Eleventh annual report of the Wisconsin Agricultural Experiment Association annual meeting : Madison, Wis., January 10, 11, 1913. Address of president, secretary's report with papers and addresses giv...

Wisconsin Agricultural Experimental Association
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ELEVENTH ANNUAL REPORT

OF THE

WISCONSIN

Agricultural Experiment Association

ANNUAL MEETING

Madison, Wis., January 10, 11, 1913

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

DEMOCRAT PRINTING COMPANY, STATE PRINTER

1913

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LETTER OF TRANSMITTAL.

WISCONSIN AGRICULTURAL EXPERIMENT ASSOCIATION.

MADISON, WIS., 1913.

To His Excellency, FRANCIS E. MCGOVERN,

Governor of the State of Wisconsin:

SIR—I have the honor to submit for publication, as provided by law, the Eleventh 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, January 10, 11, 1913.

Respectfully submitted,

R. A. MOORE,

Secretary.

OFFICERS, 1913.

President ..... J. P. BONZELET, Eden
Vice President ..... WILLIAM LEONARD, Jefferson
Secretary ..... R. A. MOORE, Madison
Treasurer ..... NOYES RAESSELER, Beloit
Clerk and Stenographer ..... NELL W. LORIGAN, Madison

COMMITTEES.

Program:

Officers of the association.

Executive:

Presidents and Secretaries of the County Orders of the Wisconsin Experiment Association.

Resolutions:

J. B. Cheesman ..... Racine
H. P. West ..... Ripon
C. A. Lyman ..... Sun Prairie

Coöperative Experiments:

Farm Crops ..... R. A. Moore
Soils ..... A. R. Whitson
Farm Engineering ..... C. A. Ocock
Agricultural Chemistry ..... E. B. Hart
Agricultural Extension ..... K. L. Hatch

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 coöperative 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 regulation 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.

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

Article III. This association shall be governed by Robert's Rules of Order.

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

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

Constitution adopted and organization affected Feb. 22, 1901.

ELEVENTH ANNUAL REPORT

OF THE

Wisconsin

Agricultural Experiment Association

PRESIDENT'S ANNUAL ADDRESS.

C. P. NORGORD, Madison.

Members of the Experiment Association, Ladies and Gentlemen:

At the close of one of the most prosperous years known in the State and Nation, we again assemble in this room to recount the many blessings that have come to us.

The demand for seed grains has been greater by far than ever know before. The advent of our pedigree grains in large quantities, to take the place of the common grains in our hands, has advertised our association and is creating a sale for seed grains which we have not had before and which no other state has had. The demand for seed corn has been tremendous, —greater than we could fill. Our members have exercised good judgment in holding prices at reasonable figures in spite of the great demand and the enormous prices charged by many seedsmen.

I believe that it would be wise and profitable for our members to sell more of the small, and medium sized ears of corn as shelled corn than they are doing, and thus sell as first grade ear corn only ears of good size and type. The shrinking of corn caused by fire drying decreases the size of good ears, so that they are criticized by persons unfamiliar with fire dried

corn. If this is done it would be entirely proper to sell the ear corn at from three to four dollars per bushel, and the shelled corn at two to three dollars. We should sell only good seed, and while we wish our members to sell at reasonable prices, we think it much wiser to raise the price and sell smaller amounts, than to sell larger amounts of poor quality at lower prices.

With increasing numbers in our association the danger of seeds of inferior quality and type being sold is constantly increasing. We hear of poor seeds being sold. Several cases have been looked into, but thus far the guilt of these parties has not been proven. We must not permit any poor seeds to be sold. We have heretofore had a committee to look into suspicious cases. We wish again to appoint such a committee with power to act in such cases. We wish this committee to be active in its work, and would advise that definite pay be provided for such work.

Our farm inspectors have proven of great aid in raising our standards. A few, not realizing their powers and duties, make this inspection work an opportunity for visiting; this should not be so. Each inspector should advise and criticise impartially and should report all cases not up to our standards. Each suborder should give their inspector definite instructions on this point and should uphold him in his work.

We are glad that so many representatives of the suborders are with us to-day. The suborder is a vital part of our organization. There is great danger that some of these orders may lose interest and die. Let each representative go back to his order to plan a number of meetings and definite work for his order and let him take the fire of inspiration with him from this meeting to the members of his order.

The time has now come when the pedigree grains should replace the common grains in our hands. The pedigree barleys disseminated two years ago have outyielded the oderbrucker by more than three bushels per acre. When these have replaced all of the barleys in the state it will have added vast sums to the income from barley. This year 1500 bushels of pedigree oats will be distributed to our members. One of the strains to be distributed yielded 110 bushels per acre this year on the Station plots.

We have placed much emphasis on the care of seed corn but aside from the treatment of grains for smut not much has been said on the care of small seeds. Prof. Bolley, of North Dakota, and other plant pathologists, are finding that fungous diseases check the growth and reduce the yield of our grains. Flax wilt, one of these diseases, is introduced into the soil by the first year's seed, so that another crop cannot be grown. The diseases of other grains do not take effect so quickly, nevertheless their detrimental effect is sure to come in time. Forty years ago our fathers often raised thirty-five and forty bushels of wheat per acre; twenty years ago fifteen to twenty bushels was a maximum yield. To-day we are again raising thirty-five to forty bushels per acre. Why these changes? Many of our best scientists think that the reduction in yield came from the accumulation of diseases due to continuous cropping of wheat. On ceasing the growth of wheat the wheat diseases have had no wheat on which to feed, and have consequently left the soil and wheat can again be grown without reduction in yield by the disease ravages.

These fungous diseases are found on the seed. As one rotten apple will contaminate others, so the fungus from one seed will spread to others in the same head and from head to head, until the bundle and the entire shock is filled with the disease.

The tremendous amount of moisture and heat that we had this summer are the most favorable conditions for this injury to take place in grain standing in shock. Bins of grain threshed direct from the field often rise in temperature and moisture to furnish like favorable disease conditions. It is time that we realize the great losses occurring through these conditions, and seek a remedy. To remedy this situation we recommend that all grain be capped and stacked. We believe that it would be profitable for each farmer to use special small seed fields in which to grow his seed grains, that special seed be sown in these fields and that on this small field each shock be covered with a hay cap. We would further recommend that the grains used for seed be given a thorough cleaning and separation, and that they be placed in a separate bin immediately after threshing. In this way let us sow only the clean grain, the golden seed, the healthy, high germinating seed, that will yield a full crop and will not contaminate the soil.

This year again, our association is to send its prize grains to the Great Corn and Grain Show, this time to be held at Columbia, S. C. We have a high standard to maintain. We hope that we may be able to improve upon our previous records.

This is the time of year when our farmers should take a vacation. No trip planned could be more interesting than that to the Exposition at Columbia. You will there see the products from all parts of the United States. You will meet people of National reputation, and hear them speak. The fare going and coming is but $35.00. The Exposition is in the sunny South, the summer land, where you will enjoy the balmy weather while the North is bound in snow and winter. When you return, you will be glad that you spent the money, and the rest and refreshment will make you able to accomplish more in a given time. Remember that you live but once, and the pleasure you take day by day and on special occasions is the best that you can get out of it.

CONSTITUTION AND BY-LAWS OF THE TOWNSHIP AGRICULTURAL CLUBS OF THE COUNTY ORDERS OF THE EXPERIMENT ASSOCIATION.

Article I. Name.

The organization shall be known as the (Name of township) Agricultural Club of the (Name of County Order) of the Experiment Association.

Article II. Object.

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

1st. By coöperating 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 Robert's 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.

REPORT OF THE SECRETARY—1913.

R. A. MOORE.

Worthy Members of the Experiment Association:

It again gives me renewed energy and confidence in our great work to note the deep interest manifested by members in the banishment of scrub grains from the state and in their place put pedigree and pure bred strains. The work is far-reaching and has brought great credit to the faithful workers in this worthy cause.

MEMBERSHIP.

In point of membership will say that the Experiment Association now records the largest number of paid-up memberships known in the history of the association. To give a general idea as to the progress of the association I herewith give the paid-up membership consecutively for the past six years. 1907—900, 1908—1,100, 1909—1,225, 1910—1,316, 1911—1,348 and 1912—1,415. It will be noted from the above that the association has gradually increased its membership not by rapid fluctuation, but by a steady healthy growth.

ACTIVITY OF MEMBERS.

We have practically all active members and no laggards in the work we are performing in the growing and dissemination of pure bred seeds goes on at a rapid pace. Through the efforts of our members it has been made possible for pedigree grains to be grown in thousand and million bushel lots to supply the great demand of our own state and that of our sister states and foreign countries. With the infusion of new blood, that comes to our association through the membership of outgoing classes of the College of Agriculture, there is every reason to feel that our association will forever remain young and active.

COÖPERATION WITH THE COLLEGE OF AGRICULTURE.

One of the strong features of the association and that which is a great benefit to the association and membership alike is the hearty coöperation which exists between the association and the College of Agriculture. From the very inception of the association it has closely coöperated with the College to that extent that the union has practically become one and inseparable. May this kindly feeling ever exist, and like true children of the University, may we ever look to her for guidance and for that which is just and good. In this way we will become mutually helpful to each other and carry to a successful issue the great work we have in store for future years.

COUNTY ORDERS OF THE EXPERIMENT ASSOCIATION.

The work of organizing the counties has gone gradually forward and at the present time we have thirty-two doing active duty. In order to give an idea of the development of the County Orders I herewith give the number of County Orders under organized during five successive years: 1908—1, 1909—2, 1910—7, 1911—17, 1912—32. The work of the County Orders has been on the whole very commendable, some County Orders however are doing ten times the work of others and efforts should be put forth by the State Association to aid and assist in every possible way. It means a great deal for a county to have a good, live agricultural association to stand behind agricultural activities and lend a helping hand in making the agricultural and other resources of the county known far and near. The County Order must assume the responsibility and through her coöperation with other organizations of the county mold public sentiment to regard agriculture in its proper sphere. All vocations of life are ready to coöperate with you, and this opportunity must not go by unheeded.

In order to facilitate the work of the county a conference consisting of a delegate from each County Order, was held last evening and a systematic mode of procedure discussed as to the future work of the County Associations. I feel this conference will be instrumental in doing much good as there has always been some doubt in the minds of some managers of the

County Orders as to just what was best to take up for the general good of their respective associations. The work of the conference will be given in the forthcoming report.

EXHIBITS.

The County Orders have done a great work in the way of arranging agricultural exhibits at the County and State fairs. This good work should continue, and the coming fall I hope to see every Order represented at the State Fair. These exhibits reflect the work of the Order to a large extent and at the same time show the agricultural resources of the county.

EXHIBITS MADE BY THE STATE ASSOCIATION.

Coöperative exhibits were made by the Experiment Association and the College of Agriculture at the State Fair and at the National Dairy Show, Milwaukee. A joint exhibit is now being prepared to send to Columbia, South Carolina. We trust this will far excel any exhibit so far sent out, as to educational features and the pedigree seeds exhibited. The State Association sent speakers to judge the grain exhibit and take part in the program of most of the county organizations. The expenses for work of that character has been taken care of by the state association.

FINANCIAL AID FOR COUNTY ORDERS.

In a few instances our County Orders have become so influential in agricultural affairs that the county boards have deemed it wise to grant an annual appropriation for the work of the Order. It seems by the activity of each and every County Order that some financial support can be secured from the county boards to help the good work along. I do not wish to convey the idea that the character of the work would in any way be lessened if an appropriation was not secured, as I fully realize that some great sacrifice will have to be made by the officers and members whether an appropriation is secured or not, but an appropriation enables more of the good work to be carried on.

ORGANIZATION OF TOWNSHIP ASSOCIATIONS WITH COUNTY ORDERS.

Farmers in several instances have asked if they could not be organized as associations that become a part of the County Orders. It seems this privilege should be extended to them and the County Order become of much assistance to them. Your Secretary organized one farmers' club to try the experiment. The organization is known as the Embarrass Agricultural Club, of the Shawano County Order, and I hope the County Order will receive this new responsibilty and do everything in its power to aid and assist in every possible way this new acquisition. By having a good live agricultural Club in the various towns of the county they would be able to exert a very beneficial influence upon agriculture and by hearty coöperation with the County Order, help that organization in many ways. The County Order would be expected to assist the farmers clubs in various ways.

PURE BRED SEED MARKETING.

The necessity of putting upon the market pedigree seeds free from all weed seeds, and of known vitality and pure origin cannot be too carefully guarded. Unless a member is positively certain upon those points it is far better to use the grain for feed or put it upon the general market. No member can sell a single bushel of seed but what it benefits or retards the association work. Let the Experiment Association seal be known everywhere for purity and quality.

FORMALDEHYDE TREATMENT OF SEED.

No small grain seed should be sown this spring unless it is first treated in accordance with the "formaldehyde method for the prevention of smut." This treatment effectually eradicates smut and many of the other diseases common to small grains. Unless the seed grains are so treated, and smut develops it is best not to put them upon the market. The leaf stripe has begun to invade barley fields and it is well to have all seed barley treated with the formaldehyde solution as recommended on page 106 of the Ninth Annual Report of the Experiment Association so as to eradicate smut and other diseases.

GRAIN SAMPLES TO BE SENT TO THE SECRETARY OF THE COUNTY AND STATE ASSOCIATIONS.

On account of the many orders coming direct to the State Secretary and then being referred to the various members for filling I feel that a quart sample of each of the small grains should be sent each year for examination. This sample should be a true sample of that which is to be sent out. If to be sold to seedsmen at wholesale who expect to reclean it, send sample as it comes from the machine. If, however, it is to be retailed to customers, it should be sent and labeled as it is to be furnished to this class of trade. Some members send in such samples now, but it should be general. Many parties when purchasing seeds come to Madison and if they could be shown a sample before purchasing, it would be the means of effecting sales. Two ears of corn would make a sample from which the merits of the corn could be judged. The ears of corn sent should not be the best that could be selected but a fair sample of that to be sold. A special room will be set aside for such samples of grain and they will be properly labeled and kept on exhibition for the year they are intended to be sold. As soon as the county secretary can so arrange it seems that arrangements should be made so that he could have for inspection a similar set of samples. The sample should have plainly marked upon it:

First, Name of grower,
Second, Address of grower,
Third, Name of variety,
Fourth, Yield per acre,
Fifth, Germination, per cent.

This sample in short should be a fair index of the quality of seed to be sold and a safe guide for the secretary to go by when referring purchasers to the producers.

BREEDING WORK AT THE STATION.

The breeding work at the Station is progressing rapidly and we will have new varieties of various grains for dissemination from time to time. Breeding work with field and canning peas has been in progress for the past four years

and will this year go into the increase plots. We feel confident that pedigree varieties will be bred far superior to those commonly used. The work with wheats is progressing nicely and several varieties are already in the increase plots and will be grown in large fields in 1914. We hope to be able then to make a dissemination.

TESTS WITH GRAINS AND FORAGE PLANTS.

From reports received I am able to give the following data regarding tests with grain and forage plants made by members of the association.

Pedigree Barley.

Number members reporting	156.
Average yield Pedigree Barley	35.8 bu.
Average yield of other varieties	29.8 bu.
Difference in favor of Pedigree Barley	6. bu.

Pedigree Oats.

Number members reporting	308.
Average yield Pedigree Oats	56.6 bu.
Average yield of other varieties	47.3 bu.
Difference in favor of Pedigree Oats	9.2 bu.

Pedigree Rye.

Number members reporting	44.
Average yield Pedigree Rye	25.7 bu.
Average yield of other varieties	17.3 bu.
Difference in favor of Pedigree Rye	8.7 bu.

Barley on Fall and Spring Plowed Land.

Average yield on Fall Plowed Land	38. bu.
Average yield on Spring Plowed Land	31. bu.
Difference in favor of Fall Plowing	7. bu.

Oats on Fall and Spring Plowed Land.

Average yield on Fall Plowed Land	58. bu.
Average yield on Spring Plowed Land	49. bu.
Difference in favor of Fall Plowing	9. bu.

Oats, Drill or Seeder Planted, on Different Soils *

	Heavy Clay.	Clay Loam.	Sandy.
Average yield with drill	52. bu.	57. bu.	45. bu.
Average yield with seeder	50. bu.	58. bu.	52. bu.

Pedigree Oats No. 1 and No. 5 on Different Soils.

	Heavy Clay.	Clay Loam.	Sandy.
Average yield Pedigree No. 1	59. bu.	60. bu.	45. bu.
Average yield Pedigree No. 5	50. bu.	58. bu.	52. bu.

ANNUAL YIELD OF PEDIGREE BARLEY AND OTHER VARIETIES.

	Ped. Barley	Other Varieties.
1907 av	39. bu.	33.6 bu.
1908 av	30. bu.	34.9 bu.
1909 av	37.2 bu.	31. bu.
1910 av	32.3 bu.	29.6 bu.
1911 av	30.7 bu.	27.3 bu.
1912 av	35.8 bu.	29.8 bu.
Average	34. bu.	29.2 bu.

DISSEMINATION OF PURE BRED SEED GRAINS THROUGH THE CO-OPERATION OF STUDENTS IN THE COUNTRY SCHOOLS.

J. C. BROCKERT.

In the few minutes of your time that I have at my command, I shall attempt to discuss two points, methods and results, of the dissemination of pure bred seed corn, through the coöperation of the students in the country schools.

With the hearty coöperation of Prof. Moore of the Department of Agriculture and the Grant County Fair Association, it was an easy matter to push the scheme for the dessemination of pure bred seed corn and arrange a county corn contest. Letters outlining the plan of the contest, the kind and amount of seed, the postage required to mail the package of seed corn, were sent to the teachers of the county. Teachers were requested to encourage their pupils to enter the contest, and to report the names, ages and addresses of all who expressed a willingness to join the "Boys' and Girls' Corn Club." Teachers were also requested to post upon the bulletin board in the schoolroom, the circular of rules and regulations concerning the contest.

Many teachers took more than a passing interest and were able to interest pupils in the undertaking. A few teachers announced to the school that a corn contest was to be held, and let the matter drop at that. On the whole, it was very gratifying to note the interest with which teachers and pupils took hold of the corn growing contest.

I believe that the dissemination of pure bred seed corn is very much like anything else one undertakes to do. One must be interested in the subject. I can think of nothing more difficult to do than to interest others, especially boys and girls, in a proposition in which I am not interested or about which I know little. Boys and girls will not become enthusiastic over a subject in which their teacher or advisor is only passively interested. Some people are not going to be very much interested by just a bare announcement of events. It must be talked, advertised, and talked.

Very effective work was accomplished while visiting schools. Personal talks with teachers and pupils did much to create a desire on the part of the students to enter upon this work. In talking to students I found them more easily interested than some of the teachers. A little encouragement was all the boys and girls needed to set them at work. Children in the country schools know something about corn at the outset, and for that reason it is not difficult to interest them in the subject.

After the pupils express a desire to enter the contest, plant the seed, and care for the corn, they may meet with adverse circumstances, and feel that it is not worth while to enter their prize ears. Children like to be recognized by their elders and especially by public officials. To show with what interest the students receive a communication, I quote from several letters received in reply to the following letter which was mailed to them August 26, 1912.

Lancaster, Wis., August 26, 1912.

Dear Friend:—

For some time I have been wanting to write to you concerning our Boys' and Girls' Wisconsin No. 7 Corn Growing Contest, but the vast amount of work has kept me from doing so until now.

I hope you are having splendid success with your plot of corn, and that whatever discouragements you may have had, you will not fail to send an exhibit to the Grant County Fair. Remember, there are about half as many taking part in the contest this year as last, and the number of prizes has been more than doubled; also the amount of money. You will see

from this that your chances to win are much increased over last year.

The reasons for writing to you are to tell you:—

1st. That the one who wins first prize will have an opportunity to spend one week in the College of Agriculture at Madison, with railroad fare and all expenses paid. What a treat!

2nd. That there are 23 more prizes from $10 to $1.00.

3rd. That a picture of all the boys and girls in the contest will be taken on Friday, September 20, at 1 o'clock in front of the corn exhibit. Plan to come Friday if you can.

4th. That you are to bring or send your ten ears by some one so that they may reach Lancaster on or before the first day of the Fair, September 18th.

5th. That your ten ears will be returned to you on the last day of the Fair if you are there to receive them, so that you may have seed next year, as NO seed will be sent out by the College of Agriculture for our use.

