a failure. If I was going to devise a type, it would be possible to go back about three generations and then come up. I don't believe in marrying cousins. What is true of the human race is true of animals. Sometimes an animal is a good animal, but not a good producer. I am against inbreeding. Line-breeding is difficult. I have always had poor luck in trying to do that thing; I could not do it. I think that if you want to knock an animal out quick, fatten them up and let them get poor. Keep that up for about two years and you can ruin the best animal living. You must know the animal; know how to handle him. Never let him get fat or poor. I went down into Ohio and saw Finch and those good breeders. There were lots of sows with two litters a year. He feeds those sows in different pens and each one his own way. I think that is the way. They are perfectly thrifty. Give them plenty of exercise. They will live pretty nearly as long as you want them to.

MR. NORTON: How do you exercise a bull?

MR. JOHNSTON: The only way to exercise a bull or boar is to lead them or drive them. That is the only way I know in the world.

MR. GABRIELSON: We use our bull on the tread power. I believe a tread power should be used for that very purpose, even if no work is to be done. I think an idle bull is a perfect devil.

CHAIRMAN LYONS: If he is a Jersey?

MR. GABRIELSON: Yes; a Shorthorn the same.

MR. JOHNSTON: If you will start out with a young bull, that bull will be kind and gentle. I had a couple of boars, and always exercised them that way, one mile and back.

MR. GABRIELSON: I have no doubt Mr. Johnston is right from the breeder's standpoint. But the average farmer hasn't time to spend an hour or two every day to lead his boar and bull around.

MR. NORTON: I would not give a dollar for a vicious bull. I would not have a bull that was not as gentle as a cow. He must be of that naturally quiet disposition. I want one that will lie when I come into the barn, and not be ready to fight.

CHAIRMAN LYONS: I let my bull run with the cows all the time. If a cow is in the heat, put the cow in the barn. I

generally breed my cattle from December to April; not much after that.

MR. NORTON: You never tried chaining the bull to a cow?

CHAIRMAN LYONS: No, sir. I had a bull that was troublesome. I took a three-pronged hook and hung it about six inches below the nose by the ring, and kept him in that way pretty well.

MR. NORTON: In tying the bull to the cow, never put the halter through the ring in the bull's nose. He being halter-broke, will follow the cow readily and get exercise, and you will always know where to find him.

Adjourned until 9 A. M. Wednesday.

WEDNESDAY, OCTOBER 30, 1895, 9 A. M.

The association was called to order by Chairman Lyons.

It was moved by Mr. Sheehan and seconded that the chair appoint a committee of three on resolutions, with Mr. Gabrielson as chairman. The motion was carried and Messrs. Gabrielson, Dunkelberg and Johnston were asked to act as such committee.

It was moved by Mr. Johnston and seconded that the chair appoint a committee of three as a committee on selection of officers, and also on location, to act thereon with the committee that the improved stock breeders will appoint. The motion was carried and the chair appointed as such committee Messrs. E. S. Fonda, Daniel Sheehan and D. J. Patton.

Secretary Norton read a letter from our president, Hon. John Manatry, of Fairfield, explaining his absence and inviting the association to meet at Fairfield in 1896. Accompanying Mr. Manatry's letter was a letter from Mayor A. W. James and other citizens of Fairfield, cordially extending to the association an invitation, on behalf of the city of Fairfield, to hold the next annual meeting at Fairfield.

Enrollment of members ensued and the following names were entered: J. P. Manatry, C. W. Norton, O. H. Lyon, Daniel Sheehan, George Dunkelberg, R. J. Johnston. D. J. Patton, E. S. Fonda, W. V. Frazier and John Penney.

CHAIRMAN: The first subject for discussion this morning is, "The Shorthorn of 1875 and 1895," by C. S. Barclay. Mr. Barclay is not here. Will someone take up the discussion of that subject? If not, we will pass to "The Lessons of the Show Yard," by Prof. C. F. Curtiss. Professor Curtiss is not here. The next topic is, "The Breed of Cattle for Iowa," assigned to Prof. James Wilson and Hon. L. S. Coffin. Neither are here at present. "Model Barns" is the subject given to Prof. D. A. Kent, who is not here. Mr. R. Baker, whose topic is "Balanced Ration," is not with us. On any of these topics we will be glad to hear from anyone. There are requests made, Mr. Johnston, that you talk to us on "Lessons of the Show Yard."

