Sixteenth annual report of the Wisconsin Agricultural Experiment Association with Sixth annual report of Alfalfa Order. Address of president, secretary's report with papers and addresses given by memb...

Wisconsin Agricultural Experimental Association
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SIXTEENTH ANNUAL REPORT

OF THE

WISCONSIN

Agricultural Experiment Association

WITH SIXTH ANNUAL REPORT OF

ALFALFA ORDER

Address of President, Secretary's Report With Papers and Addresses Given By Members Of The Association And Others Interested In Progressive Agriculture.

COMPILED BY

R. A. MOORE, *Secretary*

MADISON, WIS.
DEMOCRAT PRINTING CO., STATE PRINTER
1918

LETTER OF TRANSMITTAL

WISCONSIN AGRICULTURAL EXPERIMENT ASSOCIATION

MADISON, WIS., 1918.

To His Excellency, EMANUEL L. PHILIPP,
Governor of the State of Wisconsin:

Sir—I have the honor to submit for publication, as provided by law, the Sixteenth Annual Report of the Wisconsin Agricultural Experiment Association, showing the receipts and disbursements the past year, also outlines for experiments, and addresses and discussions given at the annual meeting at Madison, February 7th to 9th, 1918.

Respectfully submitted,

R. A. MOORE,
Secretary.

PRIZE WINNING EXHIBITS OF CORN, 1918 GRAIN SHOW

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Vice President.....Rufus Gillette, Verona
Secretary.....R. A. Moore, Madison
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Treasurer.....Peter Swartz, Waukesha
Clerk and Stenographer.....Clara Brabant, Madison

COMMITTEES

Executive:
Geo. W. Davies.....North Freedom
J. R. Thorpe.....Beloit
A. L. Stone.....Madison
J. B. Cheesman.....Racine
Jesse Van Natta.....Dodgeville

Resolutions:
J. B. Cheesman.....Racine
C. P. Norgord.....Madison
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Finance:
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PRIZE WINNING EXHIBITS OF GRAINS AND GRASSES, 1918 GRAIN SHOW

CONSTITUTION AND BY-LAWS

CONSTITUTION

Article I—Name.

This organization shall be known as the Wisconsin Agricultural Experiment Association.

Article II—Object.

The object of this association shall be to promote the agricultural interests of the state.

1st. By carrying on experiments and investigations that shall be beneficial to all parties interested in progressive farming.

2d. To form a more perfect union between the former and present students of the Wisconsin College of Agriculture so as to enable them to act in unison for the betterment of rural pursuits in carrying on systematic experiments along the various lines of agriculture;

3d. By growing and disseminating among its constituency new varieties of farm seeds and plants;

4th. By sending literature bearing upon agricultural investigations to its membership, and

5th. By holding an annual meeting in order to report and discuss topics and experiments beneficial to the members of the association.

Article III—Membership.

Section I. All former, present and future students and instructors of the Wisconsin College of Agriculture shall be entitled to become members of this association.

Section II. Honorary membership may be conferred upon any one interested in progressive agriculture by a majority vote at any annual or special meeting of the association.

Article IV—Dues.

A fee of fifty cents shall be collected from each member annually.

Article V—Officers.

The officers of this association shall consist of a president, vice president, secretary, and treasurer, whose terms of office shall be one year or until their successors are elected.

Article VI—Duties of Officers.

Section I. It shall be the duty of the president to preside at all meetings of the society and enforce the observance of such rules and regulations as will be for the best interest of the organization; to appoint all regular committees as he may deem expedient for the welfare of the association.

Section II. In the absence of the president, the vice president shall preside and perform all duties of the president.

Section III. It shall be the duty of the secretary to keep all records of the association; to report the results of all cooperative experiments carried on by its membership and the experiment station, plan the experimental work for the members of the association, and labor for the welfare of the society in general.

Section IV. The treasurer shall collect fees, keep secure all funds of the association and pay out money on the written order of the secretary, signed by the president. He shall furnish bonds in the sum of two thousand dollars, with two sureties, for the faithful performance of his duties.

Article VII—Amendments.

This constitution may be amended at any annual meeting by a two-thirds vote of the members of the association present.

Amendment No. 1—Adopted Feb. 9, 1906.

Any person residing within the state having completed a course in agriculture in any college equivalent to that given by the Wisconsin University, may become a member of this association under the same regulations as students from the Wisconsin College of Agriculture.

Amendment No. 2—Adopted Feb. 11, 1909.

Any County Agricultural School within the state may be admitted to membership of the Experiment Association upon request by the principal of such school and the payment of an annual fee of $1.00.

BY-LAWS

Article I. The officers of this association shall be elected by ballot at the annual meeting.

Art. II. The president and secretary shall be ex officio members of the executive committee.

Art. III. This association shall be governed by Roberts' Rules of Order.

Art. IV. All members joining at the organization of this association shall be known as charter members.

Art. V. The time and place of the annual meeting shall be determined by the executive and program committees.

Constitution adopted and organization effected Feb. 22, 1901.

PRESIDENT'S ANNUAL ADDRESS

F. R. Bell, Columbus

The privilege of serving as President of this Association for the past year is an honor which I highly appreciate.

Never before in the history of our country or association have we been confronted by conditions such as we have had to contend with in the past eight months or rather since Congress, driven by the wrongs to the American people, and the danger to a whole world's freedom, declared war upon Germany.

The whole civilized world cries for bread, for meat, for produce and products of every kind. You know the results. Prices have gone up and up, until they have reached heights never even thought of in the wildest dreams of the present generation. In these high prices lies a very real danger that the aims of our association and the high ideals of our Secretary may not be allowed to reach their fullest realization.

With our acre yield of wheat exceeded by only one state and that by 6/10 of a bushel only, our oats yield 3rd, over the top with barley and near it with rye and corn.

With our hundreds of active members and with their thousands of bushels of pure bred seed, we are in a position not held by any other association or body of men in this or any other country to increase the yield of foods and fats for a starving world.

The temptation to cash grains at the present high prices is very great, one must admit. With one and one-half millions men withdrawn from the productive walks of life to be welded into a machine to consume and destroy, this must not be done. Our responsibilities to our country and ourselves will not allow us to dispose of a single bushel for consumptive uses, until the last fertile acre in our own state and neighboring states has been seeded with these prepotent high yielding pure bred seed grains.

Do you need money? Go to your banker. No banker in Wisconsin will refuse a loan made to hold seed until seed time. Your interest will be but a trifle paid easily by increased value of your grains and the fact that you have done your duty to your country, your fellowmen and yourself will be an added payment. In the meantime advertise "Pure Bred Seed Grain" talk "Pure Bred Seed Grain," aye! dream "Pure Bred Seed Grains." Right here we will meet these three men "The man who knows and knows not that he knows. He sleeps, awaken him. The man who knows not and knows that he knows not, he is awake, teach him, and the man who knows not but thinks he knows, he is a fool, leave him.

I think a very slick fellow placed me in the latter class in 1916. While stacking oats an automobile rolled into my yard and a gentleman dressed to the minute alighted and came over where we were at work and after commenting on the nice quality of grain we were handling, etc., from a box which he carried exposed to our view a few heads of oats, truly the longest I ever saw. These were the result of the labors of some oats wizard of New York, which had been so bred up that on thin fields of New York they would yield 100 bushels per acre. While on our rich Wisconsin fields 300 up to 450 would not be an unusual yield. Then he flashed his order book and showed a long list of names. Not one man of whom had attended our farm schools, not one of whom was a member of our County Order, nor do I think of the State Association. He had heard that I was President of the County Order and an order from me would be great help to him, etc. When he paused for breath I asked him; "if he had the endorsement of Professor Moore and the Wisconsin College of Agriculture?" "No, but Moore likes them, he likes them very much." Knowing Mr. Moore's slowness to grab a good thing for the farmers of Wisconsin, much to Mr. Man's disgust, we did not trade. A diligent inquiry on my part has unearthed but one lot of these wonderful oats. One hundred bushels from 4 bushels of seed and an investment of $12 sown in the Garden spot of Dane county. While 4 bushels of our own Pedigree No. 1 oats gave me 150 bushels. This is not told in the expectation that any member will do likewise but rather that you will see some of the tricks which farmers have to meet and which we must overcome for their good and incidentally for our own.

In the light of the awful sacrifices of France, of Italy, of Belgium, of England, of Serbia and the rest of our Allies, to save themselves and us from the terrible fate which the modern Atli has planned for them and no less for us, we can never be forgiven unless we strain our effort to the breaking point to increase the production of foods and fat. For in the final analysis when the last battle is won and the war is no more, bread will be the bullets that bring peace.

In closing, we have the grain, we have the organization, we have the will to increase the 1918 crops manyfold, and may we be permitted to live, if we may, and die, if we must, for the glory and the honor of America.

PRIZE WINNING EXHIBITS OF WHEAT, OATS AND BARLEY, 1918 GRAIN SHOW

SECRETARY'S ANNUAL REPORT FOR 1917

R. A. Moore, Madison

Members of the Wisconsin Experiment Association and Fellow Agricultural Workers:

Another year has rolled around and it again becomes my duty to present to you my sixteenth annual report of the Wisconsin Experiment Association. It is needless to say that the Association has made great strides and the good results are radiating out to all parts of the world in rapid succession. In usefulness the Association has surpassed the fondest expectations of all its admirers, and we at times stop to think of what the ultimate outcome of the great pure bred seed grain work will be.

Dissemination of Pedigree Seeds

At first the Association began by supplying neighboring farmers with the Pedigree seeds. Then it expanded so that members of the Association began to ship over the county line, and later over the state lines, and now to foreign countries, so consequently the good work of the Association spreads broadcast over the entire world.

This past year, beset with trials and difficulties, has been a serious one for the Association. Our country is in the throes of a great war, and the Association feels it as probably no other organization in the state. It is the purpose of this organization to furnish the seed which produces the food for our own and allied armies, and consequently we have accepted the task which carries with it the burden that it is now our duty to perform. I know that not a single member will hesitate in doing his just duty toward his country, and that all will be ready to put in a little more time, and sacrifice a great many things which have

heretofore been a pleasure for the sake of winning the war. It is no place for us to hesitate, but true to the principles which we inaugurated when the Association was organized will we go forward putting forth every ounce of energy that is within us until we succeed in establishing truth, principle and liberty throughout the world to large and small countries alike.

In order to win the war our country is in need of funds and it is the sincere hope of your Secretary that every one will set aside sufficient funds from the sale of pure bred seeds to invest in Liberty Bonds. There is no safer security in our country, and our patriotic duty is to loan, if possible, practically every cent that can be spared until our country emerges from the difficulty in which she finds herself plunged. With this end in view the Experiment Association will put forth every ounce of energy within it to carry out these views.

Membership

The membership of our Association is very gratifying having reached the mark of 1,371 at the close of 1917. This healthy growth of the Association since its organization is exceedingly gratifying. Even in these trying times the membership holds up close to the high water mark. The membership stated are all those who paid up, down to the close of the year. Our bona fide membership is much larger as none of the members are listed who had not paid their fee during the past year. These, of course, will pay fees later, so consequently the bona fide membership of the state association is very close to 2,000 instead of 1,371, as reported.

Nearly all of these members are doing active work and live on farms; all acting with the one common purpose in mind—that of forever eradicating scrub seeds from our state and placing on the farms of the state and elsewhere the pure bred Pedigree seeds.

County Orders

The number of County Orders has gradually increased until at the present time we have fifty-three counties under organization with a total membership of approximately 3,000.

Alfalfa Order

The Alfalfa Order of the Experiment Association has gradually increased its membership and its capacity for doing work until it now has a membership of nearly 1,000, all active, live wires, that are doing a grand good work in the way of dissemination of better methods of growing this great crop alfalfa.

Hemp Order of the Experiment Association

One of the last units to be added to the Wisconsin Experiment Association is known as the Hemp Order. This combines into one great working body the hemp growers of Wisconsin. It may be interesting for the members of the Experiment Association to know that nine years ago the Department of Agronomy started hemp growing work in this state. It has taken many years to receive the fruits of our labor, but the work has gradually advanced and at such rapid pace of late years that it seemed the best for all concerned to have these growers helped by uniting with our Association. It may be interesting for the members to hear that last year nearly 8,000 acres of hemp were grown in Wisconsin, and the prospects the coming year are that approximately twice that amount will be sown. Wisconsin now ranks as the second state in America in growing hemp, and has more up-to-date hemp machinery than all other states combined.

One of the great difficulties that can be solved for the hemp growers is the production of hemp seed. There is no reason why the members of our Association cannot do well by growing seed for the members of the Hemp Growers Order and help out in this worthy line of effort.

Professor Wright who has been assigned this line of effort during the past two years has made excellent progress on breeding such varieties of seed as will mature good hemp fiber in this state. We feel that in order to succeed we will be obliged in the end to grow most of our own seed instead of letting other states do it for us, so consequently we are offering considerable hope to the members of the Hemp Order, and we sincerely trust that these hopes may be fully realized in the end.

Seed Inspection

We were not able to do the large amount of seed inspection in 1917 that we did the previous year. This was largely brought about by the change that had to be made through the resignation of Mr. Garland. Considerable additional work was heaped upon his successor so that we were not able to visit and report upon the large number of members that we did heretofore. However, in each and every case the membership was requested to send in bona fide samples of their seed before and after cleaning. This was done, and a line as to the quality of seed was secured in this manner. While this method is not considered as good as the personal inspection of the farm and seeds, yet it was the very best that could be done. We have great confidence, however, in the honesty of members and it is only once in a great while that any questionable seed is put on the market.

Exhibit of Pure Bred Seeds

The exhibit of seeds made at the last annual meeting of the Experiment Association was certainly a credit to the members, and we trust that this good work of competing in a friendly way with the Pedigree seeds will continue to be one of the features of our future annual meetings. The exhibition room is really an educational field where all have an opportunity of viewing the very best that can be produced in the land, and get a mental picture of what are almost perfect seeds of the various kinds. This mental picture is then carried back to the farms and an opportunity for emulation is secured by the members who attend these shows. It seems to me there is no member of the Association that can afford to stay away from the annual meeting of the Association. The life of the work is bound up in progress, and unless members attend our shows from year to year they undoubtedly will soon drift behind in this worthy line of effort. Consequently it is the wish of your Secretary to remind every member of the Association that it is his duty to be present. We like to have every member exhibit, but if one is not fortunate in having seeds that can be exhibited he should be present at least in person to help on in the discussions and

learn the most up-to-date methods relating to pure bred seeds that are brought before the Association.

Pure Bred Seed Grain Train

A Pure Seed and Home Power Special was run throughout the state. Twenty-seven meetings were held and something in the neighborhood of 7,000 people attended. A full account of the success of this enterprise was written up in the 15th Annual Report. I wish to call the members' attention to it, however, so that they will read and think over this matter more carefully. We hope that this line of effort can be continued another year as in my estimation no one act of the Association has so thoroughly fixed in the minds of the people the value of the Pedigree seeds as the lesson taught on the pure bred seed grain special.