6th. Wishing you success in selecting and curing your seed corn and hoping to see you Friday, September 20, 1912, I am

Very sincerely yours,

J. C. Brockert,

County Superintendent.

Are not the following letters indicative of the interest and spirit in which the young people receive the letter?

Boscobel, Wis., Sept. 9, 1912.

My dear Mr. Brockert:—

I was very glad to get such a nice letter from you. I planted my corn and it came up all but 5 hills. I took good care of it and it was much earlier and nicer than papa's corn. But being it was so early the blackbirds had no other corn to go after so they took all of mine. I haven't so much as one ear to take to the Fair. I do not think I can ever win a prize on corn, as the blackbirds are always here by the million. Maybe you can tell me something to do about those blackbirds. I would be very glad if you could. You know the birds ate about half of the ear. Do you think I can use the other for seed corn? I am sorry I could not be one of the prize winners.

Very truly yours,

Walter Boebel.

Another boy writes:—

"I received the corn in good shape in March, and planted it in April. I plowed it once and hoed it three times. My corn stands higher than my head. I think I will be at the Fair in September. I received my bulletin in June.

Very sincerely yours,

Willie Pierce.

Another little boy writes:—

"I have planted the corn you sent me, and by the help of God and my little hands, I shall win a prize."

There is no way of measuring results, neither can it be definitely known now or at any future time. This, however, is evident, that teachers and students are taking a greater interest in the study of corn. It naturally follows that the teachers and pupils have a better knowledge of corn, especially the characteristics of a good seed ear. Further, the dissemination of a pure bred seed corn has placed in the farmers' possession a seed corn that many had not used.

Last, but by no means the least, it has demonstrated an increased yield in the production of corn. Three factors, namely, seed, cultivation, and soil, entered into this result.

Other results are evident in the following letters from boys engaged in the work of raising Wisconsin No. 7, but the chief point I wish to make is that of increased production.

Glen Haven, Wis., Oct. 1, 1911.

Mr. J. C. Brockert,
Lancaster, Wis.

Dear Sir:—

I thank you for the check of eight dollars. I planted my corn on May 18th, on new ground, on which we had potatoes for two years, about four kernels in a hill and two hundred fifty hills. I hoed this corn twice and plowed it five times and pulled weeds. I have about eight and one-half bushels.

Yours truly,

Harold Ackerman.

A very little applied arithmetic reveals the fact that Harold was raising corn at the rate of 110 bushels per acre.

Potosi, Wis., Sept. 22, 1912.

Mr. J. C. Brockert,
Lancaster, Wis.

Dear Sir:—

Received the bank draft. I thank you very much. I have invested it in a pig. Had eight bushels of corn on my patch, sold two bushels for seed corn at $2.00 per bushel and six bushels at 50c per bushel and am going to buy another pig. Had 368 hills of corn, planted it the 12th of May, harrowed it two days later, plowed it three times, hoed it four times and picked it the 12th of September.

Yours truly,
Ringland Richter.

From the above we determine that the yield on one acre at the same rate of production would be 72 bushels.

Fennimore, Wis., Sept. 27, 1912.

Mr. J. C. Brockert,
Lancaster, Wis.

Dear Sir:—

I thank you very much for the check of eight dollars. I planted my corn on the 17th day of May on ground that had been plowed, then fertilized, then harrowed. I had about 260 hills which I plowed four times and hoed four times. I have ten bushels of corn left, out of which I have about six bushels of selected seed corn to sell.

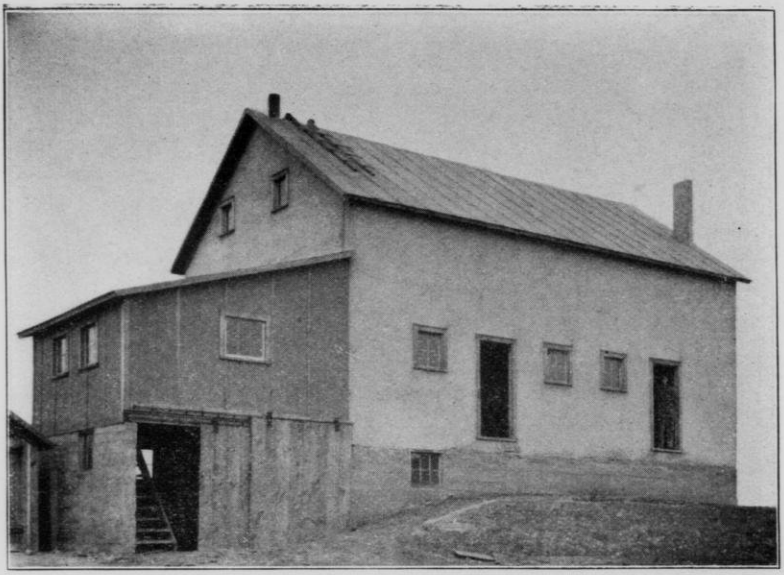
Yours truly,
Everett Palmer.

From the known we may determine the unknown, and Everett's letter submits the following problem in proportion:—

260 : 3200 :: 10 : x

This means approximately 120 bushels per acre.

In conclusion, I shall say that increased production of corn on a given area means more money, more money means more good times, better homes, and better schools.



CORN CURING HOUSE OF HENRY MICHELS, MALONE, WIS.

Over 1,000 bushels of Golden Glow seed corn is cured in this building annually. Supplied with fans and special devices to create circulation of air to aid proper ventilation.

The New Era in fence building. Cement posts are permanent and durable. Considering their lasting qualities, are a good investment on any farm.

FARM FENCES.

PROF. C. A. OCOCK, *Madison.*

The old fences are rapidly passing away and must shortly be replaced by new ones. This matter is an important one and should be given immediate attention. Too many of these old fences are becoming a blight upon the landscape and a menace to good farming. They have grown into hedgerows of underbrush and weeds, unsightly, untrimmed and unkept, and a breeding ground for burdocks, thistles, and tumble weeds. The seeds of these foul weeds are easily and quickly distributed to adjacent fields and soon the farms are overrun with one of the greatest crop pests.

Clean up the old fences, cut the brush, and plow the land which has been practically worthless, crop for a year or two where practicable, then seed down and build a fence which will be a credit to the farm and its owner.

Many sections of the state are fortunate in being in the glaciated region where there is usually found excellent banks of sand and gravel. This condition offers a suggestion for fences of more permanent character and quickly suggests posts of reinforced concrete.

Timber is becoming too valuable to use as posts, especially in the central and southern sections, and the time is not far distant when more conservative methods of timber preservation must be formulated, or wood used for fence posts must be entirely discontinued. At present reinforced concrete fence posts cost little, if any, more in many localities.

Those who object to the concrete post do so more because they are a new thing and have not been tried out, or because some of the first posts which were put on the market proved unsatisfactory. Such objections are poor excuses for there are posts on the market now that are entirely reliable and should last indefinitely. It is true that concrete posts do not stand shocks, such as being struck by wagon wheel hubs or undue attacks by cattle, as well as wood posts: yet under ordinary conditions they will last a lifetime.

The weight is not excessive, since these posts can be made to fulfill ordinary fence requirements and not weigh over one hundred pounds. There is an advantage in weight as the frost has very little effect upon them, and fails to heave them as it does the wood post. Concrete posts which have been set on the University Farm for seven years are apparently as sound as they were when first set.

The reinforced concrete post is being rapidly adopted by the great railway companies of the country, especially in sections where wooden posts are becoming prohibitive in price. Many of our most prosperous farmers are also taking advantage of this system of fencing and find it a paying investment. The cost varies with the size and the accessibility of material. The ordinary four-inch post seven feet long is worth between thirty and thirty-five cents.

The construction of such posts is not a difficult process, and many farmers make their own posts at odd times. The cost then might be still lessened since the cost of material such as cement and reinforcement is about twenty cents, sand and gravel on the farm will cost only the handling, so that the remaining cost would be the labor. Making posts in dozen or two dozen lots will greatly reduce the labor as enough material can be mixed in one batch for this number of posts.

Constructing the forms is not a difficult task and may be made up in multiples of four or more. Four is considered better as a form of this size is much more easily handled. A good grade of lumber should be selected for this work, and the forms made water tight by careful dressing. A coat of boiled linseed oil is the best thing to oil these forms with as there should be some provision made to prevent their becoming water soaked.

WISCONSIN
A GREAT STATE WITH A GREAT FUTURE.

HENRY G. BELL, Agronomist,

Middle West Soil Improvement Committee.

Mr. Chairman and Members of the Wisconsin Agricultural Experiment Association:

In coming before you on this occasion, I feel that I have more than a passing acquaintance with my audience. Undoubtedly, some of you know that we have worked together in past years.

About five years ago, I had the pleasure of attending this convention in the capacity of Secretary of the Iowa Grain Improvement Association. My mission at that time was to locate six or eight carloads of first-class seed oats for the Iowa farmers. I believe my mission was fulfilled to their entire satisfaction, and I trust to your pleasure. At a later date, when I took charge of the Department of Agronomy, University of Maine, I found a movement just starting for the betterment of their grain crops, and when asked to locate grain, clover and grass seed, naturally, my mind turned to your good association again, with the result that a considerable amount of your good seed went on its missionary journey East, and I believe is doing great good for the New England farmers.

I bring you hearty congratulations on your attainments. Your good institution, the University of Wisconsin, is in the front ranks of the institutions which are carrying knowledge, which alone is the leaven of society, to the rank and file of your citizens.

In undertaking to speak of the greatness of your State, however, it was not my sole intention to spend the time in recalling the greatness of your accomplishments and institutions. Let me congratulate you on the possession of such. They are the machinery of Progress.

America is facing the greatest problem that has presented itself since the discovery of this continent. I refer to the great problem of wastefulness of our heritage, which waste

must result in an early limitation of the powers of this nation, if the fight is lost.

Whether you have fully realized it or not, Wisconsin is one of the strategic points in this conflict.

I wish now to call your attention to four instances of the greatness of your State.

It is great, first, in tillable area. Almost 20 million acres of your State are engaged in bearing the products of the farm.

Your State is great in the possibilities of its climate.

Considering Wisconsin from the standpoint of average daily temperature during the months from March to August, during which period most of our farm crops make their greatest growth, we find the State divides itself into five belts. The southern border of counties and those on the west, as far north as La Crosse, enjoy the hottest climate of the State. The remaining counties, south of a line drawn from Trempealeau to Manitowoc enjoy the next warmest growing season. A belt of counties south of a line from St. Croix county to Marinette have a fairly warm climate. The counties that fringe Lake Superior from Marinette west, have the coldest climate. The remaining triangle of counties have a fairly good growing season.

Necessarily, these variations of temperature put limitations on the crops, and the varieties of crops which can be grown on the various areas of this State. Crops of long growing season must be confined to southern counties till hardier, more rapid maturing varieties are bred up.

The precipitation record does not allow of the state being divided into such distinct belts.

During the months referred to above, the heaviest precipitation occurs north and west of a line drawn from the mouth of the Wisconsin river to Marinette. The counties of Rock, Jefferson and Walworth enjoy about the same rainfall. The remainder of the state does not receive such an abundance of rain during the growing months.

Now, if you will couple the temperature data with the rainfall record, you will find considerably more than half of the state enjoying a medium to cool climate with a fair to heavy rainfall. The group of three counties, referred to above, in the south, enjoy a hot climate with a heavy rainfall. The re-

mainder of the state has a fairly warm climate with a smaller amount of rain during the growing season.

Please understand that the remarks I have made, relative to a cold climate or a small rainfall, are comparative and arbitrary divisions. I do not wish to suggest that those regions suffer materially from extremes of heat or cold, rainfall or drought. However, the conditions noted, impose limitations and create possibilities which I shall note later.

The third great asset your state enjoys is a variety of valuable soils. According to the survey made by the United States Dept. of Agriculture, much of the soil of your central counties varies from clay loam to sandy loam. These are soils that warm up early in spring, and are fairly easy to work. They are soils that have need of balancing of plant food, but once it is balanced, these soils give almost remarkable results. The maintenance of the organic matter of these soils is a care that should be in the mind of the Wisconsin farmer at all times. Systems of farming that make provision for returning organic matter to the soil, must be practiced, or soils which tend to be light or sandy will quickly lose their capacity to retain moisture and plant food.

Your soils are of a kind that, coupled with your climatic conditions, make the possibilities of your state great.

A fourth great asset of Wisconsin, is your business-like farmers.

This truly great association, so ably directed by your untiring and capable Secretary, Prof. R. A. Moore, is a living monument to the power of business methods on the farm.

The farmers I have referred to you, as mentioned previously, have been delighted with the material you have sent them. You have the good business foresight to put up good, vital, clean seed in an attractive form, and to give prompt and careful attention to orders.

Your good farmers, too, have the good sense to grow standard varieties of grain, clovers, grasses, etc., in quantity, through community coöperation.

Now, I repeat, much as you deserve it, I did not come here solely to spend all my time congratulating you.

Gentlemen, there stands facing the Wisconsin farmer, a problem so great that it reaches to the very foundations of the

type of farming that has sent the name of this association throughout the earth.

Without tiring you with wearisome detail, let me say that I have been estimating the fertility depletion of your soils by your 1911 crops of over 58 million bushels of corn, 3 million bushels of wheat, 67 million bushels of oats, 20 million bushels of barley, 6 million bushels of rye, 2½ million tons of hay and 32½ million bushels of potatoes. Estimating only the three ingredients of plant food, generally accepted as essentials, viz. Nitrogen, Phosphoric Acid and Potash, I find your 1911 crops took from Wisconsin soils almost 107,000 tons of Nitrogen, 38,208 tons of Phosphoric Acid, and 57,048 tons of Potash, figuring yield analyses according to Van Slyke.

Have you made provision to put this fertility back on your fields?

'Tis true, your 3,347,954 head of cattle, and other live stock, make it possible to return large quantities of this fertility. In selling cheese, butter and milk, you are sending away the least possible amount of fertility from your farms. But how about your own farms, gentlemen? Are the members of this excellent association, who are growing and selling so much seed grain, keeping watch on the fertilty supply of their farms? Do you know that every bushel of corn, wheat, barley and oats you ship, takes away the following amounts of plant food from your farm?

AMOUNT OF PLANT FOOD CONTAINED IN ONE BUSHEL OF EACH CROP.

	Pounds per bushel.	Nitrogen.	Phosphoric acid.	Potash.
Corn	60	1 lb.	1/3 lb.	1/4 lb.
Wheat	60	1 1/5 "	1/4 "	1/3 "
Oats	32	3/5 "	1/4 "	1/5 "
Barley	48	4/5 "	1/3 "	1/4 "
Rye	56	1 "	1/2 "	1/3 "
Clover seed	60	1 4/5 "	9/10 "	4/5 "
Potatoes	60	1/5 "	9/10 "	1/3 "

Multiply these figures by the hundreds of bushels you have sold, and you have your plant food liability.

Much of the nitrogen is returned by the growth of legumes, and use of barn manure. Some Phosphoric Acid and Potash is returned in the same way, but when one estimates the aver-

age ton of manure to contain 10 to 15 lbs. Nitrogen, 5 to 9 lbs. Phosphoric Acid and 10 to 15 lbs. of Potash, and figures how much fertility he has been able to put back by using manure, he finds a serious deficit. This yearly deficit is what is going to tell, nay, is telling, on the yields and especially on the quality of the cereal crops of this good state, where nitrogen, phosphoric acid, potash and lime are not supplied to your soils in forms suited to the needs of your crops and your soils.

Gentlemen, this is a problem you cannot ignore. You must keep up your fertlity if you wish to harvest large crops of superior quality.

But, I wish to return to what was said about your climate and your soil. A combination of medium cool climate, medium rainfall and loam soil furnishes ideal conditions for potato production. Your good farmers have not lacked information regarding these possibilities. Already, your state produces the greatest quantity of potatoes of any state in the Union.

I wonder, have you ever considered all of the conditions that give such a hopeful touch to Wisconsin potato growing industry? Here are a few:

(1) The last census shows a decade increase of over 21% in our population.

(2) The movement of population is still from the farm to the city. At the present time there are within 24 hours' ride of Madison 26,000,000 people, over 11,000,000 of whom are living in cities.

(3) The potato is the most common article of diet in America. The better the quality, the wider demand there is for it.

(4) With the 300,000,000 bushels of potatoes grown in America last year, we had to import about 100,000 000 bushels from Europe. Picture potatoes coming to Chicago from Scotland and Ireland, and such a combination of soil, climate and farmers in Wisconsin!

(5) The State of Maine is growing, as a state average, over 200 bushels per acre of potatoes. The prize acre of potatoes in the East this year was grown by Mr. C. A. Littlefield, Lincoln, Me., who produced 545.4 bushels, 77% of which were of table size.

Such facts as the five just mentioned, stand out like great beacon lights. They open a great and glorious vista of achievement before Wisconsin farmers.

In growing potatoes, two things should be kept in mind.

(1st) The type and quality of the potato.

(2nd) The fertility of the soil.

The type of potato that is finding readiest sale on the market is that which is regular, oval in shape, smooth and clear in skin, shallow in eyes, about 4½ to 5″ long, 2½ to 3″ in width. 2″ in thickness, weighing from 6 to 9 oz. The inside of the potato should be clear in color, fine in texture, and should cook dry and mealy. It should have a sweet, pleasing flavor.

Now, one of the surest ways to deteriorate the quality of potatoes produced in any section is for the farmers to assume that any variety will produce good potatoes, and under this assumption grow a number of varieties. This is just as disastrous in working up a reputation for good potatoes, as it is to attempt a reputation for beef cattle where farmers of a locality keep all sorts of breeds instead of some one well established and reliable breed. From what I have been able to observe of Wisconsin potato stock on the farm, at shipping points, and on the market, I wish to mention this as one of the points needing your most careful attention. With a potato regular in size and of excellent quality coming from this state, there is no reason why Wisconsin should not serve the needs of markets which are at her door, instead of letting states 1000 miles distant ship in stock of better quality.

The yield and quality of potato depends almost directly upon the fertility of the soil. No crop responds more readily to available plant food of the right kind than does this crop. The potato thrives in a good loam soil. It follows clover especially well. The decaying clover produces just that tinge of acidity which prevents the spread of bacterial disease called scab. The organic matter added in the shape of clover, also gives the soil an added capacity for retaining moisture, which is so essential to this root crop.

Potatoes are heavy feeders on nitrogen and potash. They, also, take considerable phosphoric acid. The amount of available phosphoric acid in the soil is especially important when potatoes are grown in sections of the country where the growing season is limited. The Aroostook farmer in Northern Maine follows a rotation of grain, clover and potatoes. In the fall, he plows under from 1½ tons to a ton of clover in the preparation of his potato soil. In supplementing the plant food of his soil, he applies from 1000 to 2000 lbs. per acre of a fertilizer suited to potato needs. Two of the popular types of fertilizer

used in Maine analyze 4% ammonia, 6% phosphoric acid and 10% potash, and 5% ammonia, 8% phosphoric acid and 7% potash, respectively. The Aroostook farmer is not satisfied unless he gets a yield from 225 to 300 bus. per acre. In applying the fertilizer, it is common practice for the Maine potato grower to drill broadcast into his potato seedbed from one-half to three-quarters of this plant food. The remainder of the fertilizer is applied through the fertilizer dropping attachment of the potato planter. As soon as the potato plant shows through the ground, cultivation is started in order to keep down weeds and conserve the moisture. Spraying is also started. Careful attention to the spraying of potatoes is essential if the fungous diseases, which prey so heavily upon this crop, are to be controlled. Early and Late Blight can be easily controlled by spraying with a good fungicide from five to seven times during the season. At least once or twice in the series of spraying, Paris Green should be added to the mixture in quantities of about one pound to a 30 gallon barrel of the spraying material. This insecticide controls the potato bug.

When the potatoes are dug, they should be graded in preparation for market. We believe that the shipping of ungraded, injured stock of promiscuous variety is injuring the sale of Wisconsin potatoes very seriously at the present time. Again let us emphasize the necessity of uniform stock, regular in size and of excellent quality.