MR. JOHNSTON: Mr. President—What I will say will be rambling. I haven't thought of anything on these subjects. I am a great believer in showing at the principal fairs of the country. The main object in that is to show people the perfection in all animals and all breeds. This is the one way that it can be done that I know of. It has its good effects and it has its other effects. Yet it is the only way that it can be shown. A fair, in my judgment, ought to be an educational institution. We should make it more so. Since my connection with the state board I have tried to bring that about. The people should go there and make it educational altogether. That should be done. By doing that, it will draw people there and they will study. It should be more than to go there and visit. This year in the dairy department we had the students of Ames go down there and try to teach the people of the state dairying. In all other departments we should have a class, in cattle and swine and all other departments. We should have a lot of the younger people there. I am a great believer in young people. The quicker we get young people interested the better it will be for the country. We should have an expert there and a class of young people there, showing how it is done. I can see the imperfections in animals. If we let people go there and watch and see why they give this animal the premium and throw that one out, that will do good. There is more in that than in the premium, which is for advertising. We should show what the perfect type is. The show yard should be more than what we already have had. There is another thing. I think, instead of giving the main premiums to some sweepstakes animal, it should be given to the animal and its get. In my judgment, that is the best premium any man can take. Take it on the

animal that produces something. Also, something should be given to the female as well as the male. We should look after the female. My idea, to bring it to perfection, is that we should have both male and female as perfect as possible. The subject should be studied more. In my judgment, the reason why people succeed so poorly in the west is that everyone is trying to do so much. If we did less and did it better, it would make us more money. If we produce less stock we will come to the front quicker and make more money. I thank you, gentlemen. [Applause.]

Mr. Daniel Sheehan was called for.

MR. SHEEHAN: Mr. Chairman and gentlemen, I don't know what I could say on the lessons of the show yard. I suppose the first lesson is to get the animal to show. The lessons of the show yard are to learn to go there and be successful and win the prizes, providing you have the best animal and can win it fair and square. Mr. Parsons, to whom this subject is assigned, is a very successful showman, and like many other such successful men, William Miller and some of the best showmen in the world, they claim that you ought to pick out the show animal when he is eight or nine days old, especially calves, provided you have the judgment to raise that animal to perfection. Sometimes they fail. I know that Mr. Westrope has been showing his cattle for years at the state fair at Des Moines. Sometimes he was not very successful. He got his cattle just about fat enough, but not enough to win the prizes. He was talking about it a year ago at Des Moines. He said he believed he had the cattle, but he was afraid of spoiling the cattle, and he believed to be successful in the show yard he had got to lose some of the cattle. I believe he was right. It may pay to get all out of the cow in two or three years. It may pay to spoil an animal in the show yard if you are after the record for the breed of cattle, but I think there is no use of talking of taking cattle to the fair without they are in the pink of condition. That applies to the horse, the hog, the sheep, any kind, Shorthorn, Jersey or anything you take. They must be in the pink of condition to win the prizes. They are not like the trotting horse or running horse. They are taken out and shown just for the looks. The trotter must trot and the runner must run and get to the front, but those cattle, and horses and hogs must be taken out and led around just for people to look at and if they are not fat and in the pink of condition, you might as well stay at home. Of course, there is a show for the dairy cow where she is tested. Her looks and form have something to do with it, but her prize is drawn, has been drawn almost every year, I notice, at the state fair by the one that makes the most butter from the amount of feed. She gets the prize whether she looks the best or not. So, I think the lessons of the show yard are dear lessons, but they are good lessons. I don't believe that a man ever went to a fair, either a county fair, district fair, or state fair that he goes around to one fair and another, and he has a world-beater of a herd, or a world-beater of an animal, they all have to come down; they have a rival. When they are fed about so long they become patchy and coarse, and can't walk straight. Anybody that has watched the show yards can see these lessons for themselves. I don't know what is best for a person to do. Spoiling an animal once in a while is a cheap way to advertise. Of course, you can advertise cheaper, perhaps, through the papers. But, what you do at home, what your cattle do, somehow, the people are all right, but we don't always believe them, I don't know what it is, but I never did. But, when they come out and people look them over, they milk the cows right in the barn, a man stands right there and sees the cow milked, takes the milk right up to the dairy hall. It is sealed right there and a man has nothing more to do with it. Now, he can't even have the cow blanketed when she is milked; you must see the pail. They stand right there, weigh the milk, seal it, and it is taken to the building and the best cow gets it. There is something more in the show yard. There is an expert. A great many times the assertion is made that the man gets the prize instead of the animal. I don't believe it. The man who goes there and looks over the cows is an expert and his reputation is at stake. He is not the only expert. He is a good man and has a reputation, and there are others who know something looking around too, and he must preserve his reputation. I believe ninety-nine times out of a hundred the prize goes where it belongs. I believe the animal has got the prize generally. Mr. Johnston went to the World's Fair with his hog, and a homely man like him never got a prize from someone that never saw him. [Laughter.] The hog got the prize. Lots of times they don't know who owns the animal. The lessons of the show yard are that it is a mighty good advertisement. There is no money in it generally, not once in a hundred times.