County Fairs

At the many County Fairs listed during the past fall, one of the things in particular that pleased me was the fact that members of the Wisconsin Experiment Association are lending a helping hand towards putting up pure bred seed grain shows and exhibiting at their County Fairs. This, of course, should be encouraged and emphasized as the County Fairs are becoming more and more educational in character and I feel that this has been brought about quite largely through the energetic efforts of members of the Association to emphasize lines of educational efforts at such County Fairs. While considerable has been done along this line of effort, yet it does seem to me that there isn't half as much done as should be, and I hope that members of this Association will fully realize the importance of the fact that they are not only growers of pure bred seeds but disseminators of the best agricultural thought. In order to do this line of effort, it is the duty of every member of the Association to prepare exhibits for his County and State Fairs, and also the State Association meeting at Madison.

New Lines of Work

Several new lines of effort will be undertaken this coming year, and I cannot too thoroughly emphasize at the present time

that all members of the Association should be sure and treat all seed grains for the prevention of smut and other diseases. We feel that the people of the state are already beginning to lose quite a percentage of oats from smut. There is no necessity for any loss at all as the method of treatment is simple and very effective. A bulletin giving full information concerning the treatment of grains for smut can be secured by dropping a card to the Wisconsin College of Agriculture.

Sweet Clover

During the past year considerable effort was put forth in the way of growing sweet clover as a farm crop. Some successes were scored, but we have recorded a large number of failures, or at least partial failures. We hope after the present annual meeting to have much new information on this particular subject.

Alfalfa

A great expansion has been made in the growing of this great field crop. The Alfalfa Order of the Experiment Association under the able management of Professor Graber is largely responsible for the leaps and bounds made in this excellent line of endeavor. In a single year 54 tons of seed were sent out for dissemination purposes, and our acreage has gone up steadily until we are now credited by the United States Government with having 72,000 acres into this great milk producing plant. We are going on at a very rapid pace, and are having less failures and more successes.

Soy Beans

The growth of the soy bean has gone forward steadily and is now of great importance to that portion of the state known as the sandy district. Soy beans can be grown on very sandy land providing they receive the proper inoculation. This is easily accomplished by securing a pure culture from the Wisconsin College of Agriculture, or by sprinkling on the seed before

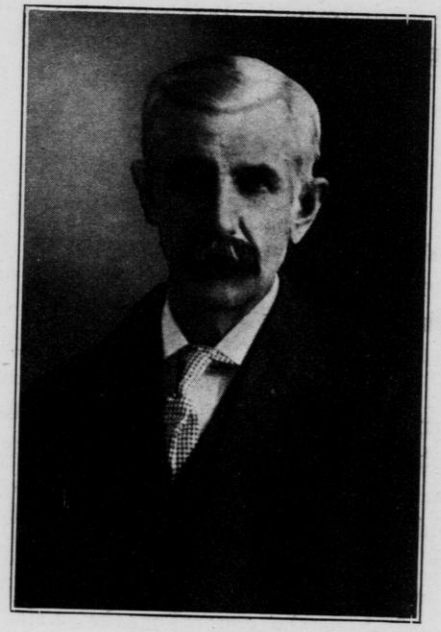
planting some of the bacteria laden earth taken from a field where beans have been grown successfully.

A limited number of soy beans will again be distributed to the members of the Association this year as we wish to expand that line of effort. Many silos are now filled with soy beans, and a great deal of exceedingly fine hay is put up in the dairy districts of the sandy regions. It is safe to say that the soy bean is filling a long felt want. Any member who is not supplied with the soy bean bulletin can receive the same by merely asking for it.

Field Peas

A line of effort which has not received the emphasis that should have been placed upon a crop which is of so much importance is that of growing field peas. Through the old common varieties the growing of field peas has been somewhat on the decrease. Prof. E. J. Delwiche of the Branch stations has recently gotten out several Pedigree strains of field peas which give much higher yields than the common varieties, and are much more uniform in their growth. It seems that, with the high price that field peas now command, this should be a very profitable work for members of the Association to engage in. There is no reason why for seed peas there could not at least $1.00 a bushel over and above the general market price be secured, so consequently I urge with considerable emphasis the going into this line of effort. At the present time seed stock of field peas and canning peas could be secured by addressing Prof. E. J. Delwiche, Northern Branch Station, Farm, Ashland, Wisconsin.

Considerable emphasis has also been placed upon the growing of canning peas, and a steady demand for good seed stock has been made by our canning factories. It would seem to me this line of effort ought also to be a profitable one for the members of our Association.



CHARLES MORGAN

Memorial

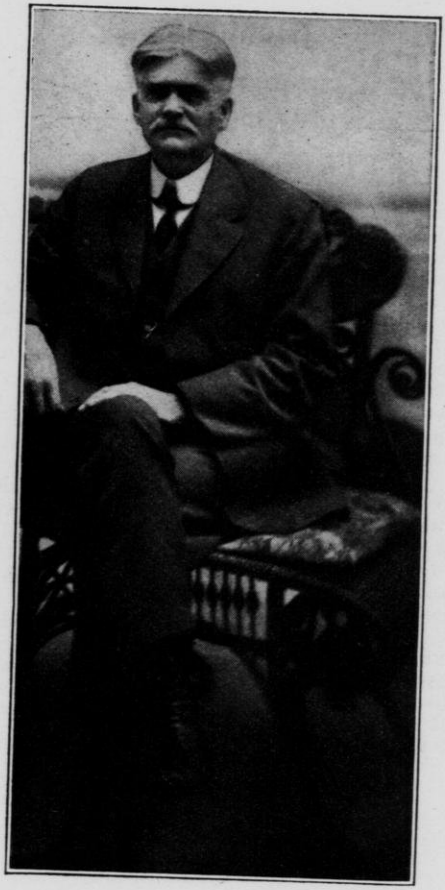
CHARLES MORGAN

Once more the grim reaper has called from his ranks one of our faithful and true workers and it is with regret that we announce his departure from this life. Charles John Morgan was born in Brecksville, Ohio, February 27, 1851. In the fall of 1852 he came with his parents to Monroe, Wisconsin, where he lived till the spring of 1903. From that time until his death, he lived at Albany, Wisconsin.

He served his townshp and county a number of times in various offices. He was numbered among the progressive stock raisers of Wisconsin and his advice and counsel in business was often sought. He leaves a place in the ranks of mature business men of his community which is hard to fill.

When he was a boy fourteen years of age he assumed the responsibilities of his father's farm. The work was hard in those days and the burden heavy for the shoulders of this growing young boy, but he made it possible for the younger brothers and sisters to enjoy advantages denied to him. Such worldly possessions as he had were the results of his own endeavors. The Golden Rule was well exemplified in his life. To those who are left to grieve his loss he will be remembered for this loyalty to any cause which he thought was right.

The Wisconsin Agricultural Experiment Association has lost one of its faithful members and extends its sincere sympathies to the sorrowing relations.



JOHN S. EASTMAN

Memorial

JOHN S. EASTMAN

Another member of the Association has just answered the final call, that comes to all of us in due time, and taken his departure for the Great Beyond.

John S. Eastman of Madison, who for many years has been a loyal member of the Association and deeply interested in its work, died after a brief illness Thursday evening, April 25, age 58 years. Mr. Eastman was an electrician by profession but dearly loved agriculture and owned and operated two large farms near the place of his birth. Spartensburg, Pa. His earnest desire was to grow and disseminate pure bred seed grains and better farm conditions in his native state. He was called home to his Maker before his plans had been fully carried out, but we feel sure that the noble work he started in agriculture will live after him.

The writer was intimately acquainted with Mr. Eastman for many years and knew much of his inner life and noble purposes. It can be truthfully said of him that he stood for the better things of life and in his modest way gave much encouragement to his fellow man. For many years Mr. Eastman was active in temperance work and put forth his earnest efforts to make Madison a better city to live in.

He leaves a wife, young son, mother, three brothers and four sisters to mourn his loss.

The members of the Wisconsin Experiment Association feel his loss keenly and wish to convey their earnest sympathy to his wife and son and sorrowing relatives.

MARKETING OF PURE BRED SEEDS

HENRY MICHELS, MALONE

In the season just beginning the marketing of our seeds should receive more attention than ever before in spite of the fact that it will be easier to find a market than in ordinary years.

The supply of high class seeds of all kinds is going to be very short. There is but little corn. Clover and grasses made a light crop. Rye is coming into prominence because of its value as a wheat substitute. Oats are high in the market and farmers are going to prepare for a better crop by sowing better seed. The Kherson strains in particular are becoming very popular. Wheat will be in great demand as the acreage is increasing from year to year.

In our eagerness to get all the business we can, we are likely to disregard the fellow at the other end of the deal and ship something that may be not entirely to his satisfaction nor our own best interest.

We can never harp too much on keeping up the highest standards in the seeds we send out. We make a bid for the seed business on the strength of our argument that the Experimental Association stands for the best qualities of the best strains of seeds obtainable.

It is the duty of each individual member every time he makes a sale to live up to the reputation that the Association has established through long years of patient effort.

We must not lose sight of the fact that the Association makes it possible for us to do business as we are doing it and that every deal we make must be of such a character that the reputation of the Association will not suffer.

We collectively are the Association, and every act that reflects unfavorably on the Association will come back to the individual sooner or later.

Successful enterprises are founded upon the theory that a satisfied customer brings another and every deal must be made with an eye to the future.

Honesty and fairness must be the foundation upon which a business must be built if it is to be successful in the long run. Highest quality must be the aim. Every man must try to do his part a little better than the other fellow is doing it.

No seed grains should be sent out without being thoroughly fanned and screened. Even pedigree seeds will not yield well if light shrunken kernels are used.

Noxious weeds in seeds cannot be excused under any circumstances. The customer who pays good money for pedigree seed, does so in the hope that it will yield him a greater profit from his land. If he increases his yield by a few bushels per acre but at the same time finds patches of quack grass, Canada thistle or other bad weeds start up where the pedigree seed had grown, he is not likely to be pleased with his bargain.

It goes without saying that varieties must be kept strictly pure. Grains mix easily in the seeder, by the threshing machine, and in the bins and great care must be taken to avoid this. Corn will mix some under the best conditions obtainable through cross pollenization in the field but every effort must be made to eliminate off colored kernels and cobs.

Marketing seeds of high quality if undertaken in a business-like way is a very pleasant undertaking. Customers appreciate a square deal and their words of commendation are a source of great encouragement.

The average customer is honest, he does not demand more than he pays for, he is reasonable in everything and on the whole is a good fellow whose friendship should be cultivated. The seller who regards his customer only as a source of money and treats him accordingly, makes a big mistake, not only morally but from the financial standpoint.

It is only natural that a man engage in the seed business for the sake of the money he can make out of it. But the man who

looks at this side of it only and does not cultivate the friendship of his customers must have a hard conscience.

The best way to get the confidence of a prospective customer is to let him know that you stand squarely back of anything he may buy of you. If a customer has been disappointed in what he receives, it will not improve his regard for you by quibbling. I firmly believe in giving the broadest kind of a guarantee.

In a prominent place on every piece of literature we send out we plainly inform the customer that he himself is to judge whether he has received full value for his money and if he does not think he has we want him to return the seeds and we will refund the full amount he has paid us with transportation charges both ways.

It is very rarely indeed that a customer will take an unfair advantage of us and it has cost us practically nothing to live up to the guarantee. Besides, we know we get a great many orders that would not otherwise come to us.

Of course in a business of any size, most of the orders will come through the mails, and the management of this calls for close attention to the best recognized business practices.

A good many sales can be made to customers who have been directed to the member either through the secretary's office, the sale list or other literature published by the Association. But a member should not expect the Association to be his advertising agent.

This organization was established for the purpose of increasing the production of our farm crops and not to furnish an outlet for our surplus seeds. The business we get through inquiries received by the secretary's office is incidental to our work and is not the prime object of the Association. Each member must manage the selling end of his own business. The better he manages it the bigger it will grow.

The principals involved in the disposition of seeds from grower to planter by mail are the same as those which govern any mercantile mail order business.

The first step in the sale of seeds is to inform the man who wants to buy that you have the goods he wants. You must go to him before he can come to you. The best way to bring buyer and seller together is through advertising.

An agricultural paper is to be preferred to a general newspaper as its entire issue goes to farmers. Farmers of all classes whether live stock raisers or grain growers are in need of seeds every year so there is little to choose between a general agricultural paper and one that is devoted strictly to live stock.

In the case of newspapers, not only does a large percentage of the edition go to city people who are not interested in seeds, but a prospective purchaser knows that he can get in touch with the man who has what he wants more surely through a farm paper which caters to the farmers' needs in particular.

There may be instances where economical results can be obtained by using the home newspaper, but judging from my own limited experience, I would say that such cases were rare, and that such advertising, even though the rate per line or per inch is low, is expensive when the proportion of sales to advertising expense is considered.

The particular farm paper or papers to use would depend largely upon the seed to be sold.

In general I would say, "Try to get in touch with Wisconsin people, by using Wisconsin papers."

Wisconsin farmers buy more improved seeds than do the farmers of other states because the work of the Association has brought them to realize their superiority more fully. Also farmers will generally prefer to buy in their own state to save freight charges. Choose a paper which has a large circulation in the territory which you wish to reach.

Advertising space in a high class paper is very expensive and all that should be attempted is merely to inform the reader that you have what he wants. If he is interested he will write for further information and prices.

Having obtained the names of parties who are interested in seeds, the next step is to induce them to become customers. The reply to an inquiry may be made either in the form of a written letter or printed circular, or both. The reply should give the prospective customer all the information he needs in regard to breeding, productivity, germination, purity and prices. The seller must claim for his goods all they will stand but no more. Unreasonable boasts or bluffs never get a customer.

Every statement must be clear and easily undestood so the reader gets the impression that he is about to deal with a square man.

It is of utmost importance that all correspondence be taken care of promptly. There is little excuse for not answering a letter by return mail. If letters are left to lie around for several days until a number have accumulated the answers are likely to be written hastily, penmanship will be careless, explanations be inadequate, and in general the prospective customer will be given the impression that you do not care enough about his business to give it your thought and time.

A buyer so slighted, usually does and is entirely justified in giving his order to someone who gives him better treatment. We must never lose sight of the fact that successful marketing of seeds require just as careful methods as the marketing of any other commodity, and that, other things being equal, the man who is the most careful in looking after the smaller details is the one who gets the business.

There is no other mark that betrays carelessness so surely and so quickly as the failure to give all matters prompt attention. If a correspondent has to wait a week before he gets an answer to an inquiry, he is fully justified in believing that the shipment of his order will be delayed still more.

Samples should be sent in all cases whether they are asked for or not. The sample must represent the actual condition of the seed as it will be shipped out. If it is better cleaned or in any way superior to the seed sent, it will result in a dissatisfied customer and a permanent loss of trade from that customer and all others with whom he communicates. The sample need not be large. One which can be mailed with the letter without necessitating extra postage is usually large enough.

Of course if a large order is in sight, a liberal size sample sent under cover of a separate mailing envelope will do no harm. Sample ears of corn should not be sent. It is as impossible to convey a correct impression of a lot of corn by sending one ear as it is to form an idea of the quality of a sack of barley by examining one kernel. It is harder to actually sample corn than other seeds especially if the sample be small.