Wisconsin, with its well earned reputation for excellent seed, and with its superior natural conditions for the production of both grain and potatoes, we repeat, is one of the strategic points in the crop raising divisions of this continent. With such markets close at hand, such superior natural conditions, such intelligent and business-like farmers, there is reason to believe that the coming decade will see the plant food of this fertile commonwealth not only maintained but increased, and the productivity greatly augmented. The new crop map of America will find Wisconsin in the front rank as a producer of large crops of superior quality.

LIVE STOCK AS A PRIME FACTOR IN THE GROWING OF PURE BRED SEED GRAINS.

O. J. Leu, Grand Rapids.

"As years come and go industries of our country will prosper and decline, fortunes will be made and lost, even government may change its form, but so long as the world stands agriculture will be the foundation of national wealth and prosperity." —Aaron Jones.

"When the fertility of soil is neglected, soil allowed to become worn out and unproductive, people gradually go back to barbarism." "Too many of us are robbers and thieves for we are stealing for our own use what does not belong to us but to future generations."—C. P. Goodrich.

The fertility of the soil depends upon its ability to supply plants with all the elements of food required by them. Not only must the soil contain all these necessary elements but they must be in a form so plants can make use of them. We know that of most elements the soil contains enough to last for centuries, so that we are concerned only in supplying those which are the first to become exhausted. Even of those which crops need most there would be enough to last many years, provided they could be made available as fast as required.

In a state of nature, fertility is naturally maintained. Plants that grow upon the soil die and decay upon it. A case of from the soil to the soil with something added from the air. So in nature soil becomes richer instead of poorer.

But in agriculture, by removing crops, and especially in raising pure bred grains which are and ought to be mostly sold for seed, we take away a quantity of these elements every year. If we continue this for any length of time and do not return at least as much as we remove, our soils must in time become impoverished.

One acre of wheat of 40 bushels takes out of the soil about
56.6 lb N., 18.96 lb P2 05—and 12 K2 0.
One acre of Oats of 60 bushels removes about
41.2 lb N., 16.4 lb P2 05, 12.4 K2 0.

One acre of Corn of 60 bushels
61.88 lb N., 23.8 lb P2 05, 13.6 lb K2 0.
One acre of Barley of 50 bushels,
36.2 lb N., 18.96 lb P2 05, 11.5 lb K2 0.
One acre of Rye of 30 bushels,
39.9 lb N., 13.9 lb P2 05, 9.18 lb K2 0.

The foregoing includes only the grain, the straw requiring a large amount of Nitrogen and Potash.

As an illustration of continuous cropping I quote from the report of the Illinois Experimental Station.

	Present Yield.
Corn 28 years	22 bu. per acre.
Corn and Oats 28 years	36 bu. per acre.
Corn, Oats and Clover 28 years	56 bu. per acre.
Corn, Oats 18 yrs., Clover 10 yrs	74 bu. per acre.

Missouri Experiment Station.

Corn 17 years	11.8 bu. per acre.
Corn, Wheat and Clover 17 years	50.7 bu. per acre.
Corn, Oats, Wheat, Clover and Timothy	54.2 bu. per acre.
Corn, Wheat, Clover and Manure 17 yrs	77.6 bu. per acre.

Notice the effect of manure here, which emphasizes the importance of stock raising.

Furthermore, we must have the necessary elements in proper amounts. A plant poorly supplied with potash or nitrogen, for instance, would produce only a sickly growth, and if entirely deprived of these or of any other essential element would die. In other words, plants need a balanced ration as well as animals. For instance, when straw is small it indicates a want of nitrogen, if grain is poor, phosphorus is wanting, lack of stiffness of straw, potash, etc.

Now, there are two ways of restoring the elements removed by raising grains and which are sold from the farm, viz.: commercial fertilizers and manure.

To determine which plan to follow I will give some figures showing results obtained by both methods, keeping in mind that the three elements, nitrogen, phosphorus and potash, are the main ones to be returned to the soil as they are the soonest exhausted.

One ton average fresh manure from the horse barn contains: 10 lb N., 52 P2 05, and 9.5 K2 0: from cow barn, 8.5 lb N., 6 lb P2 05, and 9 lb K2 0.

As I stated before, one acre of corn of 60 bushels needs about 62 lb Nit., 24 lb Phos. acid, and 14 lb potash. 10 tons mixed manure, or about what one applies to an acre, yields 90 lb nitrogen, 58 lb phosphorus and 93 lb potash. Returning straw in manure we have nitrogen enough for 1½ crops, phosphorus for 2½ and potash for 6½ crops of corn. As nitrogen can be supplied by growing leguminous crops, as clover, etc., phosphorus will be the one that will fail first. For barley we have nitrogen for 2½ crops, phosphorus for 3 crops and potash for 8 crops. As we manure about every three years, as three year rotation is what we strive to follow, you can see which will fail first.

How shall we supply these three elements in the manure if we sell our grains? On looking up this matter we find that one ton of cotton seed meal contains enough nitrogen for over two acres of wheat, phosphorus acid for three acres and potash for 3½ acres of 40 bushels to the acre, or nitrogen enough for two acres of corn, phosphorus for 2½ acres and potash for 3 acres, 60 bushels to the acre.

One ton of bran contains nitrogen for ¾ acre of wheat, phosphorus for 3¼ acres and potash for 2½ acres and corn in same proportion. In bran you will notice we get a feed rich in phosphorus; in cotton seed meal one rich in nitrogen.

One ton of cotton seed meal fed to a good dairy cow will return at least $45 in dairy products, and adding manurial value of $32.40 at present prices of fertilizers, makes a total of $77.40 gross return from one ton of cotton seed meal. Deducting cost of $30.00 leaves $47.40 or 158% gain on investment. In bran the feed value is a little more than the cost so we get the manure for nothing. From 80 to 90% of feeds goes to manure.

In beef production the returns are about three-fifths as much as when fed to good dairy cows. Further, a cow giving 12,000 pounds of milk a year gives enough proteids to make two 1,250 pound steers, fat enough for two, ash for three and about 600 pounds sugar besides. In one ton of butter fat we remove hardly fifty cents worth of fertilizer.

The profits on the dairy cow are increasing every year. In fact it is not asking too much to make a cow produce two dollars for every dollar's worth of feed. Of course we must keep cows that can prove that they are entitled to the privilege of

being milked. In several experiments made lately in different states the average returns have been about $2.25 for one dollar's worth of feed.

The dairy farmer is a soil specialist for he has more means for building up the soil than the farmer who does not keep cows. It has been demonstrated by experiment stations that the most economical, and in many cases the most important, fertilizer that can be used on the farm is produced by keeping stock on the farm; and of all kinds of stock, dairy cattle are perhaps the best manufacturers of this fertilizer because they are fed a balanced ration and it has been proved that different feeds make a vital difference in the value of the manure. You will also find that the dairy farmer is the most progressive farmer for it takes more care and ability to handle a dairy herd properly.

Last winter at Ames, Iowa, in a five to six months' feed test, steers fed on ensilage and cotton seed meal needed only 25c. a cwt. advance over purchase price to pay full market value for feed consumed.

Of course we must study to feed cheaply. As a dairy feed cotton seed meal is worth nearly four times as much as oats and costs hardly one and one-half times as much, figuring oats at feed value. Bran is worth one and one-half times as much and costs about the same. As a fertilizer one ton of cotton seed meal contains 135 lbs. N., 60 lbs. Phos. acid and 36 lbs. potash; bran contains 44 lbs. nitrogen, 65 lbs. phosphoric acid and 30 lbs. of potash; corn contains 33.2 lbs. nitrogen, 12.2 lbs. phosphoric acid and 7.2 lbs. potash; oats contain 41 lbs. nitrogen, 12 lbs. Phos. acid and 9 lbs. potash; barley contains 34 lbs. nitrogen, 14 lbs. Phos. acid and 9.8 lbs. potash.

Now figure our pure bred grains which are and ought to be sold for seed and which are worth about double what feed grains cost and you can see the enormous gain made by selling our grains and buying back feeds many times cheaper and better.

A ton of standard commercial fertilizer (10–2–2) contains 10% Phos. acid, 1.6 nitrogen and 2% potash. Such fertilizer costs about $25 a ton. This is enough for seven acres and will increase the crop about 10 bushels of corn to the acre or a total of 70 bushels increase due to fertilizer. Figuring corn at$.50 a bushel we have $35. or a gain of $10 on $25 or about 40%.

Furthermore we must have humus which produces and sustains nitrogen, that is, nitrogen will not exist without humus. We must also have humus if we use rock phosphate. The lack of some "mechanical divisor" such as is furnished in common manure is a serious objection to continuous farming with artificial fertilizers alone. Without this, soils become solid and compact and will suffer from the slightest drought. Manure also helps the texture of the soil. Using commercial fertilizers only is like feeding stock on concentrates alone. The soil needs a balanced ration including roughage (Humus) as well as animals.

Another thing, manure contains all the elements of food required by plants, while the average person does not know what artificial fertilizer to apply, or how much; besides it is very difficult to get most people to buy them at all.

Another advantage of raising stock in connection with raising pure bred seed grains is, that then we have a profitable way of disposing of any grains that may be damaged by rains, or otherwise not suitable for seed.

Stock raising also means silos to utilize to best advantage the corn not suitable for seed; and last but not least the raising of legumes (clover, alfalfa, etc.) our principal sources of Nitrogen. Where stock raising, and especially dairying, are followed, land is the most valuable.

To those who think that only a comparatively small amount of the elements of the soil is removed each year and that the cost between manure and commercial fertilizers may not run into the millions, to such I would say, it is the little things that count. In this age of keen competition it is the far-seeing individual that is the most successful. He takes the least number of chances. The profit now-a-days is on that part which was formerly the waste. The time has passed when any method of farming will return a profit. Economical production means the production in pounds or bushels, of crops possessing quality enough to sell in the open market at prices which return to the farmer a maximum profit after having taken into account the cost of production which includes rent, taxes, insurance, as well as labor. The *business* of farming is becoming daily more complex. It involves not only great and cheap production but also the conservation of the fertility of the soil. Let us profit by the

experience of some of our older states and keep Wisconsin the leading seed state in the United States. We as growers of pure bred seed grains are doubly confronted with the problem of conserving fertility, for we raise grains that produce nearly double the yield and of the highest quality; consequently we would deplete the soil that much faster. Let us not be soil robbers any longer but rather follow the example of some of the European countries whose soils are becoming richer instead of poorer though they have been farmed for centuries. Let us not forget that the farm is to the world what the mainspring is to the watch; and it is our duty as farmers to see that this mainspring is kept in perfect shape and condition.

Any better farming method that takes into account only the better tilling of the soil will in the end mean robbing the soil a little faster and exhausting its fertility a little sooner, while the keeping of good cows on the farm will bring increased fertility to the land and consequently increased prosperity to the people.

THE NECESSITY OF THE THOROUGH PREPARATION OF PURE BRED SEED GRAIN FOR THE GENERAL TRADE.

WM. R. LEONARD, Jefferson.

Ladies and Gentlemen and Fellow Members of the Experiment Association:

The subject that I will talk about to you to-day is, The Necessity of the Thorough Preparation of Pure Bred Seed Grain for the General Trade. It is of vital importance to every member of this Association to maintain the present high standard of purity and quality. It is necessary that the utmost care be taken in preparing seed for market. The price the seed grains demand on the market is largely determined by the quality of the grains. Any member of this Organization who puts out seeds of inferior quality is not only injuring his own business but also the reputation of the state in general. The time is not very far distant when inferior seed will be discriminated

against more than it is now, for the price of land has been steadily increasing. When our forefathers farmed on the virgin soil it was at low market value. The soil has increased in value and at the same time has been gradually depleted of its fertility so that in the future better methods of farming and improved varieties of seed grains will be necessary to produce profitable crops. It is an established fact that like tends to produce like, so by removing the inferior grains from our crops, the remainder will be of such character as to produce the best possible yield. One of the methods by which this can be accomplished is through the proper use of the fanning mill. The grain should be thoroughly fanned to remove all chaff, straw and such light grain as may go over with the wind; another important step is to screen it so all small and broken kernels are removed. This will give us a more uniform grade in size of berry. It will remove many kernels that are small and of weak vitality and hence the seed will produce a better stand. They will also be more disease resistant and hence a better crop will result. Such seed will command a premium on the market.

There is no one thing that will result in bringing Wisconsin to the front in producing the finest seed grain in America more than a thorough preparation of the seed before it is put up for sale.

THE GROWING OF WHEAT IN NORTHERN WISCONSIN.

E. J. Delwiche, Ashland.

Wheat has been in the past and will probably continue to be in the future the principal and most highly esteemed small grain used for human food in the civilized world. As a consequence this grain is always in demand, and while the price fluctuates somewhat in different years owing to increased or decreased production, these variations are but slight as compared to other grain crops which are not so generally used as food by mankind. Thus for a dependable cash crop where it can be grown successfully wheat takes first rank. In spite

of the fact that large wheat areas have been opened up in recent years in different sections of the world, the average price of wheat since 1889 has been steadily upward. In 1889 wheat sold for an average price of 69.8 cents per bushel, while in 1909 the average price was 99 cents per bushel. In 1879 our total production of wheat was nearly 460,000,000 bushels, of which over forty per cent was exported. In 1909 the total production of wheat was over 683,000,000 bushels but the per cent of export was less than twelve per cent of the production. (See U. S. Census Reports for years mentioned.) At the relative rate at which population and wheat production have increased in the past the United States shall soon cease to be a wheat exporting nation.

If we take into consideration the rapidly increasing population dependent on wheat as bread grain and the fact that as civilization advances in Oriental countries, the demand for wheat also gains a foothold, it is reasonable to suppose that the price in the future is going to be somewhere about the dollar mark. Wheat can be sold for cash at all times of the year. This is not true of a good many other crops that are more or less dependent on local consumption for a market. These facts being true we are forced to conclude that wherever wheat can be grown successfully it ought to be the principal grain crop. This, of course, is a general statement. There are undoubtedly special cases even where wheat can be grown well that, in order to supply local markets for seed or other purposes, other grain crops may take its place.

The subject of this paper is the growing of wheat in Northern Wisconsin and from now on I shall discuss the matter from the standpoint of the northern half of the state. This section of the country is in what might be termed "the hard wheat belt;" that is to say, our climatic conditions in normal conditions favor the production of hard wheat, either spring or winter. Climate, as experiments have shown, is to a great extent the determining factor so far as the quality of the grain is concerned. This is particularly true where wheat is grown in rotation with other crops in such a way that the soil fertility is kept high. I do not mean to say that wheat can be grown on all classes of soil. Such is not the case. There are many regions in Northern Wisconsin where the soil is undoubt-

edly too light to grow wheat profitably for wheat demands a good loam or clay soil for best results. Such soils occur throughout the northern half of the state. The largest belt of land possessing soil well adapted to wheat is what is known as the red clay belt along Lake Superior. This territory is from twelve to twenty miles in width and extends from Minnesota clear across Wisconsin and into Northern Michigan. A similar soil is also found along the Lake Michigan shore and notably in Door, Kewaunee, Brown and Manitowoc Counties. Perhaps these two belts excel, in their ability to produce wheat, any section in the state, quality and quantity being considered. The comparatively cool summer climate with moderate rainfall favors the production of wheat of high quality and the soil being generally heavy it is capable of producing heavy crops under right management. In the western part of the state in the counties bordering on the St. Croix and Mississippi rivers there is also a considerable territory which can grow good wheat and as a matter of fact some of the finest wheat exhibited at different expositions came from this region. In the early days wheat was a staple crop in this region but owing to faulty systems of farming it became very unprofitable. The fault was not with the crop grown but with the methods of culture followed. The writer helped to judge some very fine samples of wheat at the Eau Claire Corn and Grain Show this fall and at the county fair at St. Croix Falls. In point of quality the wheat exhibited was far superior to either the oats or barley shown at both places. This of course was to a great extent due to the very unfavorable conditions prevailing at harvest time. In north-central Wisconsin in Barron, Rusk, Taylor, parts of Price, Marathon, Lincoln and other counties, the prevailing type of soil is a silt loam designated as either Colby or Kenyon clay loam. So far as the physical composition of this soil is concerned it is good wheat land. As indicated by chemical soil analysis it is not so desirable for growing wheat as the soils previously mentioned. Experiments with winter wheat at Conrath in Rusk county on comparatively new land gave good results. The returns were fully as good in point of value as that obtained with other grain crops. Fine wheat was also exhibited at the Corn and Grain Shows at Wittenberg and Shawano in Shawano county. Here, as at

the other places previously mentioned, quality excelled that of the other crops shown. Good wheat can be grown on the rather heavy loam soils of the eastern part of Northern Wisconsin and west of Green Bay.

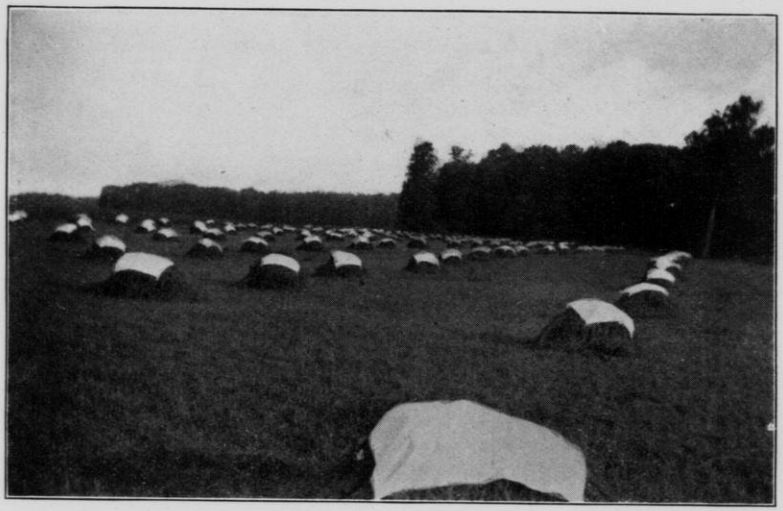
Granting that we can grow wheat in the sections just described the questions arise "Why should we grow wheat?" "Is not wheat hard on the soil?" For all practical purposes wheat does not draw on soil fertility any more than other grain crops, and when actual cash value is concerned I think on an average that you will find wheat takes less mineral matter from the soil to produce a dollar's worth of product than the other grain crops. One of the reasons why wheat has been considered very exhaustive on soil fertility is that it will not grow and produce satisfactory crops for any length of time unless the soil fertility is kept up properly. I think this is a point in its favor since the farmer growing wheat as his grain crop, if he is to get returns, must take care of his soil, particularly with reference to its content of nitrogen. Wheat should only be grown in rotation with clover and other nitrogen-gathering crops and with cultivated crops. The experience in European countries has taught us that under right systems of farming it is possible to grow wheat indefinitely. Germany to-day averages more than twice the yield of wheat per acre that this country does simply because attention has been paid to proper rotation, fertilization, and selection of varieties. In advocating wheat culture I wish to have it distinctly understood that I favor only the growing of this valuable crop in rotation with other crops. Except on new land rich in nitrogen it is not possible to grow wheat profitably in any other way. It would not pay for the average Wisconsin farmer to grow wheat or any other grain and get as low average yields as prevail in the wheat growing states west of us where land is worth less and where operations are carried on on a large scale, thus bringing the cost of production down to a minimum.

During the last six years the Station has been doing extensive experimental work with wheat in the northern half of the state and particularly at Ashland and Superior, and to a less extent at Conrath in Rusk county. Along with the work on the experimental farms coöperative tests have also been made with numerous farmers in the northern region. At Ashland

and Superior tests with both spring and winter wheat have been carried on. Yields of from twenty to thirty-five bushels have been obtained. Spring wheat has given us somewhat higher average yields than winter wheat at the Ashland and Superior Stations. Where winter wheat of the right variety was sown early, fully as good results were obtained with the winter as with the spring wheat. So far as variety is concerned we have found only four varieties of winter wheat out of a dozen or more tried that have given us satisfactory results. These were all hard winter varieties of the Turkey Red type. Kharkoff, Bacsca and Beloglina stand about in the order given. Padi, a beardless wheat of Russian origin, gave good yields and is particularly hardy but it is somewhat subject to rust when conditions are favorable for the development of the rust fungus. Of the spring varieties tried, the hard Blue Stem types gave the best results. The Durum varieties were not found superior in point of yield to the flour wheats. So far as tests in the central section are concerned the best results were obtained with winter wheat of the Kharkoff variety. At Conrath a yield of twenty bushels was obtained last year.