MR. FONDA: It was Nora that got the prize. It was not Dan. [Laughter.]

MR. SHEEHAN: Yes, Nora did the business. Dan was not there.

MR. GABRIELSON: You were there, I gave you some buttermilk.

MR. SHEEHAN: Yes.

Secretary C. W. Norton was called for.

MR. NORTON: I had Professor Curtiss strongly in my mind on this subject. It came from this thought first. While at our state fair, and while Professor Curtiss was judging our black cattle there, he made a decision to look upon, that we thought was wrong. It was the day that the Polled Angus were being shown. Mr. Estell and Mr. McHenry were showing the best cattle in the United States of that breed. I don't think there are any better across the water. (At least I never saw better, and I attend their best shows or fairs.) When it came to those black heifers, the Estell heifer looked to be the better, and when Professor Curtiss got through, and gave the prize to the Iowa heifer, he said, "I suppose you will criticise, and the crowd will criticise. I want you to come up and see why I have decided as I have. This Estell heifer is too ripe, fed too far, *patchy* like and *hard* on the back. The other is just right." Mr. Estell said, "All right, I will take notice particularly of the feed; before we get to Illinois fair I will fix that." That was all right. Showmen understood it. That was what I had in my mind first. There is such a thing as feeding too long. When Mr. Johnston speaks about the Agricultural college students coming to the state fair that does my heart good. I have been interested always in the boys. Our Shorthorn cottage stands near the dairy building, and we see the boys there that come from the farm; they do all the work as they do at the Agricultural college. It is right before your eyes, and mother's eyes, and brother's eyes. They see how the cows are milked, and the whole process, from first to last. It is of late date, inside of four or five years, I think it has been, since the college has taken up this line of work. Most of these advances are made here at our meetings. These men are moulding and helping to mould, and starting these young men along in the line to take our places when we are gone. To get the thing started is what we have to do. I said, between my boy and I, I wanted him to come to the meeting, but he could not. Next year he will attend if held in our part of the state. As an object lesson at our state fair, it seems to me we ought to have as near a perfect cow in the stall, as nearly a perfect bullock in the stall, as nearly a perfect bull in the stall as possible, and a man—yes, an expert—to show the perfect points, and if he has weak points, to show those; show where the high priced cuts are; show that one pound lying there behind is worth three or four times as much as one pound lying in certain places in the fore quarters, and not a large head and large legs, but the large carcass and the most valuable points are desired. Take the cow as she stands there, and point out her characteristics. It is a matter of education. The state gives $200 to each county agricultural society. Some counties are receiving $600. Nine counties last year received $600 each. The state is paying liberally. Our cities and counties are not always getting enough out of it, it seems to me. I used to show cattle. I have shown cattle for perhaps fifteen or twenty years at the state and county fairs, up to the time of my son's death, six or seven years ago. Since then, I have shown only at our home fair. It was three years before we beat our state with a herd of our own raising. When Mr. Sheehan speaks about spoiling animals I know what that means. It was necessary to spoil them in order to please the public eye, and please the judges. It isn't fair, and it reminds me of what was said of the blind man. "There is a beautiful horse," some one said. The blind man said, "there is a fat horse." He had never seen a horse. He had never seen a beautiful horse in his life. To cut the story short, I said, "This year we will win, we will win of our own raising, our own breeding." There were five in the herd, and three were ruined, and had to go to the shambles. Whether it can be changed, I don't know. I have thought there should be judges who could tell the difference between those that are just as good and have not been too highly fed.

MR. SHEEHAN: Do you think that there is such a man living?