The seller should always bear in mind, that a person who is in the market for any considerable quantity of seeds usually addresses inquiries to a number of parties, and the one who finally gets the order is the one who the customer believes will give him the satisfactory deal.

After receiving an order, the earlier seeds can be shipped the better. In the early part of the season when seeds will not be needed for sometime and when orders are not coming in fast, it is permissible in most cases to delay the shipment a few days, but later in the season shipments must be made at once as customers are then in a hurry and will worry about any unaccounted for delay.

If shipment is not made immediately, he must be told at what date it will go forward. The bill of lading should be mailed immediately after the shipment is consigned. It is not enough to merely send a card saying that goods have been delivered to the railroad.

Shipment should be made in substantial packages. Burlap sacks are not suitable for shipping seeds. They are likely to be torn in shipment, and they are almost useless to a customer after he has emptied the seed from them.

We make all our shipments in 16-oz cotton grain bags and charge market value for them. Packages should be made to look as neat and attractive as possible, but an artistic shipping tag and fancy box will not make up for a deficiency in quality but rather serve to set it off. It may seem unnecessary to call attention to the law which requires shippers to state name of variety, purity and germination percentages on shipping tags, but I know it to be a fact that some of our members fail to do this.

Not only is this a violation of the law punishable by a fine, but it inspires a distrust in the customer and his future orders are likely to be sent to a law abiding seedsman.

The duty of the shipper does not end with the delivery of the seed to the railroad. He must be willing to help trace delayed shipments for a customer, and in case of loss or damage he is the man who should file the claim for damages against the railroad as he is more familiar with the steps necessary to take than his customer.

Finally the shipper must stand ready to promptly refund money to any customer who is not satisfied even though it may seem that he expected too much. In short the entire treatment of the customer from the time that his inquiry is received until after the seed has been delivered must be such that he will order again. Besides one word which he may say in your favor to a

neighbor or a friend of his who is in the market for seeds, will do more for you than the best circular you can get out or the most convincing letter you can write.

Neither a seed business nor any other business can ever be made a permanent success if a new customer must be found for every sale that is made. If it is true that a new sucker is born every minute, it is just as true that every one that is caught makes enough of a splash about it to serve as an effective warning to all others who may be within hearing distance. As hearing distance is very great in these days of telephones and fast mails, the fishing soon becomes very poor for the man who does not give a dollar's worth for every dollar received.

A summary of all I have said can be put in the shape of Ten Commandments which govern the conduct of a successful seed business:—

First—Have a high grade article.

Second—Advertise it.

Third—Answer each inquiry honestly, promptly, fully, clearly, intelligently, individually.

Fourth—Use printed stationery and if the business is large enough to warrant it, use a typewriter.

Fifth—Keep your books in good shape so as to avoid mistakes. Unintentional errors are a most fruitful source of dissatisfaction.

Sixth—Ship seeds promptly, in substantial packages, and strictly of the same grade as promised.

Seventh—Be willing to trace delayed consignments for your customers and put in claims against carriers for damaged shipments.

Eighth—Back up your goods with the most liberal guarantee you can give even though it may seem that you are giving the customer too much leeway.

Ninth—If you are in the habit of getting out a printed circular, send one to each customer the next season as a reminder that you are still in business.

Tenth—Make your customer understand that your interest in him does not cease as soon as you have his money.

SEED GRAIN TREATMENT

R. E. VAUGHAN

Wisconsin Experiment Station.

More grain with less labor is the call of the day. The country needs an increased amount of wheat, barley, oats and rye and we must make every acre produce its greatest yield to meet this demand. Last year grain smuts and blight caused a considerable loss of the crop. Oats smut for example took a toll of about three million bushels representing monetary loss of nearly two and one-fourth million dollars, a loss which could have been largely prevented by seed treatment. Seed Treatment then means ammunition to win the war. Many farmers treated their grain last year, so that if it was not reinfected from nearby smutty fields or threshing machines, it will not be necessary for them to treat this year.

Barley stripe is a relatively new disease in our barley fields, but last year it caused large losses especially in the southern and eastern counties. It is known to cause more trouble when the season is cold and wet after the seed is put in the ground. The slower growth of the young plants seems to give the fungus a greater opportunity to get in its destructive work. The disease is spread by spores with the seed the same as with smuts. But unfortunately, the common dipping or sprinkling, which will control smut, will not control the stripe. However, stripe can be controlled if the seed is soaked in the formaldehyde solution for two hours. The strength of formaldehyde to use is one pint or pound of the strong commercial 40 per cent strength to 30 or 35 gallons of water. Put the seed you are going to treat in gunny sacks and submerge them in the solution in a barrel or tank. Stir them around a few times and when the two hours

is passed, drain and dry on a clean barn floor or canvas. Shovel over a few times to hasten drying.

The seed plot offers a solution for the farmer who does not have time nor labor to treat all his barley this year. This method is to soak seed enough for a few acres which should then be planted alone where it will not be contaminated by spores of the stripe blowing in from nearby fields. When mature, the grain from this plot should be threshed separately and kept by itself and used without treatment for the general crop next year. The 2-hour soaking will clean up all of the covered smut as well as the stripe and practically all of the loose smut.

Seed treating machines are coming into use in many places and are giving good satisfaction in controlling smut on oats, stinking smut on wheat and covered smut on barley. A number of our county agents have these machines and will loan them to the farmers in their counties this season. The treatment with the machines is often not quite as efficient as the short soaking but it has the advantage of requiring less labor.

The "dry method" of seed treatment has been very successfully used in controlling oats smuts. It has not been tried enough with barley, wheat and rye so that it can be recommended for these grains. The treatment by this method is to provide a quart hand atomizer or sprayer and fill it with a formaldehyde solution made up from 1 pint of the strong 40 per cent formaldehyde and 1 pint of water. Hold the atomizer near the grain and spray on the solution as the grain is being shoveled over. The quart of solution is sufficient for 40 to 50 bushels of oats. When the spray has all been applied pile up the oats and cover them with a damp blanket, canvas or sacks for five hours or over night. They are then ready to sow or may be bagged up for future use.

The advantage of the dry method is that it may be applied several weeks before seeding as the amount of liquid applied is so small that there is no danger of the seed being injured by freezing, heating or sprouting.

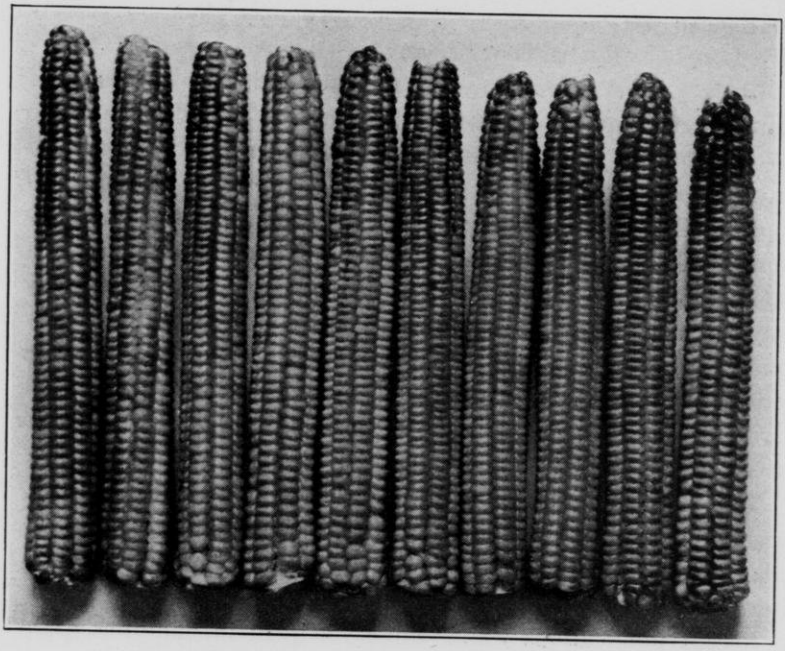
Ergot in rye can be removed by putting the seed into a 20 per cent salt brine. The ergot will rise to the surface and can be floated off leaving the clean rye. After separation the salt solution should be drawn off and the seed rinsed in clean water

to remove the excess of salt. The seed may then be quickly dried on a clean barn floor or canvas.

Black rust on grain causes large losses each year especially to spring grains and in seasons when there is considerable damp weather. Rust lives over winter on grain straw and grasses and in the spring spreads to the common barberry. It is here multiplied with great rapidity and returns again to the grains to start epidemics of rust. Seed Treatment is of no value in rust control and it is doubtful if rust can be entirely eliminated by any method. However, if the common European barberry bushes are pulled up and burned the rust will have no place to get a quick start in the spring. The small amount of rust that lives over in other ways will not be plentiful enough to cause severe outbreaks until after the majority of the grain is mature.

The common barberry is harmful. Dig it up! But fortunately the dwarf Japanese barberry is harmless and may be planted. In fact 10 plants of the dwarf kind are already being planted to one of the common tall kind.

Recent publications which will be helpful in handling grain diseases are: "Treat Seed Grains," Bankers' Farm Bulletin No. 56, March 1918; Wisconsin Experiment Station circulars: "Fight Grain Smuts and Blights," No. 57, revised, and "Ergot in Rye," No. 94.



PRIZE WINNING EXHIBIT OF SMUT NOSE FLINT CORN

Won by H. T. Draheim, Gotham, 1918 Grain Show.

GOLDEN GLOW WIS. NO. 12 CORN

First Premium Honorary Class, Won by J. Emmett, Brunker, Ridgeway, 1918 Grain Show

THE IMPORTANCE OF OFFICIAL CROP REPORTS

W. F. CALLANDER, Field Agent

Wisconsin Cooperative Crop Reporting Service

Never in the history of the United States have so many people and organizations been interested in food production as at the present time. "Food Will Win the War," meets the eye everywhere—but how are we to know whether we are overproducing or underproducing along any particular line? For many years the United States Government has maintained a crop reporting service, which publishes from time to time, reports on crop prospects and crop production as well as on numbers and value of live stock. These reports have been read and used to advantage by intelligent farmers in the marketing of their crops. Large commercial concerns have also been close students of these reports, in order to properly distribute their products, and the railroads have relied upon them to a large extent in the distribution of their cars for handling crops. People in general, however, have paid but little attention to the crop reports. Now, however, what we have produced on our farms and what we are likely to produce in the near future are matters of vital interest to everyone, and the crop reporting service of the United States Government cooperating with State agencies has become an important branch of the Government. Crop reports are eagerly read by many classes of people.

Without definite information of what is being produced, the United States Food Administration and other Federal and State agencies would be unable to intelligently formulate satisfactory food policies and regulations and those having charge of campaigns to increase the production of certain crops, such as wheat,

would be working in the dark without definite knowledge of what has been produced in the past. Furthermore, unless the approximate production of a crop was known, it would be impossible to determine the surplus available for export—a very important matter at this time.

In Wisconsin the work of crop reporting has been greatly improved during the past year by the combination of the crop reporting work of the United States Department of Agriculture and the Wisconsin Department of Agriculture, together with an improved law requiring assessors to gather crop statistics and send their reports direct to Madison. The final crop report for 1917 shows that Wisconsin has added to her acreage in crops since the last United States census, nearly 800,000 acres, or at the rate of about 100,000 acres a year. Many of the northern counties have practically doubled their area of cultivated land since the last census, while a number of the southern counties also show gratifying increases in cultivated acreage due to the drainage of marsh land. The change in acreage of the principal crops from 1909 to 1917 is shown below:

	1917	1909	Percentage increase	Percentage decrease
Corn	1,918,000	1,458,000	31	.....
Oats	2,250 000	2,165,000	4	.....
Winter wheat	93,000	62,000	50	.....
Spring wheat	146,000	75,000	95	.....
Barley	600,000	816,000	.....	26
Buckwheat	23,000	26,000	.....	11
Rye	410,000	339,000	21	.....
Beans	33,300	15,000	122	.....
Clover and timothy	2,647,000	2,499,000	6	.....
Alfalfa	72,000	18,000	300	.....
Potatoes	307,000	290,000	6	.....
Tobacco	48,300	40,400	19	.....
Sugar beets	18,200	12,400	42	.....
Cabbage	16,700	10,000	67	.....
Hemp	7,000	.....	.....	.....

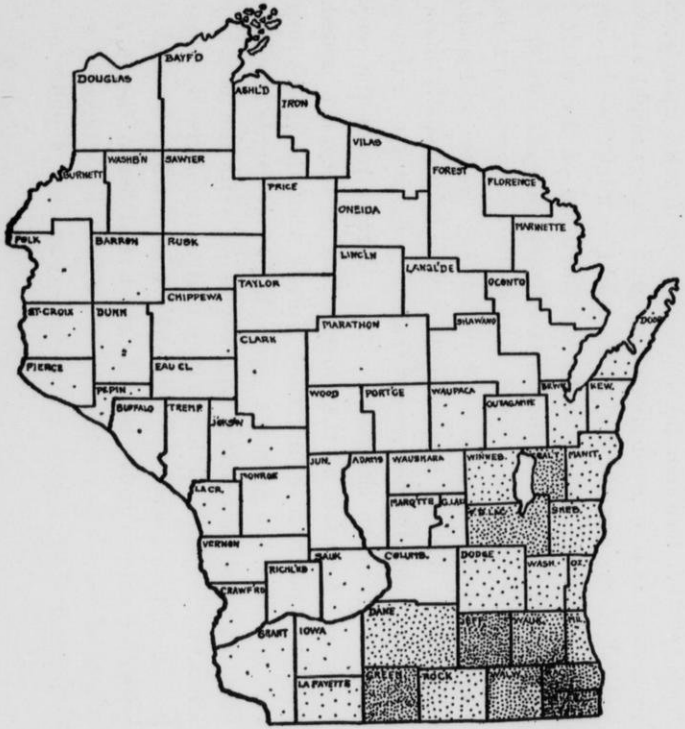
It will be noted that alfalfa shows the greatest relative increase. The distribution of this crop in 1909 and 1917 is shown on the accompanying chart.

Definite information as to the acreage and production of crops by counties for the State has been furnished to the Agricultural Extension Service of the College, as well as to other State agencies engaged in campaigns to increase crop production.

ALFALFA

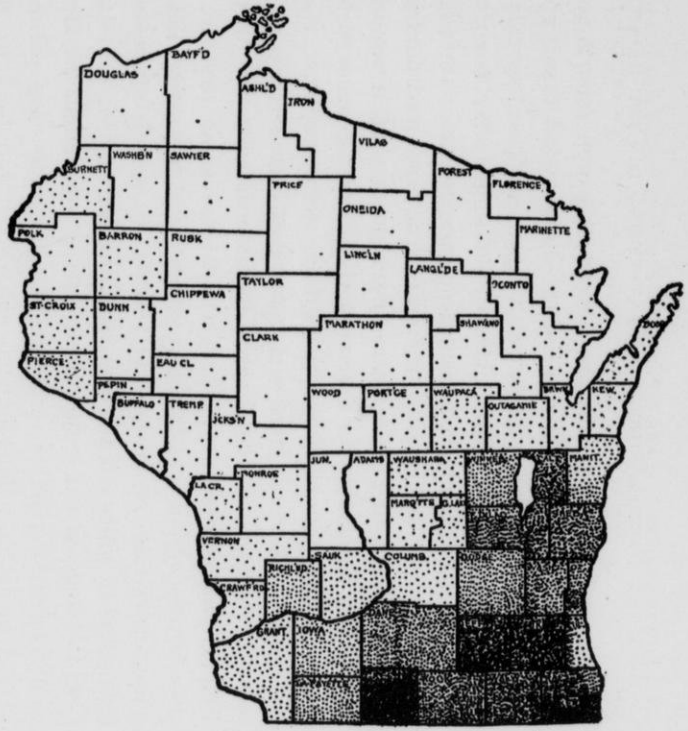
A 300 per cent increase in the acreage of alfalfa since 1909.