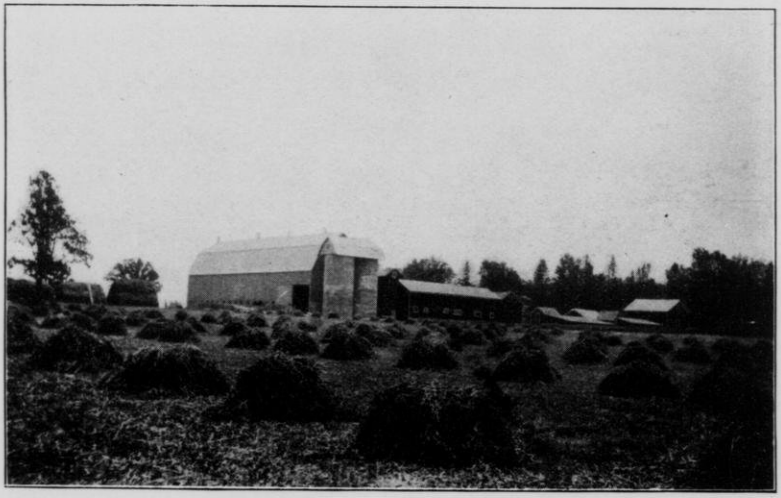
Most of the varieties of grain tried were commercial varieties made up to quite an extent of several types. At the Ashland Station much work has been done to the end of purifying these strains so as to bring them to a standard of uniformity in the matter of time of maturity as well as to improve the yielding power. Over four hundred different pure line selections were tried, only a few of which have been saved for further work and improvement. Numerous crosses between the different types have been made with the end in view of creating high yielding strains possessing strong frost resisting powers and immunity from rust. Last fall we planted nine acres of pedigree winter wheat. With a fairly favorable season we should have a considerable supply of seed for dissemination. These strains when tested alongside of the original stock yielded from thirty to thirty-five bushels per acre as against twenty-eight bushels for the standard Kharkoff type.

We think that wheat growing deserves encouragement where conditions are favorable. At present prices, the introduction of pure bred strains and proper systems of cropping and fertilization, the average yield should be increased to a great ex-



ALFALFA RAISING ON THE HOMESTEAD FARM, W. G. JAMISON & SONS, APPLETON, WIS.

Specialties pure bred seed grains and Guernsey cattle.



ALFALFA GROWING ON THE BIRCHWOOD FARM, ROSENDALE, WISCONSIN.

The owner of this fine farm H. L. Welles, is a former Short Course student who has been instrumental in helping to banish scrub grains and scrub dairy stock from the state. Over 100 head of fine pure bred Guernsey cattle are fed silage and alfalfa on this farm. It shows what energy and ambition can accomplish.

tent. We hope the time is coming when Wisconsin will again take its place as a wheat growing state. With proper attention to the several factors just mentioned there is every reason to believe that in the not very distant future wheat will again be grown as a staple crop in Wisconsin, and without any doubt the northern half of the state will be a strong factor in bringing about that result.

THE COUNTY ORDER OF THE EXPERIMENT ASSOCIATION AS A FACTOR TO PROMOTE DISSEMINATION OF PURE BRED GRAIN.

R. A. Moore, Madison.

The field of the State Experiment Association is so great that it is not possible to have a close supervision over the efforts of all growers nor is it possible to develop that community coöperation which is necessary in the production of greater quantities and higher quality of pure bred seed grains, hence the County Order.

The work of the State Association is that of leadership and generalship, that of the County Order to carry into effect the carefully wrought out plans of the State Association. It is the function of the County Order to grow and acclimate the pure bred seeds, bred by the College of Agriculture and sent out by the State Association, so that sufficient quantities can be produced ultimately for general seed purposes.

How may the County Orders do this work? Before startting on any movement or campaign, preparation or acquired skill to do the work and equipment are necessary. The important preparation for the project of growing pure bred seed grains is a knowledge of the practice of growing and improving them together with facilities for growing and preserving same under controllable conditions.

The main equipment for this project is the supply of pure bred seed that has been and may be obtained from the State Experiment Association. The reliability of the equipment is

certain. When grains have had eight years of college education and have shown the superior producing qualities to induce their distribution to neighboring states and foreign countries there is no question about their being established.

But the men of the state who are to grow these grains for dissemination need to know how by selection, culture and preservation the superior qualities may be perpetuated and even improved upon. An important phase of the work of the state association and especially the County Order is educational.

The original supply of seed is reliable. It must be kept reliable and can be if members and growers become familiar with the type and characters of their grains, understand how to increase quality and yield, govern practices in accordance with botanical characteristics of plants, give soil desired preparation and cultivation, control diseases and weeds, harvest timely and preserve so that producing powers are uninjured.

When members will secure superior seeds from the state association or from some one who has previously secured some and grown them and are determined to apply skill in their production they are ready to grow reliable seeds for dissemination. We have now returned to our subject—how may the County Order promote the wider growing of pure bred seeds?

As soon as found that improved varieties produce better than common, every member ought to use no seed except the pure bred. Superiority of yield may be determined by field or plot trials, keeping careful records of same and comparing with common varieties. Members will profit by securing seed from neighboring members rather than securing seed not acclimated to soil and weather conditions of locality.

When the pure bred seeds are produced they must be advertised if they are to gain distribution and consequently yield the proper return to the grower for his special effort in their production.

As I see, there are three specific methods of advertising that may be done by the County Orders: (1) the making of exhibits, (2) publishing lists of products for sale (3) and the members keeping up their farms and following the most improved methods of farming.

Many counties make exhibits at the State Fair each year and these exhibits attract numerous visitors. The annual exhibit made by each county association can with profit receive the most attention for it is among the farmers of the county in the vicinity of the growers that the distribution should be most active. No effort should be spared to get farmers generally to see the annual exhibit and to enter contests putting up the common varieties against the improved ones. The premium list it seems should recognize and specify standard varieties for classes within which to compete in order to emphasize the leading varieties that should be more generally grown. The premium list should at the same time give opportunity for the entry of varieties that are being developed and improved by growers. The published list of growers may be distributed at times when exhibitions are made, they may be used in regular correspondence of members, and may be mailed to persons whom it is believed may be interested in securing pure bred seed.

The up-keep of the farm where pure bred seed is grown is one of the best advertisements. The products of a successfully operated farm do not go begging. With the farm buildings well kept up, with neat premises, well ordered and cultivated fields, farm, fences, and roadsides, free from noxious and unsightly weeds, the owner has an asset that will command the attention of purchasers and he also has conditions that favor the production and preservation of crops of superior quality.

FARM MANAGEMENT CONTEST.

Hoard's Dairyman offers $300 in Prizes to Encourage This Work.

D. H. Otis.

Success in farming is the result not only of growing the best grains, and breeding, feeding, and handling the best live stock, or the production of the best fruit, etc. It is also dependent upon how the manager integrates, organizes, and manages his farm work so as to make the entire farm show the best results.

Our work in Farm Management shows great variations in the net income obtained on different farms. These variations are being studied with a view of discovering the factors that contribute either to success or failure. We believe the time is ripe to give some attention to the successful management of farms, and to recognize the men who have both the knowledge and the skill to organize and conduct their farms so as to make them financially successful and at the same time contribute to the health, happiness, and uplift of those who live on the farm.

To encourage this work Ex-Governor W. D. Hoard of Hoard's Dairyman has offered the sum of $300 annually to be used as prizes and awarded to the farms that score the highest in accordance with the score card presented herewith. Doubtless others can be interested in this work and the amount materially increased as sufficient interest is manifested.

In the contest now under way the following plan is being carried out:

1. That the work be started in the counties, preferably through the County Order of the Wisconsin Agricultural Experiment Association.

2. That the competition be open to any farmer who may desire to compete, regardless of the type of farming followed, provided that the entrance of such farmer will in no way injure or embarrass others who may desire to enter the competition. Any question of eligibility to this competition will be left to a State Committee composed of a representative of

Hoard's Dairyman, the State Experiment Association, and the College of Agriculture.

3. Any farmer who desires to enter this competition should send his application to the representative of the College of Agriculture who has this work in charge. When a sufficient number in any county manifest an interest in the work a farm management survey of the farm will be made, and data collected on the distribution of labor, as preliminary to the contest. At the end of the year data will again be collected which will serve as the basis for determining the net profits.

After the results for the current year are collected and tabulated it is proposed to hold a meeting in each county or locality entering the contest. Each farmer will be given the number of his own farm, so that in the study and discussions of the results he can compare the results on his farm with those obtained elsewhere. In these meetings the point will be to point out and emphasize the factors that make for success on the well managed farms.

At this local meeting announcement will be made of the three farmers making the best score. These three farmers will represent their locality in the State Contest where Ex-Governor Hoard has offered prizes aggregating $300.

No prizes are offered this year for the local contests. It is gratifying, however, to know that 175 farmers have entered the local contests from ten different counties, not because they were particularly attracted by prizes but because they were interested in studying the problem of the successful management of their farms.

4. That the awards shall be made upon the basis of the best score, according to the following score card.

SCORE CARD FOR FARMERS ENTERING THE FARM CONTEST.

Net profits or managerial income	50	points
Fertility	20	"
Health of herd	5	"
Upkeep and general appearance	5	"
Home life	20	"
Total	100	"

MANAGERIAL INCOME.

The net profits or managerial income for the farm will be figured according to methods devised by the College of Agriculture and approved by Hoard's Dairyman and the Experiment Association. These methods will include a statement of the capital invested and its distribution, the expenses and their distribution, the receipts and their sources. In addition to the cash outlay the expense account will include an interest charge of 5% upon the total capital invested at the beginning of the year. It will also include the labor of the family, figured to the equivalent of hired man labor and charged at hired man rates. Depreciation of farm property will also be included under expenses.

The receipts will include the cash income and also the increased inventory.

The methods employed in securing the data from the farm will be such as to obtain, as nearly as possible, the actual earnings of the farm, and no attention will be paid to special inflated or abnormal values as may result, for instance, from the rise in the value of land or from the sudden or unnatural appreciation of live stock, etc. The inventoried value of any given article or of any individual animal should be substantially the same at the close of the year as at the beginning, barring the natural depreciation or appreciation. Other things being equal the aim will be to recognize the man who is conducting a farming business in preference to the man who may be called a dealer or speculator, and who makes his money by buying or selling live stock, grains, or other farm products. In securing the data consideration will be given to the system and the accuracy of the accounts kept.

FERTILITY.

Under fertility will be included the amount and character of products sold in relation to the maintenance of fertility on the farm; also the conservation of manure, the application of lime, the application of rock phosphate, and the growing and plowing under of legumes.

HEALTH OF HERD.

Under health of herd will be considered the matter of tuberculin testing of the herd, the system of ventilation, precaution taken to prevent disease, cleanliness of herd, etc.

HOME LIFE.

Under home life will be considered the manner and amount of encouragement and inspiration given to the boys and girls relative to farm life and surrounding them with such inducements that will encourage their best development and love for the farm.

Attention will also be given to conveniences in the house such as water supply, baths, the housing of help, lights, etc. Note will be taken of the papers and periodicals taken and read by the family.

Attention will also be given to the amount of help that is kept, and the treatment, and the opportunities that the help has for reasonable recreation and culture and advancement. As indications of the home life we will consider the help kept per cultivated acre, the help kept per animal unit, the hours of labor per man per week, etc.

5. The prize money offered by Ex-Governor Hoard will be distributed as follows:

1st Prize	$100
2nd Prize	50
3rd to 6th inclusive	25 each

It is expected that arrangements will be completed whereby a trophy of considerable value will be offered to the county making the best average showing. Details relative to this will be published later.

6. Any farmer who succeeds in winning the first place in the county will not be eligible for further competition in that county, but will be eligible for competition in the State Contest until he succeeds in winning a first prize.

7. That the farmer who succeeds in winning the first prize in the State Contest will not be eligible for further competition for the annual prizes offered for the State Contest, but

will be eligible to the "three, five, and ten year contest" that we hope to inaugurate.

As the work progresses many suggestions for improving the details of the plan will doubtless be made. These will be gratefully received and utilized wherever feasible. The main idea is to enlist the interest of the farmer in studying the successful management of his farm and to this end inaugurate a contest where the farm as a whole is the unit under consideration, and where recognition will be given to those farmers who approach a certain desired standard. This we hope will not only be encouraging to them but stimulating to others in the successful management of farms.

THE IMPORTANCE OF TESTING OUR PURE SEED GRAINS PREVIOUS TO SOWING THE SEASON'S CROP.

H. L. Post, Secretary Richland County Order, Sextonville.

The importance of testing our seed grains previous to sowing and planting the season's crop can not be overestimated. How are we to get the full benefit of our pure bred seeds, that have taken the College of Agriculture years to bring up to the present high standards, if we are not reasonably sure that every kernel put in the soil is going to produce a strong, healthy plant. In Wisconsin alone the annual loss incurred by the planting of untested seed amounts to hundreds of thousands of dollars. Why, then, do farmers continue this wasteful practice, when if they would give a little time during the early spring and test their seed, their increasd yield would make it the most profitable piece of work done? The testing of small grains and grass seeds is perhaps not so commonly practiced as the testing of corn, yet each farmer should do this before sowing. In a great number of cases the poor catch of grass seed or failure of small grains to grow is due to the sowing of seed of low vitality, which might have been avoided had the seed been tested previous to sowing.

Of course with the small grains a lower germinating per cent may be used than with corn, for they may be sowed thicker; but do not use poor seed under any circumstances. In testing the small grains, it is necessary to get a uniform sample of the recleaned seed by thoroughly mixing and if one has a large quantity to sow it would be best to take several samples from the same lot and put in a germinating box such as used for corn. This is a much easier job than testing each ear of corn we are going to plant. A great many are under the impression that it is an endless job to test each ear of seed corn, and that it does not pay because father never tested his seed corn before planting, and that a stand of 75% or 80% is about all that can be expected, yet experiments show that under favorable conditions of weather, insect pests, etc., there is no reason why a stand of corn should be less than 95%. Fifteen average ears of seed corn will plant an acre in check rows 3 feet 8 inches each way and will make 3,240 hills of corn. Assuming four stalks in the hill and allowing 5% loss from uncontrollable causes, a perfect stand would be 12,312 stalks on each acre. Now to plant corn that tests only 85%, which by the way is above the average untested seed corn germinating per cent, would mean a loss of 1,236 stalks on every acre, and then too, there would be a much larger per cent of weak or barren stalks that produce only small nubbins or nothing at all. Don't you think you could afford to do a little extra work, at a time of year when work is not so rushing, test your seed corn to save over 1000 ears or 10 bushels on every acre you plant. Why work just as hard to produce nine-tenths of a crop or less as a full crop? The work of testing each ear of seed corn is not such a tedious task after all, in fact after you are once started it has a real fascination; one finds some very interesting things if a close observer. It is not the best looking ear of corn that is the best in the germinating test. Perhaps you will notice a difference in the vitality of the corn picked early and that picked later, that placed near the ceiling and that nearer the floor of the drying room, or that hanging in the sunlight and that where it is not so light. We usually start testing our seed corn and grains sometime in January, as we test all that we plant and sell for seed. Right here let me add a word of caution, be

sure the frost is entirely out of your corn before you put any in the test as very unsatisfactory results will be obtained if the corn is frozen. The first requisite in seed testing is a germinating box, of which there are several on the market and others described in various bulletins issued. After trying several methods we have found the one most satisfactory is a box about 18x36 inches and 4 or 5 inches deep. In the bottom of which place about 2 inches of sand, then put 3 or 4 thicknesses of burlap, over which stretch tightly a piece of heavy muslin and tack to the sides and ends of the box. Then with an indellible pencil, draw two inch squares and number them. For a cover use several thickness of burlap, then place a piece of iron roofing cut to fit the box, over all to hold the moisture. After the corn has been selected for testing place on a table or floor of the drying room with the tips all pointing from you and a nail driven between each ear, numbering each space. By placing the ears in this manner they are in a positon so the sampling may be done rapidly and systematically. Great care should be exercised when removing the kernels from the ear, not to injure the germ. Now take out four kernels from each ear and place in the germinating box in the square numbered correspondingly to that of the ear. In taking out these 4 kernels we take one from near the butt, then by about a quarter turn of the ear take out the second, just about a fourth of the way toward the tip. By repeating this when we have taken out the four kernels we have one out of each quarter of the circumference and length of the ear. After the sampling is completed and covering put over the kernels in the germinating box, it should be thoroughly dampened, then the tin cover placed over all to hold the moisture. We allow 6 or 7 days before making determinations, during which time the germinating box should be held at as even a temperature as possible, anywhere between 65 and 85 degrees F. It is important that the temperature does not get too low during the night; a drop much below 55 degrees will seriously affect the reliability of the test. At the end of this time remove cover from the box, being careful not to disturb the kernels in the squares. Beginning with space No. 1 in germinating box examine the kernels in each square. This part of the testing must be done with consider-

able care and requires good judgment as kernels will be found in all stages of development. If the four kernels in any square, each show good healthy sprouts, the ear which they represent should be retained for seed. If one of the kernels fail to germinate or gives even a weak root or stem sprout the ear from which it was taken should be discarded as unfit for seed. The main thing to remember in checking up your test is to use only those ears for seed from which every kernel tested has given a strong healthy sprout.

With our pure bred seeds, that have taken hard working men years to increase their yields to their present high average, let us, as members of the Wisconsin Experiment Association, show our appreciation of their labors by at least testing our seed before planting the season's crop, that we may obtain as great a yield as possible, expressing in this way our gratitude to them.

IMPORTANCE OF THE FARM INSPECTION WORK AND HOW SHALL IT BE CARRIED OUT.

E. B. Skewes, Sec. Racine County Order, Union Grove.

The subject assigned me deals with certain phases of the problem of disseminating high bred seeds. In the years since its organization, the Wisconsin Agricultural Experiment Association has been an effective instrument for scattering station bred seeds among the farmers of the state and to some extent among those of the nation. But the growth of the association to its present large membership has created a difficulty and offers an opportunity. The difficulty lies in growing enough of the improved seeds to give all members an equal chance. The opportunity lies in the possibility of selecting from among our members those best prepared to serve in this work of dissemination.

It is doubtless true that the more highly developed a strain of plants may be, the more rapidly will it deteriorate under adverse conditions of propagation. It is also true that not all growers, even among members of our association, are prepared

to give to their grain crops the care necessary to maintain high degrees of tone and purity. And we all know that corn and grains are being grown and sold as "Wisconsin Pedigreed" that are nowise worthy of the name—business thrift prompting men who are indifferent to high standards in seeds to profit by a reputation established at great expense and through much conscientious effort on the part of others.

The time is ripe, therefore, both agriculturally and commercially, for the creation of a type of specialists that shall be to farm crops what stock breeders are to farm animals. And the Wisconsin Agricultural Experiment Association must meet the occasion and supply the men.

Now how shall we differentiate such a class? By adopting a standard of requirements, by official inspection and by official recognition. Maintain it by promoting emulation and competition through seed and plant exhibits at suitable times and places. Such a program would entail a considerable expense. But inasmuch as the general public would receive almost immediate and great permanent benefit, the state should furnish the means of carrying it through.

The standard of requirements for accredited growers should be fixed by the state association with the approval of the Agronomy Department.

In harmony with the trend of our present system of management, the official inspection and much of the work of education and stimulation would naturally devolve upon the secretaries of the County Orders. Such officers should be made responsible to the state association in the discharge of these duties; and should receive partly from a fund supplied by the state and administered by the State Association and partly from the County Order, compensation commensurate with services rendered.

In concluding, let me repeat—The time is ripe for action.

GROWING AND PREPARING SEED GRAINS AND FORAGE PLANTS FOR EXHIBITION.

O. R. FRAUENHEIM.

Sec. Sheboygan County Order, Random Lake.

Men cannot gather grapes from thorns nor figs from thistles, neither can we expect to grow seed grains and forage plants for exhibition by sowing poorly prepared seed on poorly prepared soil.

Every plant under ordinary conditions brings forth after its own kind, but selected seeds sown on selected soils will produce better plants than seed sown in ordinary soils and under ordinary conditions. Therefore, we must sow the choicest seeds of select varieties on a soil that is in such a physical and fertile condition as to produce almost perfect plants, plants that have a strong vigorous growth, good stems, good leafage and large, well filled heads.