MR. NORTON: We ought to find such a man. The fair is a good place to advertise. It gets your cattle before the people. From that time to this we have never had any trouble in selling cattle, all we could raise, of both females and males. I suppose two-thirds go to men who never see them. We just tell just what kind of cattle they are. In that line it is an advertisement and a good thing. We must encourage fairs, both

in the home fair and in the state fair. I want to say in relation to the lessons of the show yard that I believe one of the best lessons we learn at the fairs is to get a higher ideal of what we want to breed. We are all a little conceited. We think we have got a little the best of anybody. It is better for us to get out and find out what somebody's else best cattle or hogs are. We get a higher ideal. It broadens us somewhat. We find out just the points sought after in breeds of cattle and hogs and all these things. There are some things we learn in that way ourselves. I like Mr. Johnston's idea of watching the experts as they award the prizes and pick out the best cattle. I think one of the most profitable days I ever spent was at a Scotch fair, where Simon Beattie was judging. I walked right around with him and looked as though I was a judge. He would sort out two or three, or four perhaps, and one or two more of them. He would look them all over carefully in every way. I looked them over, too. It was one of the best educational days I ever put in. Sometimes he didn't award prizes just right. [Laughter.] But generally about right. Pretty good judge, I guess; I think he was mostly. I think if we watch the judges as they award the prizes, it would put new ideas in our minds. [Applause.]

Chairman Gabrielson, of the committee on resolutions, submitted the following report, which, on motion of Mr. Patton, was adopted:

Resolved, That we recognize unmistakable signs now apparent that we are approaching an era of fair remuneration and prosperity for our industry. Among them may be noted the continued decrease we have met from cattle on the range, the recognition of improved quality in product as shown by the general markets, the more general recognition of the value of Shorthorns for the dairy as well as beef industries in the mind of the Iowa farmer.

Resolved, That while the growing interest and inquiry for good bulls is a result of the facts stated, it is apparent that the discussions and publications of this association are doing much to stimulate this interest, and for our personal gains as well as for good done to the public, the association is entitled to our continued support.

Resolved, That we congratulate the State Agricultural society for the splendid achievements of the present year at its forty-fourth annual exhibition, and add our indorsement of its present management with assurance of a hearty support from the members of the association.

Resolved, That we request the various boards of agriculture to form classes whereby recognition will be had of breeding cattle whose future usefulness have not been impaired by excessive fat. That we also request them to offer inducements for showing of fat steers.

Resolved, That we recognize the courtesies extended to this association by the citizens of the city of Osage in making this meeting pleasant and agreeable by personal attention to each visiting member. May its shadow never grow less.

C. L. GABRIELSON.
R. J. JOHNSTON.
GEO. H. DUNKELBERG.

CHAIRMAN: The next topic is "The Shorthorn as a Dairy Cow," by Mr. Sheehan.

MR. SHEEHAN: Mr. Chairman, it is surprising to me that Mr. Norton should put me on for that topic. He knows—

MR. NORTON: That you know. [Laughter.]

MR. SHEEHAN: What I believe in regard to that. I don't believe you want what I know. I don't believe anybody does; especially Mr. Norton. [Laughter.] Of course there are a great many good dairy cows. It is hard to say which is the best dairy cow. But I would say without fear of contradiction that the Shorthorn is a pretty good dairy cow, a very good dairy cow; has proved herself to be a good dairy cow. I am not going to take up much of your time on the Shorthorn as a dairy cow. I think Mr. Norton was out of the way when he assigned me that topic anyway, because there are so many breeds of cattle, and they all claim that they have good dairy cows in all breeds, and I believe they have. But I noticed week before last they had a show in London, and it is claimed to be the greatest show in the world, next to the Columbian. I have been looking over the proceedings of that show and where the prizes were awarded. I don't know how the cattle looked, but I noticed that the cow that made the greatest percentage of butter fat won the prize. That cow was a Shorthorn. A cow that won the second percentage was a Shorthorn. There were thirty-one cows shown, only eleven Shorthorns. The rest were Jerseys and other breeds. I think the lessons of the show yard in different places where cows were tested will show you Shorthorn breeders that if you only breed your Shorthorn cows, if you want the milking cows, you can have them if you breed them right. To my mind there is no cow that we can afford in this country, where land is worth $50 an acre, as it is now, that we can afford to keep for dairy alone. You want the beef and the milk both. If I was starting out—I have no Shorthorns now—if I wanted to improve my cattle, it is my candid opinion to-day that there is not a race of cattle on the face of the earth that has as much

perfection as either a good thoroughbred or Shorthorn cow. I haven't a bit of interest; I sold them all a year ago. If I was a young man starting in life again, you bet I would have some, and good ones. I would have a bull, not a cheap one, and would try to improve that herd of cattle from the day I got it to the day I sold it. If you do that you will have no trouble in selling the increase from year to year. If you don't, your account will come out on the wrong side of the ledger.