1909



Total acreage, 1909—17,986 (Census)

1917



Total acreage, 1917—72,069 (Assessors)

1 dot represents 10 acres.

Why the Farmer Should Be Interested in Crop Reports

Few farmers realize why the Government crop reports are of importance to him. Many are of the opinion that these reports are gotten out more for the benefit of grain and food speculators than for the benefit of the farmer, but such is far from true. Were it not for the Government crop reports, speculators interested in raising or lowering prices of farm products would issue so many conflicting and misleading reports that it would be practically impossible for anyone without great expense to form an accurate estimate of crop conditions and prospects. Farmers would suffer most from such conditions because they are not so well organized as other lines of business, nor are they in position to take advantage of fluctuations in market prices. The disinterested reports of the Government tend to prevent the circulation of false or misleading reports by speculators who are interested in controlling or manipulating prices.

If the Government crop reports were discontinued, the farmer would have no reliable information concerning crop prospects except in his own immediate neighborhood, and for crop prospects in other localities he would have to depend upon such information as interested speculators and dealers might choose to publish in the newspapers, which might or might not be correct. Prices are controlled more by the condition of the whole crop throughout the State or the United States and even foreign countries than by local conditions. The entire wheat crop of a county may be destroyed and yet the prices may be low or his county may have a bumper crop and the prices be unusually high, depending upon whether or not there is a surplus or a deficiency in the entire crop elsewhere. If the farmer reads the crop reports and forecasts of the Government as they are issued, he will be in position to judge for himself what the crop prospects are, as well as the probable prices, so he can decide intelligently how to market his produce and how to deal with the local buyers. Even the farmers who do not keep posted are indirectly benefited by the publication of Government crop estimates, because these estimates automatically tend to check and lessen the injurious effects of false reports sent out broadcast by interested speculators and their agents, in the same way that a police or con-

stable force tends to check but not entirely prevent crime in a community.

Large manufacturing concerns, agricultural implements and hardware dealers and jobbers, who neither buy nor sell farm products, are much interested in crop prospects. This knowledge enables them to distribute their wares economically, sending much to sections where crops are good and farmers will have money to buy and less to sections where crops are short and farmers will have less to spend. By avoiding heavy losses from improper distribution, manufacturers can afford to sell on better terms with resulting benefit to farmers.

The railroads of the country, which move the crops from the farm to the market must know in advance the probable size of the crop in order to provide a sufficient number of cars to handle it effectively and without delay. Cases are not infrequent when prices of grain or other products at railroad stations are reduced or there is absolutely no sale for the grain, because cars are not available for shipping, the farmer thus being among the sufferers.

SWEET CLOVER

As a Soil Builder and Feed Crop

W. P. GRAHAM, Rochelle, Ill.

I have been asked for the manuscript of an address delivered by me at the University of Wisconsin, recently, on the subject of Sweet Clover, to the end that it might be published in the Sixteenth Annual Report of the Wisconsin Agricultural Experiment Association. The following is a reproduction, as near as may be, of the main points brought out in my address.

During the last eight years I have been raising Sweet Clover on my farms at Rochelle, Illinois; first, as an interesting experiment; second, as an established and permanent branch of my farming operations. Raising Sweet Clover has passed the experimental stage on my farms and has become, instead, an essential and indispensable feed and fertilizer crop.

Sweet Clover is destined to play so important a part in soil building, at the same time producing prodigious quantities of feed, that it might be best to consider the plant from that angle, first.

I began growing Sweet Clover after I had tried, unsuccessfully, to grow the other clovers and alfalfa. I had found the other clovers and alfalfa unsatisfactory and uncertain, owing to certain climatic and soil conditions in Northern Illinois.

My experience with ordinary clovers and alfalfa was that, if I did not lose the stand in the dry summer weather, or by overpasturing, I would lose it by freezing in the winter or Spring. I found that red and mammoth clover and alfalfa kill very easily, if pastured closely in the Fall. I also had trouble with cattle bloating, when pasturing these crops in the early Spring. These legumes are not successful as seed crops in my section of

the State. I have never been able to find where these plants have proved satisfactory as silage.

I had been working to evolve a system whereby I could produce feed—and plenty of it—from the same land and during the same season that I raised a cash crop, at no expense to my cash crop and, instead of robbing the soil, build up the soil year by year. To accomplish this ideal result, I was compelled to forsake the ordinary clovers and alfalfa and turn to a drouth resisting and comparatively frost proof plant. Hence my first experiments with Sweet Clover.

I have found that Sweet Clover does not succumb to drouth or to freezing which readily kills the other legumes. I have found that Sweet Clover may be sown with any of the small grain crops without detriment to the latter. I have found that I can raise a good crop of summer pasture, hay or silage along with the grain crop, thereby insuring a cheap by-product crop of feed without interfering with my cash crop. I have found that Sweet Clover, instead of robbing the soil, actually produces an excess of humus, nitrogen and even some potash.

As a feed for stock Sweet Clover is now recognized as a balanced ration and is equal to alfalfa in nutrition. Sweet Clover has the added advantage over other legumes in that it can be utilized as silage. Instead of using my cash crop for ensilage, I am able to utilize Sweet Clover, grown strictly as a by-product, to fill my silos.

I then began to work upon the problem of a cheaper and more profitable method of cattle feeding—putting on flesh at less cost. The plan of cattle feeding, as followed during the last 15 to 20 years, has not been a sure-profit plan. I felt convinced that the only way to eliminate the risk in cattle feeding was to produce a silage from a by-product crop, and use less of the cash crop in fattening cattle. I have found that Sweet Clover makes this possible.

I have placed my feeders on Sweet Clover pasture in the Fall after the nurse crop was removed, and had an average gain of 3 lbs. per day per steer for 60 days. The steers were then placed in the feed yard and fed on Sweet Clover silage and an average of 19 lbs. per steer of ground ear corn. On this ration the steers gained an average of 3 lbs. per day per steer, for 30 days. As

an experiment, I then gradually increased the corn ration to 32½ lbs. per day per steer for 30 days, and the steers gained only 2¾ lbs. per day per steer, though upon a more expensive ration than the previous 30 days. Thus I proved to my entire satisfaction that I could fatten my steers on feed containing a *preponderance* of a *by-product* crop and make them gain in weight as fast, if not, indeed, faster, than by feeding my high priced cash crop.

Personally, I have not experimented with Sweet Clover as a feed for dairy cows. I have never engaged in the dairy business. However, wherever Sweet Clover has been used as feed for producing milk, it has been found to be equal to any other forage. As an instance, Prof. R. A. Moore, of the University of Wisconsin, related to me the experience of a dairy farmer not far from Madison. Having removed the nurse crop with which Sweet Clover had been sown, this farmer found that he had a good stand of Sweet Clover and he turned his cows into the field. Within three days the cows were producing double the amount of milk that they had produced just before going onto the Sweet Clover pasture.

Considering the fact that Sweet Clover can be produced as a by-product crop; that it is available for pasturage as early as the middle of April, and in the Summer and Fall when the ordinary pasture is useless; that it is as good a milk producer as any known forage; that the milk produced is strictly a by-product and is therefore a profit over and above the cash crops raised; that, in spite of either drouth or frost, the dairyman is insured a plentiful supply of feed for his dairy stock; in face of these proven facts, it seems to me that Sweet Clover will be the solution of the ever recurring milk question which has caused so much trouble during the last year, and previously.

After eight years of careful experimentation and actual experience with Sweet Clover as a Soil Builder and Feed Crop, I have confidently come to the following conclusions:

1. As a feed, whether as pasture, hay or silage, Sweet Clover is equal to any known forage crop, if, indeed, it is not the most balanced ration that can be fed to live stock.

2. Sweet Clover is the most certain crop that can be raised among the legumes, on account of the fact that it is both drouth

resistant and withstands the freezing conditions better, either in Winter or Spring.

3. As a conditioner for feeders, prior to putting them into the feed yard for fattening, Sweet Clover pasture is superior to any other feed, and the cheapest as well, as they are not only put into prime condition for the fatting pen but unusual gains are made at the same time.

PASTURING THE SPRING CROP BY APRIL 15.
GRAHAM FARM, ROCHELLE, ILL.

4. As a fattening feed, coupled with grain, Sweet Clover silage is superior to any other forage for putting weight onto feeding steers; this is probably on account of the presence of *cumarin,* which seems to act as an intestinal and kidney corrective and keeps the animals in perfect health.

5. As an available and cheap forage crop for dairy cattle, Sweet Clover seems to fill the niche ideally, as there is no question about an unfailing Summer and Fall pasture the first season and early Spring pasturage the second season's growth; while as a milk producer, Sweet Clover is the equal of any other forage crop, if not the best.

6. As a soil builder, either as a humus producer or as a nitrogen gatherer, Sweet Clover has no peer. It is well-known that Sweet Clover thrives only where the soil is inoculated with the nitrogen gathering bacteria. The root system of Sweet Clover,

which dies naturally every two years, and which penetrates the soil to great depths, containing, as we know, a high percentage of protein and carbohydrates, produces great quantities of humus. The disintegration of the roots is very rapid. It is claimed, also, that the roots of Sweet Clover lift potash from depths beyond the reach of ordinary crop plants. As a green manure, if, indeed, one could bring himself to plow under such a valuable forage plant, Sweet Clover surpasses any other leggume, on account of the prodigious yield per acre. Sweet Clover can be grown upon the poorest kind of soil and be made to build up such soil to a standard of average crop producing land.

7. As a rotation crop, Sweet Clover is the ideal plant, for the reason that it is a biennial and thereby makes it convenient if not compulsory, to rotate the crop every two years, with a very valuable by-product crop of pasturage or silage the first year, and two crops the second year, viz: either two months early pasturage in the Spring or a crop of hay or silage about the first of June, and a seed crop in the Fall together with a large crop of straw which can be fed as roughage or put into the silo. By this system of rotation the land is fertilized automatically and effectively every few years.

8. Throughout the Central States the land is usually deficient in lime. The lack of lime in the soil is more likely to be overlooked than that of any other necessary soil ingredient. It is one of the least expensive of all commercial products supplied to the soil, and perhaps the most neglected. To raise Sweet Clover successfully there must be an abundance of lime in the soil. The farmer who raises Sweet Clover, either as a feed crop or as green manure, will naturally be compelled to see to it that his land contains sufficient lime; thus, indirectly, Sweet Clover induces him to do what he otherwise may have failed to do, no matter how badly his land is in need of lime. The lime not utilized by the Sweet Clover will add to the productiveness of the land for any crops following.

9. To recapitulate: I have found Sweet Clover to be the most certain of all legume crops; to be the best conditioner for feeder steers; to be the best substitute in cutting the grain ration for fattening cattle; to be the most available and the cheapest dairy stock forage; to be the most ideal and practical rotation crop; and to be the one prolific crop that can be grown as

a by-product without either harming the nurse crop or impoverishing the land.

10. When the farmers have learned that Sweet Clover is not a "noxious weed" and begin to utilize it along the lines that my experience has taught me it can be utilized, then, and not until then, will the cry for feed, feed and more feed, at less cost, be truly realized. When beef and milk can be produced in the Great Corn Belt as a *by-product,* then will both the producer and the consumer feel that he has come into his own.

REPORT OF ASSOCIATION'S COOPERATIVE EXPERIMENTAL WORK 1917

H. W. ALBERTZ.

Sweet Clover Experiments

Seeded Spring of 1917.
Reported Fall of 1917.

The object of this experiment was to determine the advantages and disadvantages of different methods of seeding and the sources of difficulties, if any were experienced by the members.

The total number of members reporting were twenty-two, representing twenty different counties.

The methods of seeding used were as follows:

1. Hulled seed sown on fall grain.
2. Hulled seed sown with spring grain.
3. Hulled seed sown without a nurse crop.
4. Unhulled seed sown early.

Reports were received from members in twenty different counties in the state. Owing to an unfavorable year, very few secured a good stand. Several report that the stand was good until July and August. After the dry weather, much of it was killed out.

Seed sown on fall grain.

Four members reported as follows:

Good stand.
Hardly grew at all.
Fair stand.
Very uneven stand. Plowed it up.

Hulled seed sown with spring grain.

Thirteen members reported:

2 report fair stand.
11 report poor stand.

Hulled seed sown without nurse crop.

Two members reported:

15 inches. Good stand.
10 inches. Fair stand.

Unhulled seed sown early.

Seven members reported:

5 reported good stand.
1 reported poor stand.
1 reported failure.

Poor stands were reported on acid soils.

From the reports received this year it seems the best stand may be secured by sowing sweet clover early, preferably when some snow is still on the ground, with a winter grain as a nurse crop.

The reason for the better growth seems to be that the freezing and thawing in the early spring causes the extremely hard sweet clover seeds to germinate more quickly when the warm weather comes and thus gives it a good opportunity to make a rapid growth in the early summer.

The following extracts from the members' reports will show the results with last year's experiments:

Billie Johnson, Strong Prairie, Adams Co.
Sweet clover was a complete failure. The land was not limed nor inoculated.

Robert J. Plenty, Rice Lake, Barron Co.
It came through the summer quite well but was rather yellow in color.

Adam Holzschuh, So. Kaukauna, Brown Co.
Rape and sweet clover were sown for hog pasture. It grew over the rape until the dry weather set in, then it discontinued to grow.

A. J. Veith, Sun Prairie, Dane Co.
Did not inoculate. Stand is very thin. Good stand of medium red clover in a field adjacent to sweet clover.

Andres Bergum, De Forest, Dane Co.
Land was too loose for sweet clover. Barley lodged. Medium clover comes fine.

H. E. Krueger, Beaver Dam, Dodge Co.
Good stand with oats as nurse crop.

Roy McDonald, Menomonie, Dunn Co.

I had no difficulty in securing a stand this year or last year. I am confident that sweet clover will grow here. I planted a small plot of sweet clover about August 10th last year (1916). It grew to be 8 inches high in fall, wintered well and were the first plants up high enough for pasture in the spring. Cut the crop for hay in June. Crop was spoiled by rain. Second crop was cut for seed. Pods did not seem to be well filled.

Jos. A. Brunker, Ridgeway, Iowa Co.

Sown with barley as nurse crop. Grew to be 12 inches high in fall.

Frank F. Prochnow, Luxemburg, Kewaunee Co.

Sown in spring on winter wheat. Too dry. Did not grow after wheat was cut.

H. W. Whitehead, Rockland, La Crosse Co.

Fair stand, 8 to 12 inches high.