The selecting of a sample of grain, corn or forage plants demands no small amount of time or labor. The selecting of samples for show purposes can take just as much time as you can give to it and only those who give this matter their closest and best attention are the ones who are most successful in the winning of premiums.

In the selecting of samples, it is necessary to keep in mind a definite type and conform as near as possible to that type. In selecting forage plants and sheaf grains, a type of plant should be taken that has the right proportion of stem to leafage and head. In threshed grains the kernels should be of the same size, color and shape, while in corn the ears should be as far as possible of the same size and shape. The kernels should have the same characteristics as far as possible as to size, dent and general appearance.

Forage plants should be selected when ready to be cut for forage and placed to cure in an airy place away from the sun in order to retain their natural color and avoid loss of leaves. Sheaf grains should be selected from the standing grain before fully ripe and cured away from the sun in order to have

a sample that has a nice bright color, while if the grain is selected when fully ripe, it is apt to be discolored by dew or rain. When fully cured make into sheaves of the desired size. Be careful to keep sheaf grain away from mice, otherwise your labor will be in vain.

In preparing threshed grains and seeds the prime essential is a first-class fanning mill with a good assortment of screens. A thorough knowledge of the operation of the mill, regarding the use of screens and blast is of utmost importance. The samples will have to go through the mill a number of times using screens to take out extremely large, small and broken seeds, grading the sample until you have the kernels as uniform as possible. If any kernels are discolored the only method of removing them is by hand picking. This can be avoided to a great extent by curing the grain under cover after harvesting. It will add to the appearance of barley and oats by having them threshed quite close.

Do not clip oats, unless prizes are awarded on clipped oats, as oats should be shown in its natural condition. No sample of clipped oats has any of its natural appearance left and such oats should be barred from all shows.

In selecting sample of corn, uniformity must be shown throughout the same. The ears should be of good general appearance, they should conform with each other as much as possible in size and shape, the rows should run straight from tip to butt, the tips and butts well filled, and the kernels should be uniform throughout the sample, having the same length, shape and color. One should have a thorough understanding of the score card in order to select a sample of corn intelligently.

Always bear in mind in preparing samples for exhibition, that in order to win, you must have your samples of grain, seeds, forage plants or corn in the best possible condition, and this can be accomplished only by hours of careful labor.

ALFALFA SESSION.

GIVEN UNDER AUSPICES OF THE ALFALFA ORDER OF THE EXPERIMENT ASSOCIATION.

PRESIDENT'S ADDRESS—ALFALFA FOR BREEDERS.

JAMES B. CHEESMAN, Racine.

Since meeting you a year ago many things have happened to alfalfa growers; and not a few to the live stock industry of the country. It would be well to-day to remember the intimate bond between alfalfa and cattle growers. During more recent years the impetus given to alfalfa planting has come mainly from the live stock men, and a large amount of this effort is from dairymen.

The importance of roughage of high nutritive value, of a high percentage of digestibility is of great interest to breeders, and is of special value to young animals that are expected to reproduce themselves before they are thirty months old.

Let us recall some of the facts of our own experience within the last five years, and each one will easily think of the connection between good alfalfa feeding and early maturity in the animals reared. With the growing tendency to early breeding of heifers it is vital to feed enough, and that the feeding materials should be both bulky and nutritious.

All the first-rate stock breeders of my acquaintance within 500 miles of Chicago are examples of this practice. Not long ago I was in the barn of a breeder of Swiss cattle looking over his herd, with the records before us of several years' work. In 1906 this man was producing 2700 lbs. of milk per day from 135 cows most of which were grades. Five years later the improvement was very marked, and the records showed that 100

cows were able to produce the same quantity (2700 lbs.) with a fat content of 4%. If the young stock on this farm had not been alfalfa fed they would not have been as well grown, nor would their stomachs have been so large or their powers of digestion as good. Let it be remembered that an undue proportion of crude, indigestible fibre is not only a waste of force, but fails to aid the development of the power of secretion.

One of the most significant incidents of alfalfa feeding which has come to public notice is that of a breeder in Waupaca county. This man won a prize for the best performance of ten cows in a state-wide competition. This same man attributes his success in developing great dairy animals to the use of alfalfa, as it gives him control of the size and efficiency of the digestive organs. Less than two years ago he paid $5.00 per ton more for a lot of alfalfa grown in Waukesha county than he paid anyone else. This alfafa was leafy, well cured, and nicely flavored, and was therefore ideal for calf feeding. He also discovered that the more alfalfa he fed the less he used of concentrates.

A few weeks ago I learned of a herd of cows in Virginia just outside Washington whose capacity had been more than doubled in a period of five years. While the herd was graded up with well selected pure bred sires the story remains that alfalfa was a central feature in this record of improvement. Let me tell you the story. In 1908 they milked 96 cows which gave an average of 4,337 lbs. In the year ending June, 1912, 84 cows gave an average of 8,970 lbs. of milk. During the year 77 of these 84 averaged 9,410 lbs. Besides these records I will give you one more. A common cow produced 3,225 lbs. of milk. A heifer borne by this cow gave 7,030 lbs. of milk with her first calf, or more than double that of her dam. This heifer's first calf in turn yielded 9,113 lbs. in her first lactation period. It is a nice question to decide how much of this improvement was due to breed, and how much to judicious feeding of well selected alfalfa. We may take it for granted that these heifers were well bred, but how many breeders have learned to their cost that well bred animals without good care and rational feeding are most disappointing.

Do we realize that alfalfa feeding works out many other economies for the dairyman besides that gained on first cost.

Think of the expense of housing poor cows, the labor of feeding and milking more than are necessary to raise the required amount of milk.

Just now every milk consumer in the country is in a serious mood. If you take up any of the papers which are reputable and representative you may learn the story of a steady upward bound of cost in all the milk producing territories of every metropolitan city. Let me say roughly every year has witnessed a rise of from eight to fifteen cents per 100 lbs. on its predecessors, and this year has shown an increase in cost to city dealers varying from 42 to 48% on the cost of 1907. Do we realize what this means?

In the year 1910 the Government census takers credited New York State with less than $75,000,000.00 as the value of its dairy products. In the same year Wisconsin had a credit of about $82,000,000.00 or more; and this increase is about two or three millions of dollars per year.

During the last five years about twenty-four condenseries have located in Wisconsin, and yet we are told that ninety per cent of the bulls in service are scrubs. This statement is generally accepted as true. We have it proved that this state ranks first in dairying. It is true that our best animals are being taken out of the state at an alarming rate of increase and they are going to all parts of this country, and to Mexico.

I want you to-day to ask yourselves two questions. One is "Shall Wisconsin maintain its lead in dairying? and the next is "How long shall Wisconsin permit these enormous drafts of pure bred animals to other states?"

In upper Wisconsin we find highly creditable records, and community breeding centers are being established very fast. In this new country clover is an easy crop, but in the southern counties, especially those along the state line, dairymen are looking to alfalfa as their best source of cheap protein. Let us not forget this, that while prices from other states are so good we shall continue to lose a large number of pure bred animals of all ages. The number which are left behind will depend very much on the cost of producing mature animals, and nothing quite equals alfalfa in low cost of production.

At the present time we have about 21,000,000 cows in the country. Experts will agree that not more than a third of

these are fit to produce paying cows even if there were enough good bulls in the country available for their service. It is therefore highly probable that two-thirds of this twenty-one millions may find their way to the butcher's block in less than three years. Where will the succession come from, and who will produce them. I ask you to consider have alfalfa growers an opportunity in this connection? Let us face the future with confidence and know that the best awaits us. That each and every alfalfa grower may enforce the lesson that if each community will not breed its own succession they will most likely find themselves short of milk. You all know that low cost feed at the present time does not govern the cost of cows, at least it does not rule the market, though it does add much to the profit of the breeder. I don't think any one will hereafter attempt to raise young stock without plenty of alfalfa of the best kind. The outlook was never more inviting, and never was there quite so good a chance to breed good cows as now, and never have alfalfa growers had as much promise as now.

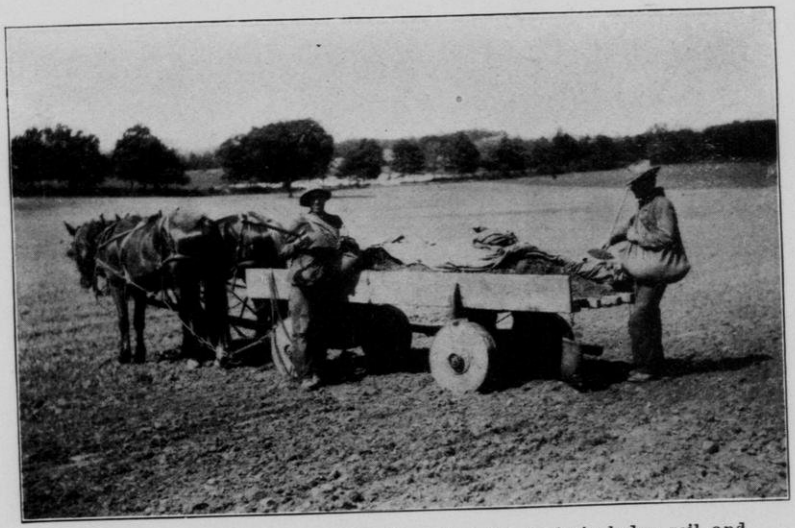
Let us direct our attention to the dairymen of the country and know that we can win most in that way, because it involves the maintenance of State rank in dairying, and that is conditioned by the number of breeders of cows, and the kind they breed, and the character they can make in the first period of lactation.

SECRETARY'S REPORT.

L. F. Graber, Madison.

Fellow Members of the Alfalfa Order and Experiment Association:

I am glad to have the pleasure of reporting on the first year's work of the Alfalfa Order. We began one year and four months ago with twenty-one members as a nucleus for this great work of promoting alfalfa growing in Wisconsin. Today, our membership numbers five hundred. It has been very gratifying to the officers to observe the willing coöperation this alfalfa movement has met from the students at this college



Inoculating the field for Alfalfa, Spreading the bacteria laden soil and harrowing it in.

Cutting 35 acres of alfalfa per day on a Wisconsin Farm.

Loading alfalfa Hay with a hay loader on Cornfalfa farms, Waukesha.

and farmers throughout the entire state. There is no other way in which farmers can help themselves to greater advantage than by coöperation. In the way of example I need but point to the great work of the Experiment Association and what it has meant, financially and otherwise, to the Wisconsin farmer. It is an inspiration for us as members of the Alfalfa Order, and an indication of the possibilities before us in the way of increasing the alfalfa growing areas in the State of Wisconsin. Wisconsin farmers have not fully appreciated the great merits of alfalfa—the one crop which stands as a leader among all forage crops. To increase our annual alfalfa production in this state will bring with it greater rural wealth and happiness. This is the primary object of the Alfalfa Order.

During the past year one of the means we have used to bring this about has been to assist our members in securing the very best seed to start with,—for good seed is the very basis of successful alfalfa growing. Arrangements were made for the members to coöperate in the buying of their alfalfa seed by sending their orders direct to the Secretary. Over 36,000 lbs. of seed were purchased at a cost of over $6,500. This was the very best seed available on the market, and was distributed among the members according to their orders. In buying such a large amount it was secured at a reduced price, and a saving of over $1,500 was made in the purchase of this high grade seed. However, the value of this work is not to be measured in dollars and cents saved in buying the seed. Its chief merit lies in the fact that many farmers have now begun growing alfalfa after they have been assured good seed to start with.

The first special alfalfa exhibit ever put up at the State Fair was made this year by the Alfalfa Order. It attracted unusual attention from thousands of interested observers, and a great deal of information was given out. A similar exhibit was also made at the National Dairy Show in Milwaukee. Alfalfa exhibits are an inspiration to those who have not tried alfalfa growing; an encouragement to those who are producing alfalfa in a small way.

During the past year we have done as much as our limited funds would allow in the way of publicity for alfalfa. We have adopted the "Grown in Wisconsin" idea and have made use of it in an advertising way on the stationery of the Order.

We have published a few pamphlets, one of which I have distributed this morning, suggestions on alfalfa growing. Our limited funds have not been sufficient to do as much publicity work as we would like to have—however, Professor Moore's special bulletin on "Alfalfa Growing" was an exceedingly valuable source of information for our members, and has been made good use of.

PLANS FOR THE COMING YEAR.

For the coming year's work we have again decided to be of assistance in securing alfalfa seed for our members. I have distributed blanks for this purpose which you may fill out and mail at any time prior to March 15th. Each member is limited this year to three hundred pounds, so as to accommodate all who wish to secure good seed. A bill for the seed ordered will be sent just before shipping, about the latter part of March.

Arrangemnts are being made to hold alfalfa growing contests in connection with the Young People's Grain Growing Contests. In this way the coming generation will become disseminators and probably demonstrators of alfalfa growing in their communities. From success these contests have had in bringing pure bred seed to the attention of our farmers great success may be looked for in the same way with alfalfa.

Those who received seed in coöperation with the Order *last year* will be sent blanks on which to report on the methods of seeding and success they secured with the seed. We arranged an experiment on thick and thin seeding with some two hundred members, comparing ten and twenty pound rates. The results of these tests will also be reported on next spring and will furnish us valuable collective data on this important question.

Arrangements will be made with the secretaries of the county fairs to offer prizes on alfalfa and in this way encourage alfalfa exhibits throughout the entire state.

In conclusion I want to express our sincere appreciation for the financial and executive assistance we have received from our paternal organization, the Wisconsin Agricultural Experiment Association. It is a difficult matter to carry on a work such as our association demands, and during the past year the financial aid we have received from the Experiment Association

has been truly gratifying. We have a great work before us and we need the coöperation of every farmer in the state of Wisconsin.

CONSTITUTION AND BY-LAWS OF THE ALFALFA ORDER OF THE WISCONSIN AGRICULTURAL EXPERIMENT ASSOCIATION.

ARTICLE I. *Name.*—The organization shall be known as the Alfalfa Order of the Wisconsin Agricultural Experiment Association.

ARTICLE II. *Object.*—The object of this organization shall be to promote the alfalfa interests of the state in general.

1st. By coöperating with the Department of Agronomy and the Wisconsin Agricultural Experiment Association in growing, experimenting and in the wide dissemination of alfalfa.

2d. By having alfalfa exhibits at agricultural fairs.

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

4th. By distributing literature and information bearing upon the production of alfalfa for seed and forage.

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 farmer who is interested in the growing of alfalfa and willing to coöperate under the direction of the Order 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 25c 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 for 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 its expenses or by vote of the Order for such purposes as will advance the interests of the Order and shall be paid out 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 Robert's 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 Sept. 14, 1911.

SILAGE AND ALFALFA FOR DAIRY COWS AND THEIR VALUES AS COMPARED TO OTHER CROPS.

A. J. GLOVER, Associate Editor Hoard's Dairyman.

Alfalfa was grown in Rome more than 2,000 years ago and valued very highly then as a forage crop. It has been grown in all parts of Europe for hundreds of years, but it is only recently that the American farmer began to value it as our greatest forage crop. Probably the slowness with which this product has come to the front is due to the lack of understanding its value, the difficulty under which a stand is obtained,—unless proper methods are used in preparing the soil—and the diseases which prevent its development.

More than fifty years ago some of the German settlers in Carver county, Minn. began growing alfalfa from seed brought with them from Germany, and it has been grown ever since in that county. It has become locally known as "Everlasting" Clover. The name indicates its persistence when once established. Seed has been saved in that county and has been quite well distributed throughout the United States but the general value of alfalfa is not generally known even at the present time.

For eight years it has been my good opportunity to note the success Hoard's Dairyman farm has had in growing alfalfa. About fifteen years ago, former Governor Hoard began to experiment with the growing of alfalfa. W. A. Henry, then Dean and Director of the Wisconsin Experiment Station, also made some attempts to grow this plant. The results were dis-

couraging, and the conclusions were that it was almost useless to attempt to grow this plant under Wisconsin conditions. But Ex-Governor Hoard did not dispair and as he had a number of vacant lots in Fort Atkinson, he began a detailed study of the plant. Finally, after mastering a few of the fundamental principles, he was successful in growing it on his farm. It is now grown with as much assurance, if not more, than red clover. At the present time the farm is growing 60 acres. For a while wood ashes, as well as manure, were used freely upon land on which alfalfa was to be sown, but after we learned what Dr. Hopkins of the Illinois Experiment Station had to say of the value of ground limestone and phosphorus for alfalfa, these materials have been used according to his directions. It is the practice now on Hoard's Dairyman farm to apply eight or ten loads of manure to an acre, using 40 to 50 pounds of raw rock phosphate to each load. Where it is possible, the land is plowed in the fall, turning the manure under. In the spring before seeding alfalfa, about two tons of either ground limestone or marl are applied per acre.

The feeding value of alfalfa depends to no small degree upon the process of curing. If it is permitted to dry in the swath, the sun dries the leaves and bleaches the alfalfa, which carries off some of its nutrients or at any rate makes them less usable and makes it less palatable. In handling it, after it is cured in the swath, a large amount of the leaves are lost and the leaves are the most nourishing part of the alfalfa.

On Hoard's Dairyman farm, alfalfa is cured in cocks weighing from 70 to 80 pounds each. It is cut in the forenoon and raked up into windrows and put into cocks in the afternoon. The cocks are then covered with quality "A" sheeting, torn into strips 40 inches square; to each corner of the square or cap is tied a small weight which may be made of cement, or nuts weighing 4 ozs. may be used. These weights are attached to the corners of the cap to prevent the wind from blowing them off and to hold them firmly over the top of the cock of hay so that it will shed water. It will take from two to three days to cure it sufficiently in this manner. An hour before it is time to draw the hay to the barn the cap should be removed and the cock opened up to permit the air and the sun to take up the surplus moisture. Alfalfa cured in this way produces the very

best quality of hay. If it rains the cocks do not become soaked and the sun does not destroy any of the nutrients.

When we come to consider the composition of alfalfa, we at once begin to realize its value to the dairy industry. On land that would yield fifty to sixty bushels of corn per acre, it is not unreasonable to expect it to produce from three to four tons of alfalfa hay. In four tons of alfalfa hay there are 4,000 lbs. digestible nutrients of which 880 lbs. are digestible protein.

Professor Fraser, of the Illinois Experiment Station, found by experience that alfalfa hay was practically equal to bran. The cows fed on alfalfa were in better physical condition than those receiving bran. Of course, he fed a very high grade of alfalfa hay. It was cut at the right time and cured properly. It should be observed that alfalfa hay is rich in the element protein and therefore supplements very well corn silage, which is comparatively rich in the element carbohydrates. An acre of land that will produce fifty to sixty bushels of corn will yield in the neighborhood of ten tons of green corn per acre. In ten tons of corn silage there are 3,440 lbs. of digestible nutrients of which 280 lbs. are digestible protein. It should be observed that the alfalfa produced 4,000 lbs. digestible nutrients of which 880 lbs. were digestible protein. For a moment let us consider these crops with a few others. It requires pretty good land to produce 1½ tons of timothy hay per acre. In 1½ tons of timothy hay there are 1,443 lbs. nutrients, and 84 lbs. digestible protein. It is not unreasonable to expect that an acre of alfalfa will produce 10 times more protein than an acre of timothy.

Perhaps it will be interesting to learn the kind of a ration that may be made of silage and alfalfa. It has been found that an animal fed nothing but these feeds will consume about 40 lbs. of silage daily and 16 lbs. of alfalfa hay. In the following, I tabulate the pounds of feed used, dry matter and digestible nutrients in them.

Name of feed.	Pounds	Dry matter.	Protein.	Carbohydrates.	Fat.
		Lbs.	Lbs.	Lbs.	Lbs.
Silage	40	10.6	.56	5.6	.28
Alfalfa	16	14.8	1.77	6.3	.10
Total nutrients			2.33	11.9	.38

According to Professor Haecker's feeding tables, a cow producing 25 lbs. of 4 per cent milk requires 1.9 lbs. digestible protein, 12.82 lbs. digestible carbohydrates and .5 lbs. digestible fat.

It will be noted that a ration of silage and alfalfa supplies more protein than necessary for 25 lbs. of 4 per cent milk and not quite as much carbohydrates or fat as the animal needs, but since protein will take the place of carbohydrates, the ration contains enough nutrients to produce 25 lbs. of 4 per cent milk.