MR. FONDA: Your committee on nominations would submit the following report: For president, H. D. Parsons, of Newton; vice-presidents, T. R. Westrope, Harlan; W. W. Vaughn, Marion, R. J. Johnston, Humboldt; secretary and treasurer, C. W. Norton, Wilton Junction; directors, J. C. Frazier, Bloomfield, L. Brodsky, Plover, H. I. Smith, Mason City.

It was moved by Mr. Dunkelberg and seconded that the report be adopted. Carried.

CHAIRMAN: The next topic is "The Farm the Road to Success," by Albert Bartelle.

MR. BARTELLE: I feel a little disappointed. I prepared that paper largely in expectation that there should be quite a large number of young men present. I am disappointed that there are not more young men here.

THE FARM THE ROAD TO SUCCESS.

BY MR. ALBERT BARTELLE.

From a selfish standpoint it would not be in line with good business principles for a farmer at this time to encourage any more to engage in agricultural pursuits. With a country filled to overflowing with all kinds of products, and no market for them, above the cost of production, it would perhaps be better to say, be consumers and not producers.

Mr. Stickney, president of a great railroad system, went up and down his roads last spring advising the farmers to go extensively into the potato culture. Many of them followed his advice and are anxious now for Mr. Stickney to tell them what to do with their potatoes. He was undoubtedly honest in this and may have had some idea of what our soil would do, under favorable conditions, in the raising of potatoes, but he certainly never figured them at 10 cents per bushel.

He, like all frail humanity, could only judge the future by the past. And when we look back upon the past and view all lines of trades and professions

from an impartial standpoint, I think we shall see that those who are and have been engaged in agriculture are, taken as a class, the healthiest, wealthiest, happiest, most independent, and, therefore, the most successful. Turn to the pages of history and you will find that farming has the honor of being one of the first occupations of man. We read in sacred history of our first parent being placed in the garden of Eden, surrounded with fruits and flowers, with scarcely anything to do. Then, as now, idleness, the mother of mischief, made him discontented and unruly. He was driven from the garden, commanded to go forth and till the soil History does not tell us as to his success, but I think his early training was against him. It says he raised two boys, both of whom took to farming, the one to the tilling of the ground, the other to stock raising. Then, as now, the stock raiser came out ahead and received the greater approbation, but he never lived to enjoy a stock breeders' association. But to come down to more modern history, we shall find the best and most successful men this country ever produced were from the farm. I need not take time to name them, but if we will investigate, we will find some of those that have climbed to the top of the ladder of fame and reached the highest position of trust and power that this country could confer upon them, have turned back in their declining years to the healthful occupation of a farmer, preferring the guiding of the plow to that of the ship of state, the wielding of the hoe to that of the sword.

Of all the vocations, that of the farmer is the foundation, and upon its prosperity or adversity all others rise or fall. How plainly is this illustrated this fall. On account of the low prices the farmers are holding their products made possible by the prosperity of other years. The merchants are crying times are dull and money scarce

We have about garnered one of the largest crops the northwest ever raised. It was harvested with glee and great expectation. The merchant, ever with an eye upon the coming crop, gave his orders early; his store and shelves are filled, awaiting the movement of the farmers. The farmers with granaries full, many of them with large bank accounts, others with good credit, are standing out in their independence, holding their crops for better prices. I find by inquiry that over three-fourths of the money on deposit in our Mitchell county banks is held by the farmers. Need I ask which, in your judgment, are in the best condition, the farmer or the merchant?

You will pardon me if I here introduce a little personal experience, for sometimes, by experience, the best lessons are learned. I came to this county twenty-seven years ago the fourth day of this month. I have been identified with farming ever since. By hard work and economy I had saved $200. Like many other foolish young men I thought I must have a team and buggy. Not being a very good judge of the equine race, one proved to be short of wind and the other too much bone on his lower extremities. Had I taken that money and invested it in Mitchell county's cheap land, it would have to-day been worth $2,000. Notwithstanding my poor investment, I have never seen the closing of a year but what my books would show that my income had exceeded my expenses.