Walter Reich, Irma, Lincoln Co.

Hardly any sweet clover to be seen after the oats were cut.

Arthur Rusa, Ringle, Marathon Co.

Stand fair.

W. J. Niven, Dunbar, Marinette Co.

Tried several methods of seeding. Secured best results if sown early on winter grain.

F. D. Bailey, Prescott, Pierce Co.

Poor stand due to drought and weeds. Rye was not a good crop on this plot either.

Harold Frost, Almond, Portage Co.

Stand thin. Soil not inoculated and slightly acid. Alsike clover did not do well on strip along side of sweet clover, although alsike caught better.

O. Q. Chambers, Union Grove, Racine Co.

Sown on winter rye after snow was gone. Came through summer good. Pastured.

F. B. Jones, Deer Park, St. Croix Co.

Good growth till hot weather during July and August.

Fay Bros., New Richmond, St. Croix Co.

Hot weather during summer did not affect it very much. Cut a crop of hay and tried the second crop for seed. Early frost injured the seed. We do not like the hay as it is too coarse.

Hugo E. Wunsch, R. 1, Sheboygan, Sheboygan Co.

Dry weather did not affect it much. Stand looks O. K.

Charles Ellickson, Wautoma, Waushara Co.

Dry weather did not affect stand sown with oats as nurse crop. About 7 inches high and quite thick. Unhulled seed sown on snow did not grow.

REPORT ON SWEET CLOVER—1917.

Seeded in Spring of 1916.

Number of report	Survived Winter: Good	Survived Winter: Poor	Survived Winter: Winter killed	Pasture: When	Pasture: What on it	Pasture: Did they like it	Hay: No. of cuttings	Hay: Tons per acre	Seed yield per acre	Remarks
1	+	—	—	Fall	Cows	+	1	—	—	5 ft tall; thick; no 2nd crop.
2	—	—	—	—	—	—	—	—	—	N. G.
3	—	—	+	—	—	—	—	—	—	Came up fine: wind storm took it.
4	—	+	—	—	—	—	—	—	—	Neither pasture nor hay; tried to improve sand; good.
5	—	+	—	—	—	—	—	—	—	Poor stand: not worth cutting.
6	—	—	—	—	Calves	Fairly well	2	3	—	Does not amount to much.
7	—	+	—	—	—	—	1	—	—	Not pastured; cannot compete with clover and alfalfa.
8	+	—	—	—	—	—	1	—	—	Did well on brush pile ashes.
9	+	—	—	—	—	—	1	3	—	No second crop.
10	+	—	—	Fall	2 sows	Very well	—	—	—	Weedy after first cutting.
11	+	—	—	Aug. 15	Cows	Good	1	4	—	Wants to get it started in out of way places.
12	—	+	—	—	—	—	—	—	—	Too coarse for hay; heavy yielder.
13	—	—	+	—	Hogs	Yes, before course	—	—	—	Winter severe so clover crops were failure.
14	+	—	—	Fall			—	—	—	Thinks alfalfa pasture better if good stand. Clover good pasture for early spring if kept down by cutting.
15	+	—	—	Started May 15	Sheep & swine	Fairly well	—	—	—	Fair stand. Will try to cut and make hay of it next year.
16	—	+	—	Oct. 1	Cattle	" "	1	1	—	Does not do well.
17	—	—	+	—	—	—	—	—	—	— — —
18	—	—	+	—	—	—	—	—	—	— — —
19	+	—	—	—	—	—	—	—	—	Nurse crop not cut early enough. Lodged bad so not worth leaving and plowed under.
20	+	—	—	—	—	—	2	1.5	—	Not fed any hay: good stand—1½' high: sweet clover stalk 6'8" high.
21	+	—	—	—	—	—	2	2	—	Likes Alfalfa better—not so coarse.
22	+	—	—	—	—	—	1	3.5	—	No second crop—cut too late.
23	+	—	—	—	—	—	1	—	—	Came fine second year
24	—	—	½	—	—	—	—	—	—	Thinks it great for sandy land. Let it stand.
25	+	—	—	—	—	—	1	2	—	Died after first cutting.
26	—	—	—	6" tall	Hogs	—	—	—	—	Got too hard.
27	+	+	—	—	—	—	1	1	—	Alfalfa better: should be mixed with other grasses.
28	—	—	—	—	—	—	—	—	—	Sold farm: owner ploughed up field.
29	+	—	—	May 1	Hogs	—	1	1	—	Not equal to clover or alfalfa.
30	—	—	—	—	Cattle	No	1	—	—	Does not amount to much.
31	—	+	+	—	—	—	—	—	—	Poor stand: what survived put up for hay: cattle liked it.

Reports from members of Experiment Association on the yields of Pedigree grains grown in 1917.

PEDIGREE BARLEY

Number of members reporting		202
Average yield Pedigree Barley	bu.	36.9
Average yield other varieties in Wis		33.8
Difference in favor of Pedigree Barley		3.1

PEDIGREE OATS

Number of members reporting		185
Average yield Pedigree No. 1 Oats	bu.	53.4
" " " No. 5 Oats		47.5
" " Sixty Day Oats		55.3
" " of all Pedigree Oats		52.1
" " other varieties Oats		46.9
Difference in favor of Pedigree Oats		5.2

PEDIGREE RYE

Number of members reporting		50
Average yield of Pedigree Rye	bu.	27.0

Practically no other varieties now grown by members.

CORN

Number of members reporting		114
Average yield of No. 7 corn	bu.	41.9
" " " " 12 "	bu.	46.8
" " " " 8 "	bu.	42.7

The average yields of corn were obtained from members reporting corn yields. The majority of members reported no yields whatever because the corn did not mature. It will be noted that the average yield of No. 7 corn was low, due to early frosts.

WHEAT

Number of members reporting Winter Wheat		69
Number of members reporting Spring Wheat		115
Average yield of Winter Wheat	bu.	24.9
" " " Spring Wheat	bu.	23.0
Difference in favor of Winter Wheat		1.9

STATE HIGH SCHOOL CORN JUDGING CONTEST

HELD AT THE COLLEGE OF AGRICULTURE
FEBRUARY 9, 1918.

Agriculture is now being taught in over one hundred high schools in the State of Wisconsin by thoroughly trained college and normal graduates. The high school has for many years been promoting friendly contests of an athletic, declamatory or oratorical nature, but only recently has there been anything attempted in the line of contest in vocational subjects. It is now becoming a common thing to hold garden contests, stock-judging contests, or girls' canning contests, not only within the individual school, but also between schools of a county or section of the state. Not until the past year, however, has there been attempted a state-wide corn judging contest where the winning teams of the several sections of the state could be brought together for a "tryout of brains" in selecting good seed corn. This event was staged last winter by the Wisconsin Experiment Association in conjunction with the Annual Live Stock Judging Contest, Mr. T. L. Bewick, State Leader of Boys' and Girls' Clubs, being in charge and assisted by Professor R. A. Moore and his able force of assistants. The contest was a decided success and received very favorable comments from members of the Association. It will be continued another year with probably added features.

The holding of the contest during the time of the Annual Meeting of the Association affords a great opportunity for these boys to see the best grain exhibit the state can put up. Specially conducted excursions through the exhibit rooms were a part of last year's program, together with lectures and discussions on the judging of grains.

The contest proved to be very close and a number of expert corn judges were discovered. The decision of the judges announced at the final meeting by Professor Moore was the crowning feature of the contest. From among the fifty boys who took part, the winners were asked to stand, amid the cheers of their fellow contestants. A silver cup, together with other valuable prizes, was offered by the Association, and the following is a list of the winners and their score as graded by the judges.

THE CHAMPION TEAM

Team Prizes

School	Score	Prize
1st Team—Marinette County School of Agriculture	2212	Silver Cup
2nd Team—Milwaukee County School of Agriculture	2175	$5.00
3rd Team—Walworth High School.....	2135	Honorable mention

Individual Prizes

School	Score	Prize
1st Prize—Edmund Lindow, Plymouth, Wis. Plymouth High School.....	877	$5.00
2nd Prize—Rexford Crothers, Kilbourn, Wis. Kilbourn High School.....	834	$3.00

The next ten prizes consisted of enough corn to plant one acre.

1. Vilas Suttle, Onalaska, Wis.—La Crosse County School of Agriculture.
2. Harry Treleven, Omro, Wis.—Omro High School.
3. Earl Fahland, Frederick, Wis. Frederick High School.
4. Ernest Heggestad, Blanchardville, Wis.—Blanchardville High School.

5. R. Klussendorf, Wauwatosa, Wis.—Milwaukee Co. School of Agriculture.
6. H. Loomis, Marinette, Wis.—Marinette County School of Agriculture.
7. Geo. Levy, Wauwatosa, Wis.—Milwaukee County School of Agriculture.
8. Bert Schrader, Omro, Wis.—Omro High School.
9. Walter Schawbe, Walworth, Wis.—Walworth High School.
10. Emil Jensen, Marinette, Wis.—Marinette Co. School of Agriculture.

CONSTITUTION AND BY-LAWS OF THE COUNTY ORDERS OF THE WISCONSIN AGRICULTURAL EXPERIMENT ASSOCIATION

Article I—Name. The organization shall be known as the .....
.....County Order of the Wisconsin Experiment Association.

Article II.—Object. The object of this organization shall be to promote the agricultural interests of the County and State in general.

1st. By cooperating with the Experiment Association in growing and disseminating pure bred seed grains.

2nd. By having Associations' exhibits at agricultural fairs.

3rd. By having annual meetings in order to report and discuss topics beneficial to the members of the Order.

Article III—Membership. 1. Any person may become a member of this Order who has taken a course in the College of Agriculture at Madison or at any place in the State under the jurisdiction of the College.

2. Any one who is interested in pure bred grains and live stock or in progressive farming in general may become a member of this Order.

3. Honorary membership may be conferred upon anyone interested in progressive agriculture by a majority vote at any annual or special meeting.

Article IV.—Dues. A fee of fifty cents shall be collected from each member annually.

Article V—Officers. The officers of this Order shall consist of a President, Vice President and Secretary-Treasurer, whose terms of office shall be one year, or until their successors are elected.

Article VI—Duties of Officers. 1. It shall be the duty of the President to preside at all meetings of the Order and to enforce the observance of such rules and regulations as will be for the best interest of the organization; to appoint all regular committees as he may deem expedient for the welfare of the Order.

2. In the absence of the President, the Vice President shall preside and perform the duties of the President.

3. The Secretary-Treasurer shall keep the records of all meetings and proceedings of the Order, also the names of all members and their addresses. He shall also keep the funds of the Order, collect all fees, pay all debts, and shall submit a written statement of all moneys received and paid out by him and shall balance his books not later than one month before the annual meeting.

Article VII—Disbursements. The funds of the Order shall be used to defray expenses or by vote of the Order for such purposes as will advance the agricultural interests of the Order and shall be paid out only upon an order signed by the President and countersigned by the Secretary.

Article VIII—Amendments. This constitution may be amended at any meeting, by a two-thirds vote of the members of the Order present.

BY-LAWS

Article I—The officers of this Order shall be elected by ballot at the annual meeting.

Article II—This Order shall be governed by Roberts' Rules of Order.

Article III—All members joining at the organization of this Order shall be known as Charter Members.

Article IV—The time and place of holding the annual meeting shall be determined by the officers.

Adopted....., 19....

CONSTITUTION AND BY-LAWS OF THE TOWNSHIP AGRICULTURAL CLUBS

Article I. Name

The organization shall be known as the (Name of township) Agricultural Club.

Article II. Object

The object of this organization shall be to promote the agricultural interests of the town, county, and state.

1st. By cooperating with the County Order and State Experiment Association in growing and disseminating pure bred seed grains.

2nd. By having town and individual exhibits at County Fairs and other agricultural exhibitions.

3rd. By having at least one annual meeting and several special meetings in order to report and discuss topics beneficial to the members of the club.

4th. The special meetings should be social in character and the program shall consist of debates, discussions, readings, together with vocal and instrumental music.

Article III. Membership

1. Any person may become a member of this township club who is especially interested in agriculture.

2. Honorary membership may be conferred upon anyone interested in progressive agriculture by a majority vote at any annual or special meeting.

Article IV. Dues

A fee of twenty-five cents shall be collected from each member annually.

Article V. Officers

The officers of this organization shall consist of a President, Vice President, and Secretary-Treasurer, whose term of office shall be one year, or until their successors are elected.

Article VI. Duties of Officers

1. It shall be the duty of the President to preside at all meetings of the club and to enforce the observation of such rules and regulations as will be for the best interest of the organization, to appoint all regular committees as he may deem expedient for the welfare of the Association.

2. In the absence of the President the Vice President shall preside and perform the duties of the President.

3. The Secretary-Treasurer shall keep the records of all meetings and proceedings of the club, also the names of all members and their addresses. He shall also keep the funds of the club, collect all fees, pay all debts, and shall submit a written statement of all moneys received and paid out by him and shall balance his books not later than one month before the annual meeting.

Article VII. Disbursements

The funds of the club shall be used to defray its expenses or by vote of the club for such purposes as will advance the agricultural interests of the organization and shall be paid out only upon an order signed by the President and countersigned by the Secretary.

Article VIII. Amendments

This constitution may be amended at any meeting by a two-thirds vote of the members of the club present.

BY-LAWS

Article I.

The officers of this club shall be elected by ballot at the annual meeting.

Article II.

This club shall be governed by Roberts' Rules of Order. The Secretary shall report the organization of the club with names and addresses of officers to the Secretary of the county order and the Secretary of the state association immediately after organization and all changes annually in officers thereafter.

RESOLUTIONS

Potato Desiccating Factories and Flour Producing Mills

Whereas, recent reports of the Department of Agriculture and of the International Institute of Agriculture indicate the most serious shortages of most cereals. The amount on hand has not kept pace with the increase in population. To better this condition and save the flour producing cereals for our armies is our earnest aim. Through many tests it has been found that all articles of pastry can partially be made from potato flour, and there is no good reason why desiccated potatoes can not be used widespread in America as they are now used in Europe and thus save a large part of the crop which goes to waste annually. Therefore,

Be it Resolved, that this Association recommend to the United States Government the establishment of potato flour and desiccating plants in a sufficient number of states to provide flour and dried potato products from this farm crop.

The Common Barberry

Whereas, In view of the present urgent need for food grain production it is important that losses be prevented wherever possible. The great losses from grain rusts are well-known. Inasmuch as a large proportion of plant pathologists hold the common barberry to be a prolific source of trouble and so widespread as to call for their removal, and that additional plantings of the barberry should cease.

Be It Resolved, that this association pledges its most serious consideration of this subject and immediate action to prevent by all practical means the extension of rust.

Standard Seed Corn Values

Whereas, numerous complaints have come to members of the Experiment Association of exorbitant prices charged for seed corn.

Be it Resolved: that this Association in annual meeting assembled strongly condemn such practice on the part of seed growers or seed dealers. We feel there should not be an attempt to ask exorbitant prices for seed and take advantage of the situation at this trying time. Prices should be formulated on plans suggested by the Government on costs, plus ten per cent profit. We further feel keenly that costs to the planter may be fair and reasonable so that all may be able to increase the food output of the country.