There is no question when there is an abundance of grain at reasonable prices, that it pays to feed some when cows are producing 20 lbs. or more of milk per day, but when less than this is produced, it is very doubtful whether it pays to feed any concentrates when there is plenty of good silage and alfalfa at the farmer's command.

There is another point which we might consider. One acre of ground yielding four tons of alfalfa will support an animal with 16 lbs. a day for 500 days. In other words 1.37 acres of land on which is grown corn and alfalfa will produce enough feed to keep a cow 365 days; 1.37 acres of blue grass pasture supports an animal on the average but 78 days.

The severe drought of the past summer is not so long ago but that most of us remember the difficulty of supplying cows with succulent feed during that period, but farmers who had grown alfalfa and provided themselves with silage, did not notice the effects of the drought like those who were depending entirely upon pasture to feed their animals.

The question may be asked: Will cows do well if fed the entire year upon silage and alfalfa? To this it may be said that in experiments carried on by the Illinois Experiment Station cows fed entirely upon silage and alfalfa for a year were at the end of that time in good physical condition and produced creditable yields of milk.

Cow No. 1 produced 8,735 lbs. of milk containing 351 lbs. of fat; she consumed 14,880 lbs. of silage and 1,672 lbs. of green crops and 6,396 lbs. of alfalfa. In other words for each 100 lbs. of milk produced she consumed 170 lbs corn silage, 19 lbs. of green crops and 73 lbs. alfalfa hay. Cow No. 2 produced in one year 7,434 lbs. of milk containing 259 lbs. of fat. She ate 14,862 lbs. of silage, 1,612 lbs. green crops and 5,588 lbs. of alfalfa hay.

In comparing the relative value of timothy hay and alfalfa it was found that when milk was worth $1.30 per hundred and timothy hay valued at $10.00 per ton, that alfalfa was worth $20.86 per ton and gave a return per acre of $68.44 more than an acre of timothy.

In briefly summing up this subject, I can say:

First: There are no crops grown upon the farm more important to the dairy farmer than alfalfa and corn.

Second: Alfalfa will produce more digestible nutrients per acre than any other agricultural crop. A yield of 4 tons of alfalfa hay per acre produces 4,000 lbs. of digestible nutrients, 880 lbs. of which are digestible protein.

Third: Corn comes next to alfalfa in the production of nutrients for the cow. An acre yielding ten tons of green corn will produce 3,440 lbs. of digestible nutrients, 280 lbs. of which are digestible protein.

Fourth: No crops complement each other better for feeding the dairy cow than silage and alfalfa. The silage furnishes succulence for the cow and a large amount of heat producing elements. Alfalfa provides the dry roughage; is rich in the element protein and mineral matter which are so important to the growing animals and to cows producing milk.

In short: Alfalfa and silage have a productive feeding value that cannot be excelled by any other combination of roughage grown on the farm.

Fifth: When alfalfa is used properly in a rotation, it is beneficial to the soil but it is a mistaken idea to think that the alfalfa plant enriches the soil. It must be fed to live stock on the farm if the greatest value is to be obtained as a soil improver.

ALFALFA SEEDING.

JESSE CRUMP, Lake Mills.

Less than twenty years ago alfalfa was supposed to be one of the forbidden crops in our vicinity. But about that time the different mill feeds were advancing in price from year to year and the dairy farmer began to realize that they would have to raise their own protein in some form or another or go out of business. He naturally turned to the alfalfa crop with its wonderful yields of hay that were said to equal bran. But when he was told of all the drawbacks to getting a crop, he put it down as next to impossible to succeed. He was told that it wouldn't grow on soil that hadn't been properly inoculated with bacteria from a sweet clover or with soil from old alfalfa fields; that the land would have to have from two to four tons of lime per acre to overcome the acid condition of the soil; that the amount of seed necessary to secure a good stand would make a prohibitive cost; that he would lose the use of the land for one whole season, and if he should succeed in getting a catch it would probably die the first cold winter. Even to-day some men are writing in the leading agricultural papers that it will cost at least $50 per acre to get a good stand.

Now in my own experience with alfalfa, which has covered a period of 14 years, I have found these barriers mostly imaginary; to be sure some of them will be met with in certain localities but it is a surer and safer crop than most farmers would give it credit for.

In all that we have sown, we have never failed to secure a good stand; to be sure some seedings were better than others but even the thinnest stands if left until the second or third year thickened up so that the ground was practically covered. I ruined two fine stands by trying to protect it during the winter from the thawing and freezing which I had been told would kill it.

The first good stand I top-dressed with manure direct from the cow barn. The following spring when we started in to remove the coarsest of the litter we discovered that the alfalfa

had been smothered. The next fall I bought a spreader, thinking that I would top-dress the next seeding a little lighter, but that, too, was lost. Since then I have never put anything on the new seedings and have never had one but went through the winter in fine condition.

Right here I want to say that we top-dress all our old alfalfa at least every other year with excellent results. But I see I am getting ahead of my subject and am telling of my crops instead of how I got them.

In the first place our farm, which is located north of Lake Mills in Jefferson county, is made up of two entirely different kinds of soil. The upland is a heavy clay soil, while the lowland, located along the west bank of the Crayfish river, is made up of a top soil of black loam with a subsoil of blue clay. Now we have about thirty acres of alfalfa on the black ground and a little more on the uplands.

It would be difficult to say which produces the most hay in a series of years, for during a dry year the lowland is a little the best while a year that is wet like the last the upland is a little ahead. Now on the two different types of soil we use different methods of seeding. On the upland we begin the year before by manuring heavily for corn, and as soon as that is removed we give the land another heavy coat of manure and plow in the fall if possible. If the land is not plowed until spring it requires a little more work to prepare the seed bed and get the proper connection between the plowed soil and the subsoil so as not to break up the capillary system which insures a goodly supply of water.

I try to sow as early in the spring as possible, that is, after the danger of the heavy frosts are over, as the light frosts will destroy a great many of the young weeds that have started and will not hurt the young alfalfa plants. The early seeding gives the young plants the advantage of the extra amount of water that is in the soil during the spring, and by the time the hot weather of summer has set in they have established a good root system that will enable them to go through a great deal of hardship.

When we first began to sow alfalfa, we sowed 20 pounds of alfalfa seed with 3 pecks of barley for the nurse crop, cutting the barley for grain, but we have been cutting down the

amount of alfalfa seed until at present we sow only 15 pounds of seed per acre. Last year, I tried sowing at the rate of 10 pounds and had a fine stand but the conditions were ideal and one cannot always count on them.

Now the lowland is too far from the house to crop so we keep it in hay as much as possible. Before we found that alfalfa would grow on this soil we had been raising a mixture of red clover, alsike, timothy, and red top. The red clover would generally live one year, the alsike two and from them on there would be nothing but the timothy and red top, which are not rated very highly for milk feeds.

The first alfalfa on this land was left six years and grew fine crops during that time, but the June grass gradually works in and crowds out the alfalfa so we have to plow it up every four or five years and reseed at once, using oats instead of barley for a nurse crop and cutting the oats for hay. I am beginning to think that oats cut for hay on the upland would be better than the barley as one is apt to let the shocks stand too long on the young plants, especially in a wet season.

I have never tried sowing without a nurse crop, but have seen fields sown that way where I thought the weeds more than made up for the nurse crop and robbed the young plants of the moisture that they should have had.

Two years ago when it was so dry in southern Wisconsin I had sown 20 acres of clover and the same amount of alfalfa; the clover all died but the alfalfa lived, showing that the young alfalfa could stand a great deal drier season than the clover. If one uses a nurse crop they should watch it and if it begins to lodge cut at once for the lodged grain will kill the young alfalfa plants quicker than anything I know.

In comparing the cost of seeding land to alfalfa I find that the extra crop of hay the first year more than makes up the extra cost of seed, and then one does not have to sow again for a number of years; as the plants get older and their roots go deeper the crowns keep throwing out a large number of shoots.

If one could show a field of alfalfa with its three or perhaps four cuttings on top of each other it would not take long to convince even the most skeptical that this was the greatest hay crop known. When compared with the other hay crops as

to yield per acre and composition one sees that the alfalfa produces 2 to 3 times as many tons per acre as timothy and with over twice as much protein in one ton of alfalfa as there is in the timothy. It will readily be seen that the alfalfa has the others distanced in regard to protein, and is the crop we all need.

GROWING ALFALFA IN WISCONSIN.

C. W. Bacon, Burke, Wis.

Three or four years ago I became interested in growing alfalfa and since that time I have tried a number of methods of seeding. From these experiments and information gathered from other sources, I concluded there is no fixed method we can follow and look for the same results at all times, for the weather, character of the soil, and other conditions beyond our immediate control have an influence on growing crops with which we must contend.

Alfalfa seems to have peculiarities of its own. The more familiar we become with them, the better success we are apt to have in growing it. However, after once started, it readily adapts itself to its surroundings.

I consider one of the first things necessary to successfully grow alfalfa is to become thoroughly acquainted with the conditions of the soil. After having done this, it will be found a patient that is easily treated. In this paper, I will discuss the method that I found to produce the best results.

We will assume we have a field that has had a cultivated crop taken off early in the fall, such as a corn crop put in the silo. The first step would be to give it a heavy coat of barnyard manure and disc it in. Disking it in not only mixes it with the soil, which prevents its being washed away, but covers any weed seed that may be present. Then after the weeds have started to grow the field should be plowed. A deep tilling machine or a subsoiler would be an excellent tool to use, but since I have neither, an ordinary 14 inch walking plow does the work.

By running the plow ten or twelve inches deep and taking a cut not over ten inches wide, the furrow is not turned over, but stands up on its edge, which mixes the fertilizer with the soil to the depth of the furrow. The following spring, tests with blue litmus paper should be made in different parts of the field for acid. If any is found present, a coat of lime should be applied to correct the soil. I might add, lime will not hurt the soil if there is no acid found. From this time on until the alfalfa seed is to be sowed, the field should be disked every eight or ten days to check further growth of weeds and to hold the moisture.

My experience is that after having disked the field so many times it is rough and uneven. To smooth it, I make a drag by using three pieces 4 x 6 twelve feet long and fastening them together about 12 inches apart with short pieces of plank spiked crosswise. Then by making the hitch about 12 inches shorter on one side than it is on the other, the machine draws diagonally after the team, and the soil is carried from the high places and deposited in the lower ones. Now if you drive around the field so the after end is next to the unfinished part, any ridge that may be left is smoothed the next time around.

After the field has been smoothed it should be inoculated. If you have an old field of alfalfa the soil can be procured there, if not, it may be had from the roadside where sweet clover grows. A cloudy day should be selected for this and the field should be harrowed as soon as inoculated. Just whether it is better to sow alfalfa with a nurse crop or not, is a point I am not fully decided upon. But as far as I know now, I prefer to sow with about three pecks of barley to the acre. By sowing with barley, some returns for the use of the land [illegible] ably be expected the first year, besides which, the weed growth will be checked. Last season I sowed a field of about ten acres. One part was sowed about May 15th with three pecks of barley to the acre. On the same day about two acres of it was sowed without a nurse crop. Then about four weeks later the balance was sowed without a nurse crop. During the latter part of July or the first of August samples were taken from the three different fields. Field No. 2 or the one that was seeded May 15th without a nurse crop had by far the

best root development. The top, however, did not seem to be any better than field No. 1 or the one which was seeded with a nurse crop. In fact neither of them had a very good color. Field No. 3 or the one that was seeded about June 15th had the best growth above ground and had a nice dark green color; the root development was not as good as field No. 2.

Weeds began to take pretty strong hold of both fields that did not have a nurse crop, about this time, and later had to be clipped, while Field No. 1 was practically free from them. Later on, after the barley was removed, Field No. 1 started to grow and I think went into winter quarters in better condition than either of the other two.

The manner of sowing the seed I think might be left optional with the grower. I have tried the "Armstrong Method", the hand seeder and a disc drill, both with alfalfa spouts on and off, but rather prefer the drill with the alfalfa spouts off harrowing the field after the seeding is done. There has been considerable discussion about how much seed should be sown on an acre. Personally I can see no reason why there should be any more alfalfa seed sown on an acre than clover seed, consequently it resolves itself into an arithmetical problem. Someone who has more patience than I has made some calculation in this direction which results in the following: If five quarts of alfalfa seed is scattered evenly over an acre of ground, there will be more than one alfalfa seed on every square inch of surface. Since 12 to 15 good healthy alfalfa plants is all we can ask for on a square foot of surface, only one seed out of every 12 has to develop into a plant to give us a good stand.

In conclusion: Under ordinary conditions, if the work of seeding a field of alfalfa is carried out as outlined above, I would say, we can reasonably look forward to a good crop. If, however, it did fail to materialize, I would be inclined to say what the Irishman who applied for a position as engineer on one of the steamboat lines said:

An Irishman applied to one of the steamboat lines for a position as engineer and all went well until the examining engineer began to question Pat about the injector. Pat was asked what he would do if the water in the boilers was low and the injectors failed to work. He said I would take them off and clean

Through the organization of the La Crosse County Order of the Experiment Association a new Era for pure bred seeds was inaugurated.

them. This did not satisfy the examining engineer so he asked him "supposing you had tried all the methods you knew of and still your injector would not work, what would you do?" "I would look overboard to see if there was any water in the lake."

Meeting of the County Orders.

OPENING ADDRESS.

R. A. MOORE.

Gentlemen: The coming together of representatives of the various County Orders is a matter of vital interest to the Experiment Association. For many years the state association has had to bear and carry the burden of this great work and lay plans for a more effective organization that would be commensurate with the great work we now have in hand. To do this work effectively and systematically the County Order plan was put into operation. Three or four county orders were organized and run to determine whether they would prove beneficial and survive, or like many organizations go by the board after a year's trial. We now have thirty-four county organizations doing active work, and the object of our meeting here is to devise ways and means of systematizing the work that the Orders have in hand and discuss means of further endeavor for the future. I fully realize the many obstacles to be overcome and the many sacrifices that will have to be made by both officers and members in order to have the County Order do the great work which is destined to come before it.

It seems just and proper that carefully worked out plans can be devised that will be of the greatest help to the county associations. During the period of organization of the County Orders there has not been sufficient stress put upon this line of effort, and many of the new County Orders organized are at a loss to know just how to proceed.

It seems to me that a carefully worked out plan of procedure

should be devised and published in the annual report, as a guide for the various County Orders. Of course, we cannot set forth a plan that will exactly fit every County Order but it will at least be a help. I will herewith give a few things that I think should be done by each County Order.

1. Hold an annual meeting at which officers are elected and work planned for the coming year. The work carried on by the Order during the past year should be discussed and papers presented on various phases of agriculture. A grain contest can be held at the annual meeting and members have an opportunity to make comparison and discuss the merits and demerits of the various exhibits. By active efforts on the part of the secretary a few good cash and special prizes can be secured for the occasion, which will act as an inducement for competition.

These annual meetings should be open and the general public invited to attend and inspect the exhibits.

2. Special meetings should be held two or three times a year, to discuss plans for future operation.

3. An exhibit should be put up at the County and State Fairs, so as to advertise the pure bred seed grains grown by the membership, and the county in general.

4. Everything possible should be done by the President and the Secretary in the way of making the work of the County Order known to the public. The Order should be so run that it will be an object for a member to belong to it, both from a social and financial standpoint.

5. Inspection work should be done as far as possible by the Secretary. Where there are no funds for a personal inspection of such work it will be necessary to acquire the information concerning the condition of the seed grain farms as far as possible by correspondence.

6. The Secretary should have printed lists of his membership and the various farm products for sale. A few dollars spent in advertising through the local and state press bring good returns. Much good and a great deal of free advertising can be secured through the local papers. Those papers are always ready to report a bumper crop of corn grown by Smith or Jones, and the wonderful field of pedigree barley grown by Brown will willingly be recorded. If a specially constructed seed curing

room has been built by a member the local press is willing to make mention of it. The programs for annual and special meetings and some of the papers presented will be published without cost to the Order.

7. By holding the annual meeting of the County Order just previous to the annual meeting of the State Association the grains winning in the local grain contest could be sent on to compete at the annual grain contest.

Often the County Order can meet the same week that a bankers' meeting or a corn school is held in the county and by coöperating be of great service. By so doing good speakers can often be obtained free for the Order.

8. At the annual meeting to-morrow will be dicussed a plan for organizing township agricultural clubs and a constitution given under which each club should operate. The County Order should bear the same relationship to the township agricultural club as the state association bears to the County Order at the present time. It seems a great good can be accomplished by active coöperation of the County Orders and the township agricultural clubs, and we hope the plan outlined will meet with approval and many hundreds of these township clubs be organized during the next few years.

COUNTY ORDERS OF THE WISCONSIN EXPERIMENT ASSOCIATION AND OFFICERS WHO GUIDE THEM.

BARRON COUNTY.

President—Wm. Bartlett, Barron,
Vice President—Herman Lempke, Cameron,
Secretary-Treasurer—Frank D. Otis, Barron.

CLARK COUNTY.

President—Fred Sears, Neillsville,
Vice President—Wm. Buddenhagen, Neillsville,
Secretary-Treasurer—Geo. E. Crothers, Neillsville.

COLUMBIA COUNTY.

President—Frank E. Bell, Columbus,
Vice President—S. R. Webster, Columbus,
Secretary-Treasurer—S. M. Thomas, Columbus.

DANE COUNTY.

President—C. A. Lyman, Sun Prairie,
Vice President—Otto Toepfer, Madison, R. F. D. No. 1,
Secretary-Treasurer—J. J. Garland, Madison.

DODGE COUNTY.

President—Theo. Lehman, Watertown,
Vice President—J. R. Jones, Beaver Dam,
Secretary-Treasurer—H. E. Krueger, Beaver Dam.

EAU CLAIRE COUNTY.

President—Chas. Koll, Eau Claire,
Vice President—B. M. Arries, Augusta,
Secretary-Treasurer—A. C. Russell, Augusta.

FOND DU LAC COUNTY.

President—Math. Michels, Peebles,
Vice President—R. F. Adams, Campbellsport,
Secretary-Treasurer—A. F. Block, Lomira.

GRANT COUNTY.

President—W. J. Steinhoff, Platteville,
Vice President—Ray M. Bushnell, Platteville,
Secretary-Treasurer—Orin J. Bennett, Platteville.

GREEN COUNTY.

President—M. L. Karney, Brodhead,
Vice President—Wm. Smiley, Albany.
Secretary-Treasurer—C. Tochterman Jr., Monroe.

GREEN LAKE COUNTY.

President—E. M. Fitzmaurice, Berlin,
Vice President—Bert Brewer, Berlin,
Secretary-Treasurer—B. F. Parsons, Berlin.

IOWA COUNTY.

President—J. F. Davis, Barneveld,
Vice President—Otto Oimoen, Barneveld,
Secretary-Treasurer—Jesse Van Nata, Dodgeville.

JACKSON COUNTY.

President—J. R. McDonald, Black River Falls,
Vice President—Wm. Tibbitts, Melrose,
Secretary-Treasurer—Oren D. Stiehl, Black River Falls.

JEFFERSON COUNTY.

President—R. W. Ward, Fort Atkinson,
Vice President—Geo. H. Leonard, Jefferson,
Secretary-Treasurer—Wm. R. Leonard, Jefferson.

KEWAUNEE COUNTY.

President—F. W. Pelacket, Kewaunee,
Vice President—Wm. Katel, Kewaunee,
Secretary-Treasurer—Chas. F. Teske, Kewaunee.

LA CROSSE COUNTY.

President—S. P. Markle, La Crosse, R. F. D. No. 1,
Vice President—Will Moos, Onalaska,
Secretary-Treasurer—T. H. Canpion, Onalaska.

LA FAYETTE COUNTY.

President—F. J. McConnell, Darlington,
Vice President—John Stephenson, Darlington,
Secretary-Treasurer—Orville Benedict, Darlington.

LANGLADE COUNTY.

President—Calvin Balliett, Antigo,
Vice President—Edward Nordman, Polar,
Secretary-Treasurer—D. S. Stewart, Antigo.

MANITOWOC COUNTY.

President—Herman Roethel, Kiel,
Vice President—R. A. Kolb, Manitowoc,
Secretary-Treasurer—C. W. Meisnest, Manitowoc.