Of my early companions many are farmers, some of them have entered the various lines of trade, and a few have entered the professions. The farmers who have held unto their farms, worked and used a fair degree of

economy, have secured fine homes and are in good circumstances. Those of the trades, although they have worked hard and used economy, many of them are living in rented homes. Those that have entered the professions, poor fellows, they have had a hard time of it. Although essential and honorable callings, their lot has been cast among an intelligent, peaceable class of people living in a healthful climate, and their experience has been similar to the man that kept tavern, badly located, who had only one customer for three months and charged him $150 for one night's lodging. The boarder being riled, he told him to figure it by the day and he would find it very low wages. All the so-called fashionable vocations are being crowded. There may be room at the top but there are thousands at the bottom. Many a boy has made a sad mistake after passing through school by leaving the farm, imagining that he had altogether too much knowledge to be wasted in milking cows and feeding hogs or raising corn and potatoes. He has rushed away to the city to be a clerk, bookkeeper, lawyer, doctor, or an insurance agent—anything to get away from the farm. Statistics tell us over 90 per cent of the men engaged in business fail. How few are the farmers that fail. Not one in twenty. True, there were a few farmers that lost their farms in the day of wheat raising, but those that have adopted the new method, held to their farms, have not only made a living, raised and educated their children, but by the improvements and rise in the value of land, have become independent. While it may be a rare thing to see a millionaire among the farming class, for in the calling there are no rapid strides to wealth, but to the frugal, industrious farmer there is a sure growth to competence and happiness in old age, and I am glad to say and believe there is not among all the callings such a strong growing sentiment of popularity. That old idea that it was time and money lost to educate the boy for the farm is among the dead issues. Many a college graduate is finding congenial employment upon the farm. The thoughtful, industrious and educated farmer is no longer looked upon as a serf. He is being fast elevated, as the Irishman said, when he took his family for a ride in the balloon and the rope broke, and while sailing off into space he looked down and saw the people all anxious and excited gazing intently upward: "O, begorra, we are being noticed since we began to be elevated." The farmer's opinion and influence is being recognized as great factors in this county. It is not to be wondered at, for you will find in the well regulated farmers' home a home of books, newspapers and social refinement. A strong sentiment in the parents is inculcated into the children, that cost what it may, they must be educated. There is not a better posted class of people than may be found upon the farm. There was a time in some of your brief history and mine, when the life of a farmer was a life of ignorance, darkness, and drudgery; it was work, work, from early morn till dark at night. No time for recreation, sociability, or education. That day is gone and I do not wish to recall it. Am glad that I am spared to see the time when through the aid of improved machinery a farmer can get a good living by working ten hours a day and do it easier than it can be done in the other lines of trade. But in farming as well as in anything else, to succeed, a man must be up with the times; he must use his brains as well as his hands; he must know his farm, study its soil, its wants and conditions. Only good farming pays. Any fool may sow and reap good crops from the virgin soil, but a good farmer will reap good crops then, and better afterwards. The successful farmer must have a love for his calling. To him what some would call drudgery is transformed into pleasure. The man who does not like dairying and hates to milk, feed hogs or other improved stock had better join the army of other professions. There are but few who will not admit that the farm is the place for health and formation of character, the two chief elements to happiness. Yet there is a strong mania among our young people to leave the farm and go to the city, hire out as clerks at very low wages, so low that in order to dress respectably and meet the demands of fashionable society, there is not a dollar left at the end of the year. But this is not the saddest part. They spend the best part of their lives and never rise above the position of a clerk. I have read of boys beginning life as lowest clerks at very low wages, soon becoming partners in the concern and occasionally a millionaire. It is said "history will repeat itself," and I have wondered whether any of our clerks of this generation would make such progress The mistake of leaving the farm is not confined to the young alone. Many an older head, of whom your humble servant is a part, have thought it would be a nice thing to sell the farm, move to the city, place his money at 8 per cent interest and take life easy. The city with all its advantages and attractions, fails to supply in the mind of the healthful farmer the desires of the old farm life. Then if you would succeed, whether in the pursuit of health, self-improvements, long life, or real independence, there is no surer road to find it, no nobler calling, no finer soil, no better place to live, than upon that farm in the state of Iowa, which you so proudly call your own.

Mr. Fonda was called upon for remarks.

MR. FONDA: Mr. Chairman, I hardly know why I should be called upon. I have never lived on a farm in the state of Iowa. It has been my good fortune, I have thought many times, to own land and oftentimes I have thought it was a misfortune. I feel now that while there are adverse circumstances surrounding a farmer that Iowa lands are good property, full better than stock in a Colorado silver mine. My early life was on the farm and I like farming. Probably if I had married a farmer's daughter or some one who enjoyed farming I would have been a farmer. But I don't find fault about that. Still, when I find men like Sheehan and Bartelle coming down to the city, I think perhaps there is something out of joint.