Committee on Resolutions,
James B. Cheesman, *Chairman.*
C. P. Norgord,
Henry E. Krueger.

County Agricultural Advisers

This Association records its strong appreciation of the work of County Agricultural Advisers: and urges their employment in a more extended territory as one of the most potent means of increasing the crop yields of Wisconsin.

Sweet Clover Plant

The imperative needs of increased yields of animal products of all kinds invites the attention of every live stock grower to leguminous plants. In this species of fodder crops sweet clover claims a prominent place; and its recent crop records and work in the live stock field have proved it a most economic plant.

TREASURER'S REPORT

Peter C. Swartz, treasurer, reported on the financial condition of the association as follows:

Balance in association treasury, Feb. 11, 1917	$ 480.35
Receipts, Feb. 11, 1917 to Feb. 8, 1918	1,559.73
Total receipts on hand Feb. 8, 1918	$2,040.08
Total disbursements Feb. 11, 1917 to Feb. 8, 1918	880.09
Balance in association treasury, Feb. 8, 1918	$1,159.99

SECRETARY'S REPORT

R. A. Moore, secretary, reported on the use and condition of state funds. He reported as follows:

Balance in state treasury Feb. 11, 1917	$2,558.34
State appropriation, July 1, 1917	5,000.00
Total	$7,558.34
Total disbursements, Feb. 11, 1917 to Feb. 8, 1918	5,028.22
Balance in state treasury Feb. 8, 1918	$2,530.12

The itemized financial reports are on file for inspection in the office of the association.

PREMIUM AWARDS

AT ANNUAL PURE BRED GRAIN SHOW

Feb. 7–9, 1918

COLLEGE OF AGRICULTURE, MADISON, WIS.

10 Ears Silver King (Wisconsin No. 7) Corn, North Section
First—A. G. Ruemmele & Sons, Hudson

10 Ears Early Yellow Dent (Wisconsin No. 8) Corn, North Section
First—Fred Cisar, Oconto, R. 2

10 Ears Golden Glow (Wisconsin No. 12) Corn, North Section
First—A. G. Ruemmele & Sons, Hudson
Second—Wm. Ohlfs, Crivitz.

10 Ears (Wisconsin No. 25), Corn, North Section
First—C. A. Correll, Crivitz
Second—J. Carstens, Crivitz

10 Ears Silver King (Wisconsin No. 7) Corn, South Section
First—John Bendel, Stoddard, R. 1.
Second—Kaltenberg & Sons, Waunakee.
Third—Henry Lunz, Portage
Fourth—Walter J. Steinhoff, Platteville
Fifth—Jos. A. Brunker, Ridgeway

10 Ears Early Yellow Dent (Wisconsin No. 8) Corn, South Section
First—Lang Bros., Jefferson.
Second—H. E. Krueger, Beaver Dam

10 Ears Golden Glow (Wisconsin No. 12) Corn, South Section
First—H. T. Draheim, Gotham
Second—Jos. A. Brunker, Ridgeway
Third—Jippa Wielinga, Midway
Fourth—Frank Violett, Onalaska, R. 1.
Fifth—Lang Bros., Jefferson

10 Ears Clark's Yellow Dent (Wisconsin No. 1) Corn, Any Part of State
First—Elmer Biddick, Livingston
Second—H. E. Krueger, Beaver Dam

10 Ears Tools North Star (Wisconsin No. 11) Corn, Any Part of State
First—Noyes Raessler, Beloit
Second—H. E. Krueger, Beaver Dam

10 Ears Murdock (Wisconsin No. 13) Corn, Any Part of State
First—Noyes Raessler, Beloit
Second—Leo Brueckner, Jefferson
Third—Arthur O. Popp, Jefferson
Fourth—W. E. Colladay, McFarland
Fifth—Albert C. Wollin, Johnson Creek

10 Ears 8 Row Red, Yellow or Smut Nose Flint Corn, Any Part of State
First—H. E. Krueger, Beaver Dam
Second—Albert C. Wollin, Johnson Creek
Third—Harry Pralle, La Crosse, R. 3

10 Ears 8 Row White Flint Corn, Any Part of State
First—H. E. Krueger, Beaver Dam

10 Ears Pop Corn, Any Part of State
First—Wm. Moos, Onalaska, R. 1
Second—H. T. Draheim, Gotham
Third—Garrett Westerhouse, Onalaska
Fourth—Arthur O. Popp, Jefferson.

Single Ear Dent Corn, Any Variety, Any Part of State
First—Frederick Hoffman, Holmen
Second—H. T. Draheim, Gotham
Third—Jos. A. Brunker, Ridgeway
Fourth—J. Emmett Brunker, Ridgeway
Fifth—Arthur O. Popp, Jefferson

50 ears Silver King (Wisconsin No. 7) Corn, Any Part of State
First—J. R. Thorpe, Beloit, R. 29
Second—Otto Wolfe, La Crosse
Third—Ed. Peters, La Crosse, R. 2
Fourth—O. J. Emmert, Johnson Creek
Fifth—John Bendel, Stoddard, R. 1

50 Ears Golden Glow (Wisconsin No. 12) Corn, Any Part of State
First—Jos. A. Brunker, Ridgeway
Second—Noyes Raessler, Beloit
Third—John Van Loon, La Crosse
Fourth—Otto Wolfe, La Crosse, R. 2
Fifth—Jippa Wielinga, Midway

Peck of Wisconsin Pedigree or Oderbrucker Barley
First—Minnie L. Krueger, Beaver Dam
Second—R. Kressin, Cedarburg
Third—Noyes Raessler, Beloit
Fourth—Adam Holzschuh, So. Kaukauna, R. 14.
Fifth—Wm. J. Clemmens, Kansasville

Peck Two Row Barley
First—H. E. Krueger, Beaver Dam

Peck Wisconsin Pedigree No. 1 Oats
First—Albert Baumgartner, Wrightstown
Second—Frank J. Gaspar, Rockland
Third—Morrisey Bros., Arena
Fourth—Adam Holzschuh, So. Kaukauna, R. 14
Fifth—J. L. Krause, Beaver Dam

Peck Pedigree No. 5 or Swedish Select Oats (Wisconsin No. 4)
First—Minnie L. Krueger, Beaver Dam
Second—Frank J. Gasper, Rockland
Third—Chas. J. Nieman, Cedarburg
Fourth—H. W. Whitehead, Rockland
Fifth—Ed. Peters, La Crosse, R. 2.

Peck Pherson or Sixty Day Oats
First—H. T. Draheim, Gotham
Second—Peter Dengel, La Crosse, R. 1
Third—J. L. Krause, Beaver Dam
Fourth—Lang Bros., Jefferson
Fifth—H. E. Krueger, Beaver Dam

Peck Any Other Variety of Oats
First—W. E. Colladay, McFarland
Second—Herman Schoeneck, Enterprise
Third—De Witt Damp, Dane
Fourth—Joseph Waski, Stevens Point
Fifth—Albert C. Wollin, Johnson Creek

Peck Winter Wheat
First—Arthur O. Popp, Jefferson
Second—Jos. A. Brunker, Ridgeway
Third—Gilbert Jaeger, Ixonia
Fourth—J. Emmett Brunker, Ridgeway
Fifth—Albert Meyer, Beaver Dam

Peck Spring Wheat
First—Minnie L. Krueger, Beaver Dam
Second—Chris Michelson, Hazelhurst
Third—Edgar Huebbe, Beloit
Fourth—Julius Brue, De Forest
Fifth—W. W. Winter, Eau Claire

Peck Wisconsin Pedigree Winter Rye
First—Arthur O. Popp, Jefferson
Second—R. Kressin, Cedarburg, R. 2
Third—Geo. H. Leonard, Jefferson, R. 1
Fourth—Fred Sweniger, Peshtigo
Fifth—Fred Rebensdorf, Fairchild

Peck Medium Red Clover Seed
First—Fay Brothers, New Richmond
Second—Adam Holzschuh, So. Kaukauna, R. 14
Third—Fred Cisar, Oconto, R. 2
Fourth—O. J. Emmert, Johnsons Creek
Fifth—J. Emmet Brunker, Ridgeway

Peck Mammoth Clover Seed
First—J. L. Krause, Beaver Dam
Second—A. G. Ruemmele & Sons, Hudson
Third—Stanley Sebion, Westby
Fourth—Selmer Oberson, Westby
Fifth—P. S. Graham, Fennimore

Peck Alsike Clover Seed
First—Joe Haight, Madison, R. 4
Second—H. C. Hansen, Spooner
Third—Otto Wolfe, La Crosse, R. 2
Fourth—Geo. H. Leonard, R. 1, Jefferson
Fifth—Julius Brue, De Forest

Peck Timothy Seed
First—P. S. Graham, Fennimore
Second—Adam Holzschuh, So. Kaukauna, R. 14
Third—Peter Trapp, Columbus
Fourth—A. G. Ruemmele & Sons, Hudson

Peck Alfalfa Seed
(No entries)

Peck Silver Hull Buckwheat
First—H. E. Krueger, Beaver Dam
Second—Frank J. Gasper, Rockland
Third—H. E. Parsons, Crivitz

Peck Japanese Buckwheat
First—H. T. Draheim, Gotham
Second—H. E. Krueger, Beaver Dam
Third—J. L. Krause, Beaver Dam

Peck Black Soy Beans
First—Emil Jensen, Athelstane
Second—Geo. Batty, Poynette
Third Albert Dettman, Marinette, R. 1
Fourth—Henry Lunz, Portage
Fifth—H. E. Parsons, Crivitz

Peck Green Soy Beans
(No entries)

Peck Yellow Soy Beans
First—H. T. Draheim, Gotham
Second—Garrett Westerhouse, Onalaska
Third—Wm. J. Clemmens, Kansasville
Fourth—R. Kressin, Cedarburg, R. 2

Peck Smooth or Wrinkled Peas
First—Chas. J. Nieman, Cedarburg
Second—Wm. R. Leonard, Jefferson, R. 1
Third—Herman Schoeneck, Enterprise
Fourth—H. E. Krueger, Beaver Dam

Peck Green or Yellow Field Peas
First—Herman Schoeneck, Enterprise
Second—Max Groy, Pembine
Third—Fred Sweniger, Peshtigo
Fourth—Fay Bros., New Richmond
Fifth—A. G. Ruemmele & Sons, Hudson

Sheaf Pedigree or Oderbrucker Barley
First—H. T. Draheim, Gotham
Second—Otto Wolfe, La Crosse, R. 2
Third—H. E. Krueger, Beaver Dam
Fourth—Lang Bros., Jefferson
Fifth—Ed. Peters, La Crosse, R. 2

Sheaf Two Row Barley
First—H. T. Draheim, Gotham
Second—Herman Schoeneck, Enterprise
Third—Joseph Waski, Stevens Point

Sheaf Pedigree No. 1 Oats
First—H. T. Draheim, Gotham.
Second—H. E. Krueger, Beaver Dam
Third—Wm. Moos, Onalaska, R. 1
Fourth—Otto Wolfe, La Crosse, R. 2
Fifth—J. L. Krause, Beaver Dam

Sheaf Swedish Select or Any Other Variety Oats
First—Ed. Peters, La Crosse, R. 2
Second—Wm. Moos, Onalaska, R. 1
Third—J. L. Krause, Beaver Dam
Fourth—Otto Wolfe, La Crosse, R. 2
Fifth—H. E. Krueger, Beaver Dam

Sheaf Winter Wheat
First—Minnie L. Krueger, Beaver Dam
Second—Noyes Raessler, Beloit
Third—Lang Bros., Jefferson
Fourth—H. E. Krueger, Beaver Dam.
Fifth—J. L. Krause, Beaver Dam

Sheaf Spring Wheat
First—Wm. Moos, Onalaska, R. 1
Second—J. L. Krause, Beaver Dam
Third—A. G. Ruemmele & Sons, Hudson
Fourth—Noyes Raessler, Beloit
Fifth—Ed. Peters, La Crosse, R. 2

Sheaf Pedigree Rye
First—Otto Wolfe, La Crosse, R. 2
Second—Arthur O. Popp, Jefferson
Third—H. E. Krueger, Beaver Dam
Fourth—Noyes Raessler, Beloit
Fifth—Ed. Peters, La Crosse, R. 2

Bundle of Alfalfa
First—John Hesprich, Lomira
Second—Wm. Moos, Onalaska
Third—Hiram Michels, Peebles
Fourth—Arthur O. Popp, Jefferson
Fifth—H. E. Krueger, Beaver Dam

Best Exhibit of three cuttings of Alfalfa
First—Arthur O. Popp, Jefferson
Second—H. E. Krueger, Beaver Dam
Third—Wm. Moos, Onalaska, R. 1
Fourth—Stanley Sebion, Westby

Bundle of Red Clover
First—H. T. Draheim, Gotham
Second—Walter J. Steinhoff, Platteville
Third—J. L. Krause, Beaver Dam
Fourth—Wm. Moos, Onalaska
Fifth—Wm. J. Clemmens, Kansasville

Bundle of Mammoth Clover
First—Stanley Sebion, Westby
Second—H. E. Krueger, Beaver Dam

Bundle of Alsike Clover
First—H. T. Draheim, Gotham
Second—Wm. Moos, Onalaska, R. 1
Third—J. L. Krause, Beaver Dam
Fourth—Lang Bros., Jefferson
Fifth—H. E. Krueger, Beaver Dam

Bundle of Timothy
First—H. T. Draheim, Gotham
Second—Wm. Moos, Onalaska, R. 1
Third—J. L. Krause, Beaver Dam
Fourth—Arthur O. Popp, Jefferson
Fifth—Walter J. Steinhoff, Platteville

Bundle of Sudan Grass
First—H. T. Draheim, Gotham
Second—J. L. Krause, Beaver Dam
Third—H. E. Krueger, Beaver Dam

Bundle of Soy Beans
First—Minnie L. Krueger, Beaver Dam
Second—Otto Wolfe, La Crosse, R. 2
Third—H. E. Krueger, Beaver Dam
Fourth—Herman Schoeneck, Enterprise
Fifth—Harry Pralle, La Crosse, R. 3

HONORARY CLASSES

10 Ears Clark's Yellow Dent (Wisconsin No. 1) Corn
First—H. T. Draheim, Gotham
Second—J. R. Thorpe, Beloit, R. 29

10 Ears Silver King (Wisconsin No. 7) Corn
First—J. R. Thorpe, Beloit, R. 29

10 Ears Early Yellow Dent (Wisconsin No. 8,) Corn
First—Noyes Raessler, Beloit
Second—John Van Loon, La Crosse

10 Ears Golden Glow (Wisconsin No. 12) Corn
First—J. Emmett Brunker, Ridgeway
Second—Noyes Raessler, Beloit
Third—John Van Loon, La Crosse

10 Ears Any Variety 8 Row Flint Corn
First—H. T. Draheim, Gotham
Second—Arthur O. Popp, Jefferson

Peck Pedigree or Oderbrucker Barley
First—H. E. Krueger, Beaver Dam
Second—Adam Holzschuh, So. Kaukauna, R. 14

Peck Pedigree No. 1 Oats
First—H. T. Draheim, Gotham
Second—Noyes Raessler, Beloit

Peck Pedigree No. 5 or Swedish Select Oats
First—H. T. Draheim, Gotham
Second—Chris. Michelson, Hazelhurst

Peck Winter Wheat
First—J. L. Krause, Beaver Dam
Second——H. E. Krueger, Beaver Dam
Third—Noyes Raessler, Beloit

Peck Spring Wheat
First—H. E. Krueger, Beaver Dam

Peck Pedigree Rye
First—Noyes Raessler, Beloit
Second—Edward Whitemore, Wausau, R. 2
Third—H. E. Krueger, Beaver Dam

SWEEPSTAKES CLASS

Best Peck Spring Wheat
First—Minnie L. Krueger, Beaver Dam

Best Peck Pedigree Rye
First—Noyes Raessler, Beloit

Best Peck Wisconsin Pedigree No. 1, Oats
First—H. T. Draheim, Gotham

Best Peck Wisconsin Pedigree No. 5 Oats
First—Minnie L. Krueger, Beaver Dam

Best Peck Wisconsin Pedigree Barley
First—Minnie L. Krueger, Beaver Dam

Best 10 Ears Silver King Corn of entire Show
First—J. R. Thorpe, Beloit, R. 29

Best 10 Ears Yellow Dent Corn of entire Show
First—H. T. Draheim, Gotham

Best 50 Ears Silver King Corn
First—J. R. Thorpe, Beloit, R. 29

Grand Champion 10 Ears Dent Corn of Entire Show
First—H. T. Draheim, Gotham

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Alfalfa Session

PRESIDENT'S ADDRESS

PETER C. SWARTZ, Waukesha.