MARATHON COUNTY.

President—G. A. Parsch, Wausau,
Vice President—Herman Amhaus, Edgar,
Secretary-Treasurer—J. F. Kadonsky, Wausau.

MARINETTE COUNTY.

President—Fred Sweningson, Peshtigo,
Vice President—J. A. Tiedjeans, Peshtigo,
Secretary-Treasurer—D. S. Bullock, Marinette.

MONROE COUNTY.

President—C. F. Hansen, Sparta,
Vice President—L. A. Miller, Sparta,
Secretary-Treasurer—C. E. Hitchcock, Sparta.

ONEIDA COUNTY.

President—G. H. Dawes, Tomahawk Lake,
Vice President—Geo. Burkhart, Rhinelander,
Secretary-Treasurer—E. L. Luther, Rhinelander.

PIERCE COUNTY.

President—Fred Smith, River Falls,
Vice President—Mr. Campbell, Ellsworth,
Secretary-Treasurer—W. W. Clark, Ellsworth.

RACINE COUNTY.

President—James B. Cheesman, Racine,
Vice President—Arthur A. Gehrand, Waterford,
Secretary-Treasurer—E. B. Skewes, Union Grove.

RICHLAND COUNTY.

President—Harry Bailey, Richland Center,
Vice President—J. R. Thorpe, Tavera,
Secretary-Treasurer—H. L. Post, Sextonville.

ROCK COUNTY.

President—Geo. Hemingway, Hanover,
Vice President—A. G. Russell, Janesville,
Secretary-Treasurer—Noyes R. Raessler, Beloit.

SAUK COUNTY.

President—G. W. Davies, North Freedom,
Vice President—Riley Martiny, Baraboo,
Secretary-Treasurer—W. A. Toole, Baraboo.

MILWAUKEE COUNTY.

President—Walter Schroeder, Elm Grove,
Vice President—Walter Kirchoff, North Milwaukee,
Secretary-Treasurer—F. J. Sievers, Wauwatosa.

SHAWANO COUNTY.

President—E. S. Hildeman, Belle Plaine,
Vice President—Paul Ashman, Belle Plaine,
Secretary-Treasurer—John Runchke, Shawano.

SHEBOYGAN COUNTY.

President—W. L. Illian, Adell,
Vice President—J. O. Parrish, Plymouth,
Secretary-Treasurer—O. R. Frauenheim, Random Lake.

ST. CROIX COUNTY.

President—R. W. Brunner, Hudson,
Vice President—Geo. H. Kruschke, New Richmond,
Secretary—Wm. Schwandt, Stanton,
Treasurer—Chas. Stiles, Hudson.

VERNON COUNTY.

President—Nels O. Neprud, Coon Valley,
Vice President—Cornelius Sebion, Westby,
Secretary-Treasurer—Walter McClurg, Viroqua.

WALWORTH COUNTY.

President—Harry Dunbar, Elkhorn,
Vice President—Ross H. Ells, Darien,
Secretary-Treasurer—Jesse S. Harris, Delavan.

WASHBURN COUNTY.

President—M. W. Cadle, Shell Lake,
Vice President—E. H. Allen, Shell Lake,
Secretary-Treasurer—Ed Rylander, Shell Lake.

WAUKESHA COUNTY.

President—Peter C. Swartz, Waukesha,
Vice President—Arthur Williams, Waukesha,
Secretary—J. W. Baird, Waukesha.

WINNEBAGO COUNTY.

President—A. J. Cross, Allenville,
Vice President—E. Race, Omro,
Secretary-Treasurer—J. M. Humphreys, Winneconne.

WOOD COUNTY.

President—M. H. Jackson, Grand Rapids,
Vice President—A. P. Bean, Grand Rapids,
Secretary-Treasurer—O. J. Leu, Grand Rapids.

REPORTS OF SECRETARIES OF THE DIFFERENT COUNTY ORDERS OF THE EXPERIMENT ASSOCIATION.

SECRETARY'S REPORT OF LAFAYETTE COUNTY ORDER.

O. N. BENEDICT, Darlington.

The Lafayette County Order of the Wisconsin Agricultural Experiment Association has been organized only one year. On account of the shortage of seed grains in the spring of 1912, we were unable to distribute pedigree seed grains to our members, but the coming season we hope to do something in this line. Through the energy of our Order a Corn Show was held in connection with the Farmers' Institute at Darlington at which $50 was offered as premiums.

SECRETARY'S REPORT OF THE SAUK COUNTY ORDER.

W. A. TOOLE, Baraboo.

The Sauk County Order of the Wisconsin Agricultural Experiment Association has been organized two years. We now have fifty-two members. During the past year we have issued three lists of members with their sale offerings which have been quite generally distributed. The first one was sent out late last winter and seemed to be a good thing. Another list was distributed at the State Fair and later a more extensive and revised list has been prepared for distribution during the winter. It is not easy to tell just how much good is done by these circulars but members have told me at different times of direct sales that have come from their use.

During the summer Prof. J. G. Milward was secured to give a spraying demonstration at an orchard near Baraboo, and during December a Poultry, Potato, Horticulture school was held in Baraboo, secured by the County Order. This school was from the extension division of the Wisconsin College of Agriculture. We hope to have a grain and live stock school next year. While this work is somewhat outside the commercial development of the order, we feel it is a good thing, as the members increase their knowledge and the Order is strengthened.

A county exhibit was made at the State Fair in 1912. Second place and a premium of $160.00 was secured. There is considerable work about a county exhibit but we think it pays as an advertisement.

Several of the members now have dry-kilns for their corn. Some of the corn growers sell direct to the planters while a few of them contract with seed houses. Less attention has been given to the small grains so far, but more of the pedigree varieties of grain will be grown next year. We hope to establish the growing of pure stocks of seed potatoes in addition to seed grains.

The Order was organized at Baraboo and so far the most of the members have been from around there. The annual

meeting will be held this winter in another part of the county as an attempt to widen the scope of the work. The inspection work has been done by the President, G. W. Davies, who is superintendent of schools for the county of Sauk.

A two days program is being planned for this winter at which various subjects relating to the production of pure bred seed grains and live stock will be discussed.

SECRETARY'S REPORT OF THE MANITOWOC COUNTY ORDER.

C. W. Meisnest, Manitowoc.

Our association at present consists of fifty-one members. We hold but one annual meeting and our last one was held March 23, 1912. At this meeting, in addition to the program, which was a very strong one and appealing to the members, the association decided to get out a seed growers' and live stock breeders' list. It was through the efforts of our association that our county fair was again revived. From the number of cattle at our county fair it was certainly plain that coöperation, such as this meeting affords, is necessary in order to bring out the best farmers have.

We have throughout the county a number of farmers' clubs. These, in a measure at least, are connected with the County Order, yet we have not properly federated them. We intend to do this the coming year.

Our demonstration meeting at the County Asylum farm, which was held under the auspices of the County Order, was a very excellent meeting. About 100 farmers attended the plowing match, making it a great success.

I am glad to report that this assocaition has coöperated with the county superintendent and the country schools in promoting district and township agricultural school fairs. Last year forty-five schools took part in this work. I am sure I could not have succeeded as well in this had I not had the coöperation of the County Order members in the various localities.

SECRETARY'S REPORT OF THE ROCK COUNTY ORDER.

NOYES R. RAESSLER.

The year 1912 was marked by an unusual activity among our farmers who became members of the Rock County Order, in their endeavor to produce better grains and improve their methods of farm work in every way. During my field inspection, I noticed many little improvements had been made about the farms of the members, such as the repairing of fences and buildings. Also a very important thing, that of keeping the roadsides clean either by mowing the weeds or cultivating to keep them down.

In many cases, I was enabled to determine when I came to a farm operated by one of our members, simply by the appearance of the buildings and the fields that could be seen from the road. Before visiting many farms I discovered the necessity of this farm inspection work and received some idea of the work that is before our association within the next few years if we expect to put upon the market seeds that are worthy of the name of "Wisconsin Pure Bred Grains."

Smut was present in nearly all the barley and oats last year in greater or less quantities and I made it a point to see that each member thoroughly understood the method of treating grain with formalin before I left him.

Traces of blight were also present in a few barley fields, and had not been noticed by the owners of the fields until brought to their attention. It will be several years before we will be in shape to ship pure bred grains in large quantities. However, there is not one of our members but what feels that he has increased his income by growing larger crops from pure bred seeds than were obtained from any other seeds sown.

As most every farmer in our section is engaged in dairying, most of the grain crops are fed on the farm. A few of our members have been engaged in growing pure bred seeds exclusively for the past five years and are putting out some of the finest grade of seed grown in the state.

Our County Order was organized at Janesville on Feb. 17, 1912, with 22 charter members. This number was increased to 86 at our first annual meeting and grain show held three

weeks later. At present we have 112 members and are looking forward to a much larger membership before the close of the year as the bankers and business men throughout the county are thoroughly in sympathy with our movement and are doing everything within their power to further the interests of the Experiment Association.

SECRETARY'S REPORT OF THE FOND DU LAC COUNTY ORDER.

A. F. Block, Lomira.

Another prosperous year has been added to the history of the Fond du Lac County Order, in which the fruits, efforts and labor of the year 1912 are recorded. I am pleased to report that it was a year of joy and inspiration to the members and the farmers in general. All through the season it was wet and backward, which kept work back on the farm and made quite a delay in seeding and corn planting time. But at harvest time, the farmer rejoiced for the bountiful crops he received, repaying him for time and labor spent.

In making this report, I feel that the County Order with its thirty active members can coöperate with the farmer in rejoicing and proclaiming prosperity and happiness in the association as well as in the county of Fond du Lac. Circumstances over which we had no control, namely; a wet season for curing our grain crop and with so many of the members back in their work, we were unable to secure enough choice samples and seeds to warrant making a display at the 1912 State Fair. We were nevertheless not idle but continued bending every effort to strengthen the Order by conserving this energy in caring for seed grains for another year's trade.

Owing to the lack of funds, no farm inspection work was done, but we hope in another year, if funds can be secured, to direct special efforts in this work.

In conclusion, will say, that much interest and enthusiasm was manifested among the members and their help and loyalty is making the County Order stronger and more effective for the future.

SECRETARY'S REPORT OF RICHLAND COUNTY ORDER.

H. L. Post, Sextonville.

The last annual meeting of the Richland County Order was held January 25th, the day the Crop Improvement Car was in Richland Center, at which time a grain show was held in connection. The Richland Commercial Club offered ninety dollars in cash premiums for wheat, barley, oats, rye, corn and potatoes and there were fifty-eight entries. It was a noticeable fact that all the premiums were won by members of the Richland County Order with the exception of those on wheat and potatoes. At the business meeting of the Order, several new memberships were received and among other things discussed was the preparing of an exhibit for the County Fair. We asked the Fair Association for aid and they offered a special premium to help the exhibit.

A committee of five was appointed to have charge of the exhibit. Later in the season it developed that the committee had done nothing at all, one seemed to be waiting for the other and finally it fell upon two or three of us to put it through. The exhibit was made as instructive as possible and the main object was to create interest in the pure bred seeds and show their superiority over the common varieties, also the difference between smut on grains that had been treated previous to sowing and that which had not. At the County Fair as at the Midwinter show, the same large per cent of winnings were made by the members of the County Order. Our aim has been to advance Richland county as near the front as possible in the pure bred seed business.

We have not taken an exhibit to the State Fair yet, as this was the first year we had planned an exhibit. Our Fair comes after the State Fair so we wanted to see how the members would take hold of it and what could be done before going to Milwaukee. Early in the season a blank was sent to each member asking him to fill in with what varieties he could furnish and in this way I was able to tell just what we could get together. The great lack seemed to be in the sheaf grains

and grasses, which was probably due to the members being very busy at the time when they should be prepared. At the Fair the usual question asked in our exhibit tent was "Where did this exhibit come from?" and the information that it was grown in Richland county and placed there by the members of the Richland County Order of the Wisconsin Experiment Association created no little comment.

As yet we have not had farm inspection in our county but want it as soon as we can get it. Each year we have printed a breeders' and growers' list of our pure bred live stock and seed grains and have distributed them as far as possible. I feel sure from my own sales that they are a first-class advertiser although at present we have several other forms of advertising in view which will be discussed at our next meeting. In the past it has been our desire to arouse local interest in pure seed grains, get them more generally grown throughout the county and also increase our membership. When this has been accomplished and nearly every farmer in the county growing pure bred seed grains knows the working of this association, we may expect greater results.

SECRETARY'S REPORT OF THE ST. CROIX COUNTY ORDER.

Wm. Schwandt, Stanton.

The work of the St. Croix County Order for 1912 has been fully up to expectations. Another Short Course has been landed through the efforts of our Pres. R. W. Brunner. The school will be held Jan. 13–18 at the city of Hudson and will be followed by the annual Corn Show for this county. Seven towns were furnished with one-third of a bushel of our best pure bred seed corn and others with 1½ bushels of pure bred grains, free of charge. We hope that it will be the start toward having every farmer in the county growing pure bred corn and grains in the near future.

The appropriation that was allowed us by the county enabled us to get up a much better exhibit for the State Fair, where we were allowed sixth place. We also showed at the Northern

Wis. State Fair and Glenwood City carrying off first honors at each place for our splendid County Exhibit. Our county board allowed us $25 for the exhibit of our sheaf grains and grasses, which we appreciated very much, as it was not so much the amount of money, but the high esteem in which the County Order was held by them.

A booklet 5½"x8" was issued by us to advertise our county at the fairs and to send throughout this and other states. The contents of this booklet are made up of write-ups and illustrations of the homes of members of this Order that have pure bred seeds or stock for sale.

The different cities and villages were asked to place a view of their city together with a write-up of the same, for which we charged them for the number of pages taken. The little booklet is by no means perfect as yet but it is a good start and everyone is well pleased with our first venture. We hope to show a much better booklet the coming year.

To more efficiently carry out the work of the Order it was thought best to elect a set of directors to meet each month together with the officers of the Order. At our June meeting four live workers were elected as directors of the St. Croix County Order, making a total of 8 active directors. We find that this is a move in the right direction and a good help toward getting results.

SECRETARY'S REPORT OF THE WOOD COUNTY ORDER.

O. J. Leu, Grand Rapids, Wis.

The Wood County Order of the Agricultural Experiment Association was organized Dec. 6, 1911, by Prof. R. A. Moore. It started out with forty-one members and five more were added during the year. During the year several meetings were held and addresses made by local speakers. One of these meetings was addressed by L. F. Graber, who gave a very instructive talk on corn.

The county board through our efforts appropriated $500 for an exhibit at the State Fair in 1913. A great deal of pure bred seed was introduced during the year by means of a school chil-

drens' corn contest which was conducted during the summer and in which several hundred children took part. The corn was exhibited at our exhibit, Dec. 7, 1912, and a great many of the specimens would have done great credit to older people. The variety of corn used was Golden Glow.

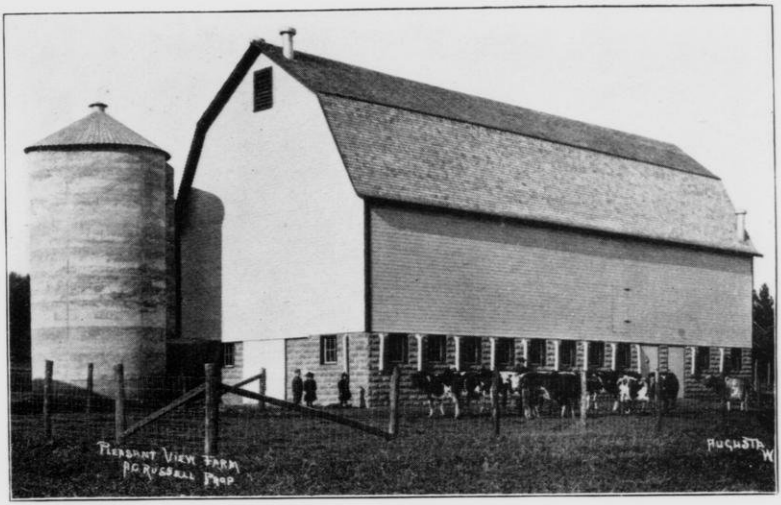
A five days' corn and dairy school, under the University Extension Department, was held Dec. 2–6, 1912. This was a most successful school. Besides the sixty-three farmers enrolled, the students from the teachers training school were permitted to attend. For two days all but two of the country teachers attended the lectures and were given demonstrations in corn judging by Prof. C. P. Norgord and in milk testing and dairy cattle judging by O. J. Leu. The year's work ended with the exhibit, Dec. 7th, mentioned before, given under the auspices of the Wisconsin Bankers' Association, and assisted by our association. The progress of the work was here clearly shown by the amount of pure bred grains and absence of "scrub" grains which the year before were in the majority. Considerable pure bred grain was sold last year and a great deal more will be sold this year, especially corn.

SECRETARY'S REPORT OF THE WAUKESHA COUNTY ORDER.

JAS. W. BAIRD, Waukesha.

The Waukesha County Order was organized on Jan. 20, 1912. Prof. R. A. Moore, of Madison, who was present to assist in organizing, read the County Order Constitution and By-Laws, which were unanimously adopted. Thirty-one persons signed the constitution, thereby becoming the charter members. Peter Schwartz was elected President and attended the various Farmers' Institutes held throughout the county, where he gave short talks presenting the benefits and advantages to be derived from this organization. Additional members were gained in this way, the total membership now numbering fifty-four.

Blanks distributed by the secretary were found to be a successful means of bringing together buyer and seller of pure bred seed grains. At subsequent meetings L. P. Graber gave



Up-To-Date Dairy barn and silo on Pleasant View Farm, Augusta, Wis. Specialties pure bred grains and Guernsey cattle.

CHILDREN'S CORN GROWING CONTEST AT WAUKESHA.

Sixteen hundred and fifty young people entered this contest under the direction of Co. Supt. G. B. Rhoads.

an interesting talk on alfalfa, Prof. McDowell gave a lecture on Soil Management and H. E. Krueger spoke on the work of the Dodge County Order.

SECRETARY'S REPORT OF THE SHAWANO COUNTY ORDER.

PAUL ASHMANN, Belle Plaine.

The Shawano County Order of the Experiment Association was organized Dec. 5th by Prof. R. A. Moore. The first meeting was held at the County House on Dec. 9, 1911, and 26 charter members were enrolled. At other meetings more members were secured, so that at our first annual meeting held on Dec. 10, 1912, we had a membership of 53. During the season 1912 we have grown successfully Wisconsin No. 12 and No. 7 corn, Wisconsin pedigree barley and Swedish Select oats, but, owing to the abnormal rainfall all through harvest in this locality the oats and barley are very dark in color, although the yield was good.

As this is a new Order, we have not had as much experience as some of the older County Orders, but encouraged by the success we had last year we will continue to grow pure bred seeds.

SECRETARY'S REPORT OF RACINE COUNTY ORDER.

E. B. SKEWES, Union Grove.

The Racine County Order was organized at the annual meeting of the Association held in January, 1911. The credit for its organization is due chiefly to the Racine county boys at that time taking the Short Course and especially to Oliver Q. Chambers, our first President. But through a conjunction of unlooked for conditions that probably will never be duplicated, we have twice failed to make a success of the annual meeting of the Order. We are, therefore, still in the formative

stage, but this year, working along a different line, we feel assured of better results.

Our constitution is modeled after those of the older Orders. Our annual membership fee is fifty cents. We extend the privilege of membership to anyone interested in the growing of pure bred grains or live stock.

EXHIBITION OF GRAINS AND FORAGE PLANTS FOR 1913.

The annual exhibit of grains and forage plants this year was one of the most extensive and complete in the history of our association. Owing to the backward and rainy season last year, unless special care was taken, it was rather difficult to secure good sheaf samples. Yet it was rather surprising to see the large number of bright and attractive looking sheaves of barley, oats, and wheat which the members had taken pains to prepare.

The competition this year among the threshed samples was especially keen for year by year the number of growers increases who know how to grow and exhibit a high grade sample of our various grains. Prof. Stone, who judged the grains and forage plants, found a serious handicap in many of the entries in that they were contaminated with seeds of other grains or weeds. It shows how careful the grower must be in threshing, handling and storing of the pure bred seeds to prevent a mixing of the different varieties, for it is nearly impossible to separate many of the different kinds of grains with even the most careful use of the fanning mill. If samples of grains, which are supposed to be carefully selected and cleaned for exhibition purposes, contain much foreign seeds, it is a very likely indication that our seed bins at home contain mixed grains. Purity of our grains is one of the most important points that we must guard, if the members of this association are to maintain a reputation for pure bred seed grains.