MR. BARTELLE: Wise men sometimes make mistakes.

MR. FONDA: Sheehan was a good neighbor. I used to buy bulls of him, pretty good bulls, I guess; good price, I know that. I don't know whether I ever made anything out of the bulls or not. I believe that if I was in Sheehan's place commencing life again, I would sell those same bulls as long as Fonda bought them. There is something out of joint, gentlemen with the farmer; something out of joint when the successful

farmer comes down to town and feels lost. I feel like pitying such a man, although he doesn't ask for pity. They have a good excuse; they say they want to educate the children; they do, certainly. A town like Osage and such towns all through northern Iowa and all over the state of Iowa have the best of schools. Still I have found that they felt away from home. Sheehan is a very hard man to make understand just how a man feels about these matters. I enjoy going out to the farm and spending the day there very much. But when a man can get the environments and conditions right for enjoying himself on the farm, and that man gets so he can enjoy it and then immediately leaves it, there is something out of joint; something wrong, as I said before. Our farmers are prosperous. They are in as good shape to stand hard times and hard prices as any in the world. I don't know, if I was commencing my life over again, I don't know but that I would engage in farming, even if my wife was not willing.

MR. PENNEY: I would have liked to say a few words in regard to education of farmers. The bulk of farmers are uneducated men. They don't get the comfort out of farming that intelligent men do; they have a great deal to learn by experience; they should know the whys and wherefores of these things. I sold a farm a few months ago to a young German, just got married, energetic, and will be successful. I was out the other day and he was plowing; I asked him what he was going to keep for hay? "I am going to keep that where I cut the clover seed; I thought that was the best place." He supposed that was all right. What comfort do such men get out of it? It is only the few dollars. That is no comfort for me. Although I am not an intelligent man, if I have some clover there I think I know why that enriches the soil. The point is, all the time, the intelligent man is getting comfort and enjoyment out of his work where the other man is not.

MR. SHEEHAN: When I was on the farm, I was always preaching for every man to go to town but myself. There is no use of keeping these boys on the farm. They ought to be educated. They need as good education as the boy in the bank or the lawyer or the preacher. If you educate them let them go where inclination calls them. The more that leave the farm, the man who stays on the farm does the better. That is shown this year; overproduction! Of course, some men are out of employment. If they were on the farm, what would they do?

Fonda and all of those left the farm for the benefit of the men who were working on the farm. They did a pretty good job, and I don't care if more left.

MR. BARTELLE: I believe that men leave the farm just as they leave other business. They are not satisfied with prosperity, and want to do something better. The doctor would like to be a farmer; the merchant would like to be a farmer; the farmer would like to be a merchant or a lawyer. That is the mistake.

MR. JOHNSTON: I want to say one word about the farmer's boy. A man must use his hand and head together. In our town of Humboldt, with its 1,500 inhabitants, we have not a man in business but what was raised on the farm. The first thing a boy should learn in life is industry. He can't get that habit when residing in town. In the bank we hire the boy from the farm. He is a worker. The merchant doesn't want to hire the town boy. It looks unkind, but the kindest thing a man ever did was to move his family onto a farm. Work the boys all day and they will go to bed at night and grow up the better for it. I quit farming. Why? I was always a lover of hogs and I lost them all. I lost $2,000. I went to work as deputy treasurer of the county, and from that into the bank. Have staid there since. I have always owned a farm and owned stock, and I would rather be a farmer than in any other occupation on earth.

MR. FONDA: Don't you think that a great many people educate their children wrong when they take them to town to educate them? There is no reason under heaven why people should not have just as good schools in the country as here in Osage. You can teach them more, make better citizens of them, by sending them for four or five months, and teaching them something useful the rest of the time, than by their going to school nine months and going fishing three months.

MR. JOHNSTON: I don't believe in all education. I would rather send a boy to school half of the time and let him learn something else the other half. He will be a student and he will study. I don't believe in too much education and too little energy to put it to use.

MR. FOOTE: The question came up in our family a year or so ago. We were going to turn the place over to the boy and let him work it, and the question was, whether we would go to town or build a new house on the farm. We discussed it pretty

thoroughly for about a year. I must say that in opposition to Mr. Fonda's wife's position, my wife was in favor of staying on the farm. I was, too. So we agreed, and decided instead of going to town and taking the only boy we have but what was grown up, and moving to town, we decided to build a house on the farm, let the son have the old house, and educate the boy that is growing up on the farm and in the district schools for the present. I don't think I should be at home except on the farm. I drove fifteen miles to attend this meeting this morning. There are a great many things, intellectual and musical entertainments and such, that we are deprived of on the farm. But I propose to spend the rest of my days on the farm.