Members of the Alfalfa Order:

I heartily welcome you all to this annual meeting, and I hope it may not only entertain you but inspire you to greater zeal and efficiency in starting and growing more alfalfa in this great Badger State. You may ask why it is so essential to grow more alfalfa when it is a known fact that the world's granary bin will be swept clean before the new crop is harvested. Scores of things point to alfalfa as the foremost, essential and patriotic crop for Badger farmers to adopt and grow. Every new idea or thing like alfalfa that has benefited the world has to fight through three battles for its life. First, long we ridicule. Second, we discuss. Third, we adopt. It gives me great pleasure to announce at this time that alfalfa has won its fight in these three battles here in Wisconsin and we have adopted it. I am going to persuade you to grow more alfalfa, but it seems to me more like offering you gold nuggets and then begging you to accept them. Wisconsin is known the world over as a great dairy state. Why? Simply because we have turned towards dairying and put all our aim and efforts towards the dairy cow. We have adopted her as a co-worker on our farms. We have studied her from the tip of her horns to the last hair in her tail. We have so thoroughly studied her makeup so that by the looks of her head, body, milk veins, and udder, we can nearly tell whether she is a good cow or not. We have studied her farther than that. We now know her ancestors by heart for twenty-five years back. We have built splendid homes for her, equipped these homes with the latest conveniences, carpeted the floors and polished the ceilings and every day have given her

a manicuring and shampooing from head to foot. In many cases we are now testing her out and humanity is living with her in her stable, stuffing her for five hours and every sixth hour milking; yes, in many barns cows are milked three and four times every twenty-four hours. Every detail about the dairy cow has been so closely studied through farm papers and our Agricultural College—talked, argued, and discussed at Farmers' Institutes. The dairy cow tells us and shows us that the corn crop canned and dished out as silage is one of the best breakfast foods. Silage is not a balanced ration. The milk pail tells us that a homemade "sandwich" of alfalfa hay and corn silage makes a balanced ration. Thousands of farmers in Wisconsin have the dairy cows and the silos, but only a few have enough home grown alfalfa to make these "sandwiches." Wisconsin is the greatest dairy state in the Union and has over 1,500,000 dairy cows within its borders. In 1917 we raised only one ton of alfalfa hay to every seven dairy cows or four tons of alfalfa to every silo. We raised 15 tons of clover and timothy to every ton of alfalfa. Good clover hay with silage makes a fair sandwich, but timothy hay makes a poor sandwich and your stock soon shows what kind of sandwiches you are feeding them.

These figures and rations are amazing. Something must be done at once. I now realize why our mail at Cornfalfa Farms is loaded down with so many inquiries for alfalfa hay, reading something like this: "I need 75 tons of alfalfa hay and my neighbors can use ten times that amount. How much can you furnish or where can we get this alfalfa hay?" Why do we face an alfalfa shortage? We have the people and soil but we have not adopted alfalfa as a co-worker. The alfalfa plant can be made to grow on every farm. What we need to know is how to grow and take care of it. Every farmer who is interested in growing alfalfa should join the Alfalfa Order and secure the eighty page booklet which this Order has just issued. It tells the plain truth about alfalfa in both story and pictures in such a way that everyone will understand. The time has come when no more free land can be grabbed and we must dig deeper for the fertility that lies underneath our farms. This reminds me of Ben Franklin's maxim:

Plow deep while sluggards sleep,
And you will have corn to sell and keep.

And I say the new proverb should read:

Plow deep while slackers sleep,
And we will soon have the Kaiser beat.

The world has turned toward America to plead for help in order to save its people from the ravages of militarism. We have entered this terrible world-wide war with the determination never to let up until we have accomplished our aim in forever abolishing militarism. American agriculture must supply enough food not only for our armies, but also for the armies of our Allies. That means larger yields on every farm, and larger yields means better farming. The Badger farmers can produce the highest yields and standards of foodstuffs in the least possible time by playing the alfalfa game correctly.

The things that alfalfa does for us on Cornfalfa Farms it will do anywhere in Wisconsin if you adopt the slogan we did years ago: "Get engaged to alfalfa," and soon you will be the proud owners of two and three crops of alfalfa a year. Alfalfa in the summer time is like milling bran in a flour mill. It gives us more and better feed and that means stock will be in better condition. Our markets call for the best quality of all kinds of live stock. It is essential that the cost of production be reduced to the lowest point and no other feed with a high protein content can be produced as cheaply as alfalfa. This crop is worth all you can get for it, but it gives the best returns if fed to live stock on the farm. A combination of corn silage and alfalfa hay forms a feeding stuff for dairy cows which cannot be excelled by any other feed. It increases the rapidity of growth in young animals and insures a greater milk production. Alfalfa speeds up everything we must produce quickly. It is simply a problem of addition: "More alfalfa, more production."

We have on our program Mr. Fred Hatch from Spring Grove, Illinois, who has had many years of experience in growing alfalfa and who will discuss in detail the methods used in growing alfalfa successfully.

Before closing, I wish to call your attention again to the alfalfa booklet which has just been issued. Follow its instructions and you will have no difficulty in getting a good stand and raising several crops of alfalfa each year. This booklet should be in the hands of every alfalfa grower in Wisconsin.

MORE AND BETTER FEED FROM FEWER ACRES

L. F. Graber, Secretary Alalfa Order

It is a pleasure to come before you again at this—our sixth annual meeting. We organized in 1911 to build on a permanent and lasting basis a great alfalfa industry in the state of Wisconsin. And for what purpose more worthy and for what cause, more patriotic, could an organization stand for in the light of the present crisis.

Alfalfa is our biggest and best feed producing hay and surely, the growing of more alfalfa where it can be produced successfully is true patriotism in the strictest sense of the word. If there is any crop, which we can call unpatriotic in a time like this, it is that soil robbing, that poor producing, feed-less crop, timothy. It is true, that timothy seldom winterkills and that there are conditions where timothy has its place but as a general proposition we cannot afford to fool around with a crop that produces so little, that gives us such meager returns for our labor and our effort as does timothy.

"Make Every Seed, Every Second and Every Cent, Count"

David Rankin of Tarkio, Missouri, was the wealthiest farmer in the world. His motto has the same significance today as it did in making his career the wonderful success it proved to be. It was this: "Make every seed, every second and every cent count." Are we making every seed, every cent and every second count when we use our high priced farm land, our high priced farm labor to grow and harvest such an inadequate feed as timothy hay?

We may say it requires more labor to grow and harvest alfalfa and labor is scarce. That is true. It does take more labor to

handle thirty acres of alfalfa than it does thirty acres of timothy. But there is another way of looking at it. Supposing to winter the stock on a farm has required fifty tons of timothy hay which was produced on thirty acres of land. Would it not be far more profitable, from the labor standpoint, to secure fifty tons of hay with alfalfa produced on only fifteen acres of that same land? If labor were scarce we could turn the remaining fifteen acres into pasture and it would be clear profit.

We are not making every second of our labor count when we put our high priced farm help at harvesting such an insufficient feed as timothy hay. It requires just as much time and effort to load a ton of alfalfa hay as it does a ton of timothy and when you haul a ton of alfalfa hay in your barn you have there twice the amount of feed and twice as good a feed for the same labor as would be required for a ton of timothy.

More feed from fewer acres is one way of solving the labor problem and increasing food production at the same time. Alfalfa hay which today is worth from $30.00 and $40.00 a ton—think of it—from one and a half to two cents a pound—surely with this crop we *can "make every seed, every cent and every second count."*

Winterkilling Problems

Since our organization began we have bent our energies in a common sensed encouragement of more alfalfa growing in Wisconsin by enlisting the cooperative efforts of our members in solving those problems which have heretofore limited the alfalfa acreage of this state. And it has not all been "sunshine and roses"—for there are real problems in growing alfalfa which confront us today. Not the least of these is that of *winterkilling.* It has caused severe losses with both clover and alfalfa. Late fall cutting and pasturing have ruined many a good stand of alfalfa but even fields which were not pastured or cut late in the fall have succumbed to the rigors of severe alternate freezing and thawing winter and spring weather. Where this occurs there is only one solution of the difficulty—and that is to use only the seeds of the hardiest known varieties.

Grimm Makes Showing

Our Association has already distributed for experimental purposes to several hundred of our members, the Grimm variety of seed. One hundred five-pound samples of Grimm were sent out in 1916 for comparison with common alfalfa. While this test has so far passed through only one winter already visible evidences of the superiority of Grimm alfalfa have been reported by thirty-two farmers. Here are a few of the statements made.

Grimm is fine. Common is almost an absolute failure."

"Grimm plants are larger and stronger."

"Grimm has a dark, strong green color. The common is a light green. I can see difference 80 rods away."

But Grimm alfalfa is expensive. It costs from 40 to 50 cents a pound. This year we are going to try out a plan which may effectually reduce the price of Grimm alfalfa seed from ten to fifteen cents a pound without reducing its winter resistant qualities.

Try Out Turkestan in Mixture

The plan is to mix the Grimm seed half and half with Turkestan. *Understand that we do not recommend this as a general practice for it is as yet in the experimental stage but we do recommend that every* member of the Alfalfa Order who will seed alfalfa next year should try out at least a limited amount of pure GRIMM and a limited amount of a half and half mixture of Grimm and Turkestan along side of whatever other kind of alfalfa seed they may desire to sow. This is an experiment which requires no extra time or labor and that it is of vital importance we shall see.

Where Turkestan Seed Comes From

Approximately one-fifth of the alfalfa seed sown in this country comes from abroad and of this quantity 95 per cent comes from Turkestan. Seed from Turkestan can be imported at a lower cost and price than seed from any other part of the world. In spite of its cheapness it has not been very popular in the middle West or Eastern states. The United States Department of Agriculture has not endorsed it. It is criticized because of its

tendency to produce a rather scant third crop and rarely a fourth crop.

In southern Illinois, Kentucky and other states with long seasons where alfalfa may produce four to six crops a year, it is said that Turkestan alfalfa seed because of its cheapness has been sold to farmers as Common American grown seed. When it produced only two good crops and a fair third crop instead of the four and five good crops they were accustomed to obtain, it resulted in a storm of protest through the agricultural papers which made Turkestan alfalfa very unpopular.

Our Experience With Turkestan

In 1913, we were offered ten thousand pounds of very fine, clean, high germinating Turkestan alfalfa seed at $6.60 a bushel. Our Association was then buying Montana, Dakota, Nebraska and Kansas grown seed for experimental purposes. The Montana seed cost us $10.50 a bushel. Our members wanted Montana so we bought it. We turned down the cheaper Turkestan because of the unfavorable reports we had read and particularly the warnings of the United States Department of Agriculture on imported seed.

However, we bought a few pounds to include it in our experimental plots. Here we met a real surprise. The Turkestan plot came through the first winter in excellent shape as did the Montana, Kansas, Dakota, Nebraska, Grimm and Baltic plots seeded at the same time. Yields of the first two cuttings of Turkestan were somewhat higher than the common Western grown strains but the third crop was much shorter and yielded less hay than the others. In spite of abundant fall rains the Turkestan only grew an inch or two after the third cutting and soon turned brown while the Montana and other common varieties made a green fall growth of eight to ten inches.

As we will all remember, the winter of 1915–1916 was very severe and resulted in a most serious winterkilling of alfalfa and clover fields known in this and other states. Much to our surprise the Turkestan plot come through this severe winter without any serious injury and was almost as good a stand as the Grimm while the Montana plots killed out from 40 to 76 per cent. This, to us, was remarkable. The seed which we could have bought at $6.60 a bushel proved much hardier than the higher priced Montana strains.

A Farmer's Experience With Turkestan

I was on the farm of Mr. Fred Dettwiler of Monroe, Wisconsin last July. He took me to an alfalfa field of about ten acres which was six years old. Up to a certain point on one side, the alfalfa had been practically all killed out last winter and was mostly blue grass. The remainder of the field came through in good shape.

"What makes the difference?" he asked me. "I don't know" I replied, "but did you use the same kind of seed for the entire field." "Yes, I did," he asserted, "but the part which has killed out was sown with some Montana I had on hand from the year previous while the remainder of the field was seeded with seed that I bought as Montana alfalfa seed that same spring."

The situation was rather puzzling. "Did you ever notice, Mr. Dettwiler, that this part of the field which has not winterkilled always has made a shorter third crop and a much shorter fall growth than the alfalfa which has killed out so badly? I questioned. "I certainly have noticed that very plainly," he replied, "and I have often wondered why it was that this alfalfa which has winterkilled so badly would grow from five to ten inches higher in the fall than the rest." This statement threw some bright light on the problem. "Mr. Dettwiler," I said, "The only explanation I can give you is that this short fall growing alfalfa which has come through the winter in such good condition has acted just like the Turkestan variety, while the alfalfa which winterkilled was, in all probability, the real common Montana strain. It is apparently, a very good illustration of the greater permanency and lasting qualities of the Turkestan compared with the common American variety."

These illustrations are given to show the hardiness and lasting qualities of Turkestan alfalfa but I again wish to emphasize that with us, Turkestan is still in the experimental stage especially because of our lack of information as to the climatic conditions under which the seed was raised. But it is observations like this which we feel warrant a thorough state wide trial of this variety.

Importations Cut Off Due to War

It seems that importations of Turkestan from abroad have been cut off on account of the war. At least there is little

Turkestan available in the United States at present and the price has gone up considerably. Our supply is limited but we will have sufficient to make a good thorough test. Probably millions of pounds of Turkestan seed have accumulated over in Turkestan and when the war is over it may be obtainable at a very low figure. When that time comes we ought to know fully the true value of the Turkestan.