MR. GABRIELSON: I would like to say a few words about that. I have been on both sides of the question. I was raised in the city. When about 25 years old I moved onto the farm. My health was bad in Milwaukee. Within two years I have turned over my farm to my son who was born on the farm and takes my place. I turned the farm over to him particularly, because I was not able to do the farm work. There are conditions, however, that some men have to meet. For instance, if my son had been otherwise. He thought there was just as good a place for him on the farm as anywhere else. This was pleasing to me as I had tried to educate him in that way. The great difficulty on the farm is the help question. The kind of help usual on the farm it is difficult to get money back from them. The other classes of business will pay more than you are able to pay for the class of men that you would like to have for associates on the farm. It is a nice thing to have a hired man with a family and give him a house, but we can't all do that. We can't have our homes to ourselves. Too often the farm is a boarding house. I know with myself, that would be one of the ruling influences which would take me away from the farm. At the same time I think this idea of moving away from the farm to educate the children is sometimes wrong. I think it is good to send children away from home to rub up against the world and find the difference between home and the alien influence away from home. I trust that we will never have to leave the farm. My son is unmarried and when it happens that he sees fit to marry, perhaps I will have to build another home on the farm. I shall certainly hate to give up the farm. I have lived twenty-five years past on the farm and I certainly feel pride in it.

The following invitation to meet next year at Fairfield was accepted unanimously:

FAIRFIELD, Iowa, October 26, 1895.

To the Shorthorn Breeders' Association of Iowa and Fine Stock Association of Iowa:

GENTLEMEN—I take great pleasure on behalf of the city of Fairfield, Iowa, in extending to each of your associations a cordial invitation to hold your next annual session in our city. I assure you that our citizens will make it pleasant for you while in our city, and that you will have no occasion to regret holding your meeting in our city.

Very truly yours,

A. N. JAQUES,
Mayor.

Citizens: Ed. Campbell, Jr., R. W. Lampson, Chandler Bros., W. L. Gorsick, John Grawell, D. P. Stubbs, J. P. Manatry, and others.

REPORT OF SECRETARY-TREASURER.

There has been no effort made to reduce the debt on Shorthorn cottage during the past year. The total cost was $461, and there has been $365 paid in subscriptions, leaving $116 yet due. Our meeting held at Osage was good in quality but short in quantity. Held so near the border of the state and so early in the season, before the stockmen and farmers had secured their crops, prevented many from attending. Fairfield, our place of next meeting, being centrally located in the state and having excellent railroad facilities, will give all an opportunity to be present. The Shorthorn breeders' meeting will meet the day before the Improved breeders' meeting, as in the past. Any who have not paid their annual membership fees will please mail $1 to the secretary and get a report of the proceedings.

TREASURER'S REPORT.

To balance, last meeting	$11.47
Hotel bills at Ames	5.00
Railroad fare, Des Moines to Ames and return	2.80
Railroad fare on Chicago, Rock Island and Pacific, no charge	
Paid C. F. Curtiss for reporter	5.00
Rent of furniture for cottage, 1895 fair	2.00
Meals, four days, @ 25 cents	1.00
Printing program and envelopes, Osage meeting	2.50
Postage for program and for year 1895	1.50
Total	$32.27

AMOUNT RECEIVED.

Members	$ 22.00
Donation by R. Baker in 1892	5.00
By balance	5.27
Total	$ 32.27

Some of the names above were erroneously omitted in report of 1894.
Place of next meeting, Fairfield.

C. W. NORTON,
Secretary and Treasurer, Wilton Junction, Iowa.

NAMES OF MEMBERS.

R. Baker, Farley.
D. G. Stark.
Crawford Bros., Newton.
James Wilson, Ames.
R. J. Johnston, Humboldt.
L. S. Coffin, Fort Dodge.
John Fox, Dallas Center.
W. W. Vaughn, Marion.
C. S. Curtiss, Ames.
R. W. Lampson, Fairfield.
A. N. Van Auken, Mason City.
E. M. Wyatt, La Moille.
J. P. Manatry, Fairfield.
C. W. Norton, Wilton Junction.
O. H. Lyon, Wilton Junction.
D. Sheehan, Osage.
George Dunkelberg.
D. J. Patton.
E. S. Fonda, Osage.
W. V. Frazier.
John Penney.

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