Do Not Recommend Turkestan Alone

We do not advise sowing pure Turkestan seed because it produces a rather poor third growth but we do believe that this difficulty can be satisfactorily overcome by mixing Grimm half and half with Turkestan.

Reasons for Mixing

First, we think that the mixture of half Grimm and half Turkestan may prove almost as hardy, productive and capable of living through hard winters, which kill out common alfalfa, as pure Grimm.

Second, the mixture should make a good third crop in average years.

Third, it costs less. The mixture of half Grimm and half Turkestan will cost from ten cents to fifteen cents a pound less than pure Grimm.

Fourth, less seed is required with a mixture of Grimm and Turkestan because the plants of both of these varieties have more widely spreading crowns and roots than the common. We believe with good favorable soil conditions and preparation sixteen pounds an acre is sufficient. Where alfalfa is grown for the first time or is not easy to grow, it is better to use twenty pounds an acre—especially if weeds are unusually abundant.

Avoid Mixing Grimm with Common

We do not advise mixing Grimm with common ordinary alfalfa because the Grimm seed coming from out West is more or less crossed anyway by insects with common alfalfa growing in the same vicinity as the Grimm fields. Common alfalfa is more easily winterkilled than either Grimm or Turkestan, therefore, let us not spoil our Grimm by mixing it with the less hardy common. Turkestan with us has proven hardy and if mixed

with Grimm a good third crop should be obtained in average years which is not generally possible when pure Turkestan is grown. Surely this mixture is worth trying out.

Here Are Our Plans

We hope to have the cooperation of every member who will sow alfalfa this spring in testing out this Turkestan mixture and the Grimm. We will send at prices quoted either eight or sixteen or twenty-four pounds of pure Grimm and (with good soil preparation, enough for one-half or one or one and one-half acres) and eight, sixteen or twenty-four pounds of a half-and-half mixture of Grimm and Turkestan. Everybody ordering seed must take both kinds in any amounts above specified. We will send the seed by parcels post or express prepaid, furnish all sacks and pay all shipping expenses. All orders for seed to conduct this experimental test must be sent in before March first.

How You Can Tell Turkestan

While Grimm and common American grown alfalfa seed cannot be distinguished one from another, the Turkestan can generally be quite readily identified by the character of the seed. It either has a rough surface or a dull grayish-appearance depending upon, whether or not it has been polished. You can generally tell the difference in the roughness of imported Turkestan and Grimm or common by rubbing the seeds between your fingers. Turkestan practically always contains the ivory white seeds of Russian Knapweed which are seldom found in alfalfa seed of any other variety. They are considered harmless under our conditions.

Purity of the Turkestan

We must bear in mind that there are good and bad grades of Turkestan seed. It generally always has a good germination but the best grades will very often have just a trace of buckhorn weed seeds present. If we felt that a slight trace of this weed seed in alfalfa would cause any serious difficulty we, of course, would not be instrumental in making our proposed distribution. However, we have sown this variety containing a trace of buckhorn seeds, time and again, without ever having

found buckhorn plants appearing in the field. When buckhorn seeds are present in such very small quantities we have no fears or worry in sowing high grade Turkestan seed especially when mixed half and half with clean Grimm seed.

Adulteration Not to Be Encouraged

We do not wish to encourage adulteration or mixing of seeds by seedsmen. We believe that the farmer should do his own mixing if any should be done. Fortunately, the harmless ivory white seeds of Russian Knapweed which are practically always present in Turkestan seed makes it possible to identify this seed in a mixture or otherwise.

Kansas Seed as Good as Montana

In 1914, our members very gladly cooperated in trying out Kansas grown alfalfa seed in comparison with the more expensive Montana alfalfa. These tests have now passed through three winters—that of 1915–1916 being very severe. The reports received give very strong evidence that there is little or no difference in the hardiness and yields of Montana and Kansas grown alfalfa seed. Of 114 reports only fourteen felt that the Montana stood the winters better than the Kansas. One hundred declared they could see no difference between these two strains.

These results coincide exactly with our experiments on the Station Farm. The Kansas alfalfa with us has proven in every test to be as hardy, productive and satisfactory, in every respect, as the more Northern grown alfalfa seed. This applies equally well with the Dakota and Nebraska grown alfalfa seed. This is information of vital importance. It will save thousands of dollars in the purchase of alfalfa seed, as Kansas is the largest alfalfa seed producing state in the Union and seed from there can be generally obtained at a lower figure than from any other American source.

Location Where Seed is Grown not as Important as Variety

It is quite clear that as far as hardiness is concerned, the variety of alfalfa is of far greater importance than place of growth. We do not wish to say that common alfalfa seed grown

in Arizona or New Mexico is as hardy as that produced in Kansas or Montana for our experiments with seed produced farther south than Kansas would not as yet warrant any conclusions. But it is plainly evident that such distinct varieties as the Grimm, Baltic and Cossack have an inherent hardiness, whether grown in Idaho, Kansas or Montana which make them capable of living through hard winters that kill the common ordinary alfalfa in Wisconsin which may come from seed grown in these same states.

Inoculation Cultures Supplied by Alfalfa Order

Our Association this year will supply fresh and pure bacterial cultures for inoculating alfalfa and soy bean seed. These cultures are carefully prepared by the Agricultural Bacteriology Department of the Wisconsin College of Agriculture in acre sized bottles. They will be furnished postpaid at cost price of twenty-five cents a bottle which is sufficient for treating twenty pounds of seed. Members are requested to report their experiences and success with these cultures.

Our New Booklet "Alfalfa"

The wealth of information on alfalfa which our Association has collected during the past six years together with the experimental observations on over 600 plots of alfalfa which we have established is of such great value and importance, that your Secretary has written an eighty page booklet telling of the experiences and experiments of our members. It is written in story form and illustrated with twenty colored views and over forty other illustrations. These views talk. They tell the plain truth about alfalfa. Professor Moore says it is the best, most attractive and interesting publication on alfalfa he has ever seen. Peter Swartz, our president and the largest grower of alfalfa in Wisconsin says that every farmer should have a copy. It is an expensive publication and cost us lots of money. We are making a special price of 50 cents per copy for our members. Those who are not members may secure single copies for 70 cents and in quantities of ten or more copies at 50 cents each. The booklet is published by the Alfalfa Order. All the funds are handled by the Association—not individually.

Join Wisconsin's Army of Alfalfa Growers

For the past three years our membership has not fallen below 800. We have at present over a thousand members. The Alfalfa Order is a mighty army of alfalfa growers, truly patriotic in the cause of greater food production. Since we began in 1911 our alfalfa acreage has doubled twice over.

Wisconsin's Alfalfa Record

In 1915 the United States Crop Bureau of Statistics credited Wisconsin with a larger tonnage production of alfalfa hay than any other state east of the Mississippi river. Our production in 1915 was 361,000 tons—more than seven times that of 1909. This is only an indication of what a good strong and live Association can do.

Help This Movement Along

Let's pull together on alfalfa and profit by each others experiences. Join the Alfalfa Order. With all the benefits and advantages we have to offer our members there is only one thing to do—be a member. Do it now.

ALFALFA PROBLEMS IN NORTHERN STATES

By Fred L. Hatch

A physician once prescribed "animal food" for one of his patients. Calling to see him some days later, he was anxious to know how he was doing and what benefits he had derived from the new diet. He was informed by the patient that he was "getting along pretty well," that he did not mind the barley, oats and corn, but "durn" the hay.

This was probably before the days of alfalfa or before its wonderful properties were known or the many ways in which it could be made to serve the wants of man and beast. I suppose the hay referred to by the sick man was just common every day timothy, deficient in protein, the food element which makes blood and bone and muscle and gives to all strength, vigor and energy. No wonder the system revolted at so much carbonaceous food, and demanded a more balanced ration. Had the patient been given alfalfa instead of timothy there would have been no balking at hay.

The wonderful and marvelous stories of the plant have sometimes appeared to us much like plain, common everyday lies. We have laughed at what we conceived to be clever exaggerations. It is just beginning to dawn upon us that we have been amused at facts and truths and that those whom we have taken for worldly minded humorists are in reality great truth-tellers.

We are facing a crisis such as the world has never known, and we are called upon to produce more and waste less, in order that freedom may not perish from the earth.

Already:

"Our Tuesdays are meatless
Our Wednesdays are wheatless
We're getting more eatless each day.
Our homes they are heatless
Our beds they are sheetless
They're all sent to the Y. M. C. A.

"Our neighbors are treatless
Our coffee is sweetless
Each day we get poorer and wiser.
Our stockings are feetless
Our trousers are seatless
My Lord! How I do hate the Kaiser!"

The prominent and everlasting problem in maintaining high production is to keep enough nitrogen in the soil out of which to make crops and because of this the leguminous crops are the fundamental basis of high production. Feed the legumes to the soil and the soil will feed the grain crops. If there is one thing above another which should be protected by the state it is the soil. No man should have the right to destroy his farm, no man should have a right to "skin" his farm, butcher it up, and sell the hide, hoof, bone and tallow. Such a man is not a farmer but a veritable robber and should be brought to speedy justice for his sins. The man who causes one blade of grass to grow where two grew before has forfeited his title to God's broad acres, and will soon pay the penalty by being forced into some city sweat shop. To feed the world and at the same time add to the fertility of the soil is his, the farmer's, problem.

We have the plant—alfalfa is preëminently that plant. It gathers large quantities of food from the air. Its roots drill down ten to twenty and even thirty feet, getting nourishment where other plants cannot reach. It is a comparatively new crop in the United States, but it is as old as the nations of Western Asia. When our forefathers came to this new world they brought with them this unique plant and in Virginia, New York, and parts of New England Lucerne was recognized as a valuable crop, but new and fertile soils would produce crops without food from the air and the use of this soil enricher was neglected. Now barren wastes have followed in the wake of this neglect. Had they recognized the importance of this wonderful plant as we are beginning to do, those barren wastes would now be fertile fields.

Alfalfa feeds our soils and enables us to grow larger crops of grain.

Alfalfa balances all grain rations, especially corn.

Alfalfa supplies us with protein more cheaply than we can buy it in feedstuffs.

Alfalfa produces double the feed value of clover or any other

forage crop per acre. Don't farm without it and don't feed without it.

Hon. A. P. Grout of Illinois, president of the first alfalfa association of America, said that he could pay 6 per cent on $1,000 per acre land by growing alfalfa—that one acre of alfalfa was worth 6 acres of timothy and that when corn will net $15.00 per acre alfalfa will net $50.00 per acre.

Further proof of its value is shown in the following experiments.

In Wisconsin we notice that alfalfa produces twice as many tons per acre as clover or timothy. In 1910 the cost of growing alfalfa was about the same as growing other hay crops, which left a profit of $4.00 on timothy and clover but $21.00 on alfalfa per acre. This same year there were 50 million acres of timothy and clover and 5 million acres devoted to alfalfa. Only 218 thousand acres are east of the Mississippi river, Kansas raising 1 million acres—one-fifth of the entire acreage of the United States.

In Nebraska several litters of pigs were separated into two lots; one lot was put 80 days on corn and alfalfa pasture then were fed on corn and alfalfa hay 100 days. One lot was fed on corn alone with plenty of good water, the same as the other. Six months later these pigs were killed. The ones having corn and alfalfa averaged 185 pounds each, and the ones having corn alone 75 lbs. each. The ones having corn alone requiring 17¾ lbs. of corn for each pound of gain; the ones having corn and alfalfa required 5 97/100 lbs. of corn for each pound of gain.

"Time comes when each acre must yield without flaw
Production must double in Nature's grim law.
The cities will teem with vast millions that toil,
And life with its hopes must depend on the soil.
What methods more wise could the farmer combine,
Than raising alfalfa and fattening swine."

The Illinois Experiment Station conducted an experiment feeding dairy cows. The cows were divided into two lots; Lot 1 was fed for 9 weeks on alfalfa, Lot II on bran. They had other feeds too, but in similar quantities. At the end of 9 weeks the feeds were changed. When Lot II was fed alfalfa, the milk yield rose from 460 to 520 lbs. The total milk production for the 18 weeks shows a balance of 375 lbs. in favor of alfalfa feed

At the Nebraska Experiment Station a number of calves were divided into 2 lots. Lot I was fed prairie hay and grain (prairie hay has the same feeding value as timothy). Lot II was fed on alfalfa and grain. To make 1000 pounds gain required 16,700 pounds prairie hay vs. 10,000 pounds alfalfa; 3,000 pounds grain vs. 1,600 pounds of grain. The money cost for prairie hay and grain was $45.10, and for alfalfa and grain was $28.20.

Ontario, Canada, furnishes an experiment of how alfalfa enriches the land. Wheat planted after alfalfa yielded 61 bushels per acre, as compared to 42 bushels on timothy sod.

To grow alfalfa we must have well-drained, sweet soil. Many of the soils in Wisconsin and northern Illinois are naturally well-drained, being underlaid with loose limestone and were formerly all sweet soils. Many years of grain growing have exhausted the lime in the surface of the soil, so that from 2 to 5 tons of lime per acre must be applied before alfalfa can be grown most successfully. A well-prepared, firm seed bed, free from weeds is the next requisite, the young alfalfa plant being very delicate. All alfalfa land should be inoculated with nitrifying bacteria. We can do this by spreading soil from an old alfalfa field or sweet clover patch upon our seed bed, and immediately harrowing to hide bacteria from sun.

The better and less expensive way is to use a very weak solution of glue. Sprinkle lightly over the seed in a shady place, then with a fine sieve sift a very small quantity of dirt taken from near the roots of sweet clover or alfalfa that is known to be inoculated. You can tell whether or not the plants are inoculated by the little nodules that grow on the roots early in the season.

When alfalfa is ready to cut it will generally show more or less bloom, but the thing to watch is the starting of the second growth. When the new shoots at the crown or base of the plant are about 1½ to 2 inches high is the time to cut. Set the mower high enough so as not to clip off the tops of these shoots. If cut earlier you are likely to weaken the plant and lose growth on the first crop. If you cut later you are likely to cut the new shoots and thus retard the growth of the second crop. Be careful not to cut too late in the fall. There should be a growth of at least 8 inches high left to protect the crowns of the plants in the winter. At times no shoots appear and no blossoms, the lit-

tle plants being rusty or sickly. It is best at such times to cut the plant and thus force it to make a new healthy growth.

Only nine per cent of the land left in this country is capable of being cultivated, hence we must have more intensive rather than extensive farming. We must make our present acres double our production in order to feed the world. All necessary information and instruction concerning culture and care of alfalfa may be had for the asking from our agricultural colleges and experiment stations.

In my opinion the wonderful plant, alfalfa, is to revolutionize agriculture, country life, country schools, country churches. It will transform poor, hilly country wastes into fields rich in plant food. It will enable the tenant to become the landowner. It drills into the earth and reaches up into the air for sunshine and food, which it transmits into cash for its fortunate owner. No other plant performs such enormous labors for the human race. It will solve the problem of high cost of living. Nature did a choice piece of work when she presented the alfalfa plant to the world. Doubtless she could have done a better job—but truly she never did.