That a prize winner at our annual exhibit assures the grower an even chance for world championship honors in the National

Corn Show should be kept in the minds of all our members when selecting and preparing their exhibits. It is especially urged that more members in the future enter samples of their grains and forage crops in our annual contest for it is not only a profitable investment for ones spare time but an instructive and pleasant diversion. The prizes that are offered are both generous and extensive, for nearly a thousand dollars in premiums and cash are annually donated to the winners. To have a mantle decorated with loving cups and trophies or a wall hung with prize ribbons and certificates is a never ending source of pride to the owner.

Then, too, the bringing of the products of a man's farm into comparison with those from different parts of the state allows him to compare their quality and note whether he is keeping up the standard he should. And if he finds he has dropped too far behind it may lead him to perhaps secure better seed or adopt more careful practices on his farm.

Taking part in this and as many more exhibits as possible is the duty of our members, for by exhibiting at county and state fairs our pure bred seed grains are advertised and a reputation built up for our Experiment Association.

WISCONSIN AT THE NATIONAL CORN SHOW.

L. F. Graber, Madison.

The fifth National Corn Exposition was held in the heart of the sunny south at Columbia, South Carolina, Jan. 27 to Feb. 15, 1913. It is true that South Carolina is not a great corn state such as are those states included in the corn belt, yet, it is the home of the champion boy corn grower of the world—the noted Jerry Moore, who is apparently more famous in the eyes of some Southern people than many of their statesmen. That this young lad not out of his "teens" produced 228½ bushels of corn on one acre (the highest yield ever produced by a boy) is an indication of the possibilities of corn growing in the South. The fact that the Corn Show was this year held in the South has had a tremendous influence in calling the Southern Farmer's attention to the possibilities before

him and in obliterating the too common idea of cotton growing continuously year after year.

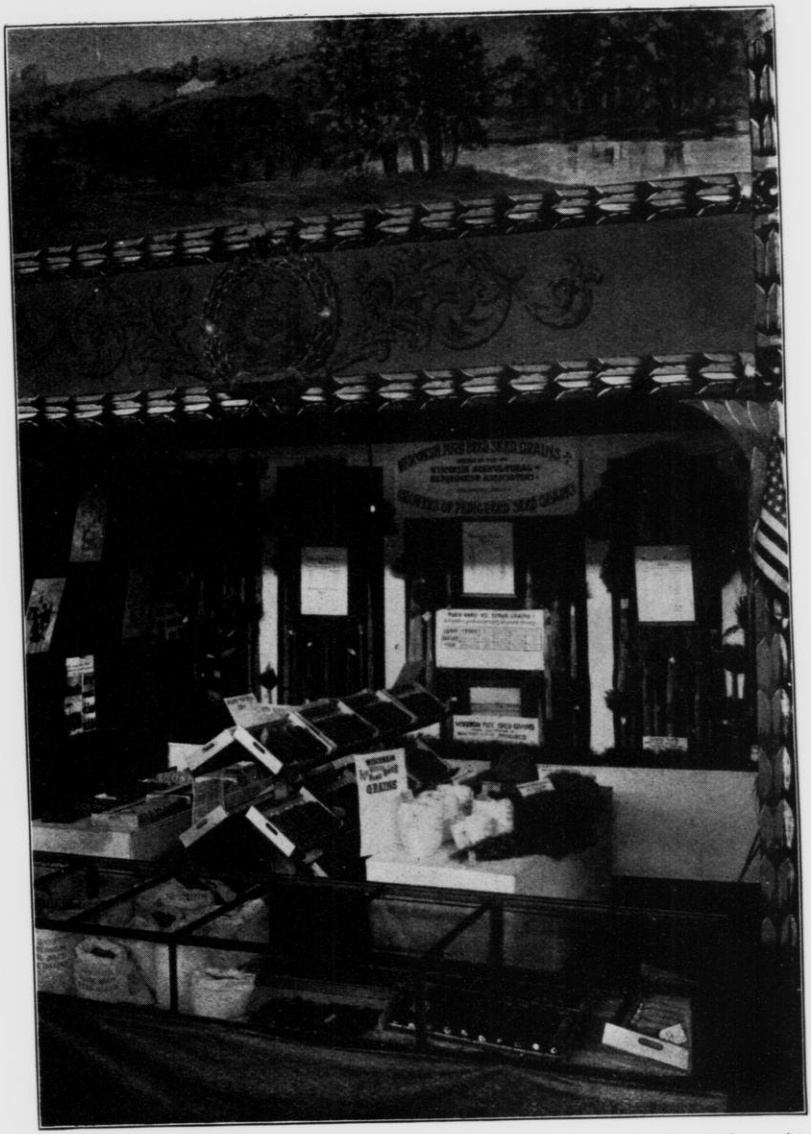
WHAT IS THE NATIONAL CORN SHOW?

The Corn Show is an educational exposition representing in a graphic way the latest scientific thought on agricultural progress and rural development. It is true that its name is a misnomer; at least it does not entirely convey the idea of its diversified character. To the uninformed it is one gigantic exhibition of corn and corn only, but it includes everything for the betterment of rural life. Its purposes are entirely educational, representing the latest scientific data and experimental evidence on the progress of better agriculture in America.

The exposition was housed in a gigantic steel structure covering some 70,000 square feet of space. Twenty-four states made educational exhibits illustrating their products and experimental data of their experiment stations. The United States Department of Agriculture presented a wonderful exhibit, comprising four carloads of material illustrating the work of its various departments and bureaus.

Some 500 boys and girls, prize winners of the boys' corn clubs and girls' tomato canning clubs of the South, attended the exposition and were given a week's course of instruction. This work, which is being conducted coöperatively with the United States Department of Agriculture and the state colleges, has been of vast importance in placing Southern agriculture on a higher plane and in inspiring the coming generations to stick to the land.

Prominent speakers were heard daily on popular agricultural topics, illustrated by lantern slides, and moving pictures were seen. A rural life conference was held. The country church, community center exhibits and round table discussions on social conditions of the farm were prominent features. With this brief synopsis of the exposition an idea of its scope and importance can be obtained. It is an institution which has done and can do a great deal for the betterment of rural life, both socially and financially.



Educational display of grains and forage plants, made by the Wisconsin College of Agriculture and the Agricultural Experiment Association at the National Corn Show, Columbia, South Carolina, Jan., 1913.

WISCONSIN LEADS IN SMALL GRAINS.

Wisconsin was on hand with a splendid exhibit of pure bred grains grown by members of the Experiment Association. The old time reputation of our pedigree grains was more firmly established than ever. Wisconsin won many more prizes than any other state. Eight world championships is surely an excellent record. Aside from this five sweepstakes were secured in the northern zone classes (which includes competition with Minnesota, North and South Dakota and Michigan.) For the fifth successive time grand championship honors for the world's best barley were awarded to H. E. Krueger of Beaver Dam, Wis., who is widely known as the champion barley grower of the world. N. R. Raessler of Beloit, Wis., won world's sweepstakes in close competition on his excellent sample of pedigree rye. Wisconsin's importance as an alfalfa state was clearly demonstrated when the excellent sheaf sample exhibited by P. A. Paulson of Hudson, Wis., carried off world's sweepstake honors. Other world's championships were won as follows: Buchwheat and clover seed exhibited by H. P. West of Ripon, sheaf barley by Chas. Howitt of Randolph, sheaf oats by Swartz Bros. of Waukesha, and sheaf wheat by H. Marthaler of Beaver Dam. Canada won highest honors on oats and Nebraska had the world's championship wheat. N. R. Raessler of Beloit captured the northern zone sweepstakes on ten ears of yellow corn with his sample of Wisconsin No. 8 and ten ears of white corn with his excellent sample of Silver King corn (Wisconsin No. 7). He also won out in having the best single ear entered in the northern zone classes. R. W. Ward of Fort Atkinson secured northern zone sweepstakes on sample of soy beans and O. R. Jones of Beaver Dam on bundle of soy beans.

The Wisconsin educational exhibit portrayed chiefly the breeding and dissemination of pure bred grains in Wisconsin The exhibit attracted a great deal of attention and aided in the further establishment of Wisconsin's wide reputation as a pure bred seed producing center. I quote the following from "The State", one of the foremost papers of the south:

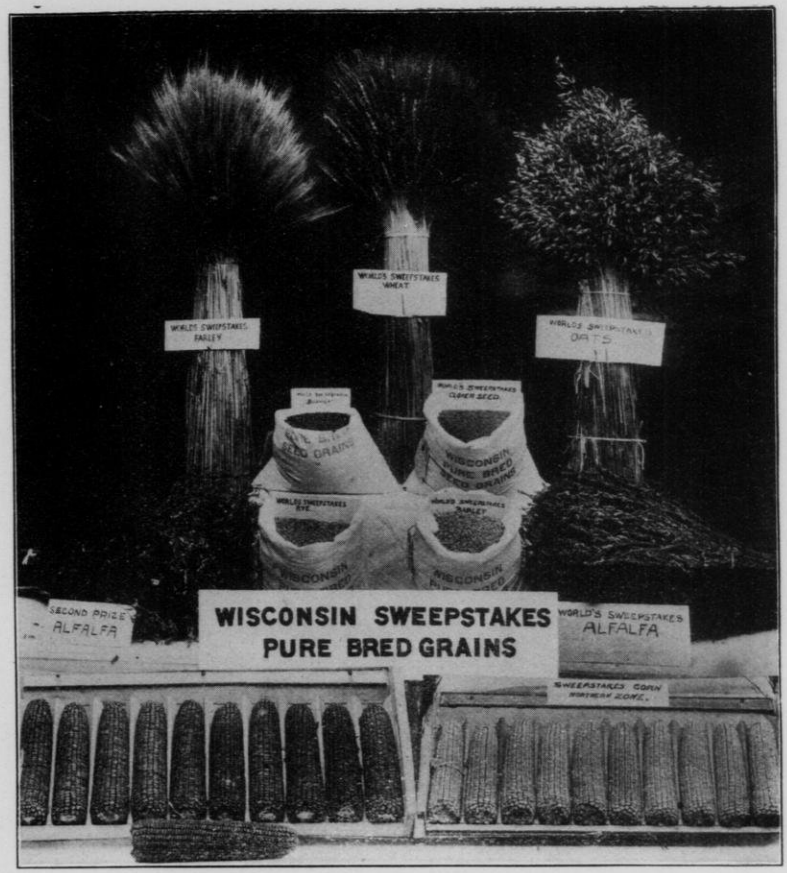
"A complete demonstration showing how a million dollar pure bred seed business has been built up among the farmers of Wisconsin is one of the distinctive features of the exhibit

from the state of Wisconsin at the fifth Natonal Corn Exposition. For fourteen years the Agronomy Department of the Wisconsin Agricultural College has labored hard to introduce and breed prolific varieties of grain to replace the too commonly grown scrub sorts. Within this time thousands of bushels of pedigreed seeds have been disseminated through the medium of the Wisconsin Experiment Association, a pure bred seed growers organization of wide reputation. Millions of dollars worth of seeds have been sold by this association and large shipments have been made to most of the grain growing states and foreign countries."

INDIANA WINS CORN PRIZES.

In the corn competition, world's championship honors on the best ten ears of any variety of corn was won for the fifth successive time by Indiana, on 10 ears of Reids Yellow Dent. Chas. Short of Greensburg, Indiana, was the exhibitor of this prize sample, which won him the beautiful Indiana trophy presented for the world's best ten ears. Not satisfied with the above trophy, they also came forth with a single ear of the Reids Yellow Dent variety and won the grand championship sweepstakes for the best ear of corn in the world. Joe Helms of Richmond, Indiana, is the grower of this much coveted ear which, has entitled him to temporary possession of the $1,000 Kellogg trophy cup.

One of the most impressive exhibits and demonstrations of the Corn Show was conducted by Miss Mabel Carney of Normal, Illinois. It consisted of a beautiful large land model showing miniature buildings and their location and the local scenery of a rural community center in Putnam county, Illinois. It illustrated one of the ways in which the social problems of our more wealthy rural communities may readily be solved. In this particular locality the school, the church, the fair grounds and the grange hall, including eight acres of land, serve as a center for the social and educational interests of the local farmers. The fair in this locality is of particular interest. No professional horse racing or professional ball games or side shows are allowed. Such things as horse harnessing contests, setting up machinery contests, local horse racing,



WISCONSIN WINNINGS AT THE NATIONAL CORN AND GRAIN SHOW, COLUMBIA, SOUTH CAROLINA.

Open to World's Contest: In Sheaf: Barley, oats, wheat and alfalfa. Threshed: Barley, rye, buckwheat and clover seed.

Northern Zone Corn Contest: Best white, best yellow and best single ear of dent corn.

bread-making and bed-making contests afford wholesome amusement for the occasion. A daily attendance of from 1,000 to 3,000 is obtained. The fair buildings comprise a large floral hall, a women's work building and various barns for stock and agricultural exhibits.

The Cornell College of Agriculture had an exhibit which presented a well-outlined plan for the modification of the county fair and for the establishment of a rural community center. The idea in general is to retain the desirable features of the present fair and to eliminate those which are undesirable. The particularly interesting feature of the scheme is that it brings about frequent use of the fair grounds and buildings the year around. They propose to locate a consolidated or com-combined elementary and high school on the fair grounds, which are to be from 20 to 30 acres in extent. An athletic field, a grove for picnics, a race track for local, not professional, races, and an experimental plat for demonstrations on crop production are the principal features in this new community fair idea. The grounds are to be open the year around and are to serve as a sort of rural public park. One building which can be heated the year around is to be a meeting hall that can be used for institutes, programs, and exhibits. This plan is not necessarily expensive and if followed would greatly widen the scope of the present county fair.

Illinois exhibited particularly the breeding work on corn, which its experiment station has carried on for some ten years. The results of selection for high and low-ear strains, erect and declining ears, and low-protein strains, were exceedingly interesting. The southern states showed principally the results of fertilizer tests, a matter of much importance to southern farmers. The coöperative farm demonstration work conducted with the United States Department of Agriculture illustrated what this important line of extension work has accomplished in the South. Missouri presented an interesting exhibit, one of the attractive features of which was the large-cob corn used for the manufacture of corncob pipes. This particular variety of corn has been bred for large cobs. Pipe manufacturing concerns use large quantities of these cobs. Kentucky had an excellent exhibit of hemp in all stages of manufacture into its various products.

The Fifth National Corn Exposition has been staged, and a great work has been accomplished. President E. E. Funk and Secretary Geo. H. Stevenson and others of the management are to be congratulated on the great good they have done in fostering this grand enterprise. They are to be congratulated on the magnitude and the clean and purely educational character of the exposition.

"Courtesy of the Breeders Gazette."

BUSINESS MEETING.

Business meeting of the Wisconsin Agricultural Experiment Association, Friday, January 11, 1913, at 2 P. M., Auditorium.

Call to order by the President, C. P. Norgord. The minutes of the last meeting were read and adopted, after which the following officers were elected:

President, J. P. Bonzelet, Eden,
Vice President, Wm. Leonard, Jefferson,
Secretary, R. A. Moore, Madison,
Treasurer, Noyes Raessler, Beloit.

On motion of the Secretary, Philip Lehner of Princeton was made an honorary member of the Experiment Association.

On motion, the Secretary was instructed to omit the itemized account from the annual report and give only a summary.

Moved and carried that a committee of four be appointed by the Chair to act with the secretary on farm inspection.

The selection of a representative to attend to matters relating to the National Corn Show and Association was taken up, and on vote R. A. Moore was unanimously selected.

The President appointed the following committee on resolutions:

James B. Cheesman, Racine,
E. J. Delwiche, Ashland,
E. B. Skewes, Union Grove.

Report of Committee on Farm Inspection:

The subject of inspection work was discussed from various standpoints. It seemed to the committee that until state inspection could be obtained, the work of inspection must of

necessity fall upon the secretaries of the County Orders, subject to reinspection by the secretary of the Association or some one appointed by him. The various details of farm inspection was to be worked out and put in operation by Secretary R. A. Moore.

The following resolutions were reported by the Committee, and on motion were unanimously adopted:

RESOLUTIONS.

1. *Resolved:* That the Association hereby express to the retiring President, Prof. C. P. Norgord, and the retiring Treasurer, Mr. H. N. Longley, its hearty appreciation of their faithful and efficient services during the time in which they have held their respective offices.

2. WHEREAS, The great extension of Agronomy work seriously impedes the usefulness of the Department in its present building, early action is urgently needed to enable it to meet the needs of the present day.

Be it resolved, That the executive of this Wisconsin Agricultural Experiment Association be instructed promptly to call the attention of the Legislature to its wants by asking that the original plans of the building be now fully executed.

WHEREAS, The growing importance of the agriculture of our country, and the lessened relative rate of food production call for increased vigilance on the part of every one interested in extension work

Be it resolved, That this association reaffirms its conviction that the Lever bill now pending in Congress receive prompt attention. That the United States Senators and Congressmen be urged to give this bill their earliest consideration and hasten its final enactment.

3. WHEREAS, The present parcels post law is limited in action and incomplete in its scope and service.

Be it resolved, That the congress of the United States be urged to consider its immediate amendment, and enact such extensions as will make its service available to the rural districts.

4. WHEREAS, The relative decrease in the rate of food production, and especially in the animal products; is exciting some public concern and

WHEREAS, Upper Wisconsin has borne a conspicuous part in developing the higher agriculture of the State,

Be it resolved, That the Legislature give its most careful attention to the improvement and greater efficiency of the Branch Stations of the College of Agriculture, so as to extend their usefulness and fruitful work.

TREASURER'S REPORT.

Mr. H. N. Longley, Treasurer of the Association, reported on the financial condition of the Experiment Association. His report showed the receipts from all sources except state appropriations from Jan. 16, 1912, to Jan. 11, 1913, to be....$1,187 44
Disbursements covering the same period..... 712 80

Balance in treasury Jan. 11, 1913 ..... $474.64

R. A. Moore, Secretary of the Association, reported on the use and condition of the state funds. His report showed the total receipts from the state with balance on hand, from Jan. 16, 1912, to Jan. 11, 1913.....$3,944 73
Disbursements covering the same period..... 2,734 91

Balance in State Treasury Jan. 11, 1913.....$1,209 82

We, the undersigned committee appointed to examine the Treasurer's and Secretary's reports on receipts and disbursements of funds for the past year, beg leave to report that we found them correct.

Signed,
B. B. LEITH,
L. F. GRABER,
H. E. KRUEGER.

Twelfth annual meeting Jan. 11, 1913.

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

PREMIUM AWARDS

AT

Annual Pure Bred Grain Show.

MEMBERS AWARDED CASH AND SPECIAL PREMIUMS AT THE WISCONSIN AGRICULTURAL EXPERIMENT ASSOCIATION MEETING JANUARY 10, 11, 1913.

Peck Wisconsin pedigree oats.

First—Noyes Raessler, Beloit	$10 00
Second—H. P. West, Ripon	3 00
Third—O. R. Jones, Beaver Dam	2 00
Fourth—H. E. Krueger, Beaver Dam	1 00
Fifth—J. G. Jones, Beaver Dam	50

Peck Swedish select oats.

First—J. P. Bonzelet, Eden	Cleeland Smut Machine
Second—Swartz Bros., Waukesha	3 00
Third—Robt. Ward, Fort Atkinson	2 00
Fourth—Noyes Raessler, Beloit	1 00
Fifth—H. L. Post, Sextonville	50

Peck any other variety oats.

First—H. E. Marthaler, Beaver Dam	4 00
Second—Geo. H. Leonard, Jefferson	3 00
Third—Noyes Raessler, Beloit	2 00
Fourth—H. E. Krueger, Beaver Dam	1 00
Fifth—H. P. West, Ripon	50

Sheaf bundle Swedish select oats.

First—Swartz Bros., Waukesha	4 00
Second—Chas. Howitt, Randolph	3 00
Third—Wm. Schwandt, Stanton	2 00
Fourth—V. W. Post, Sextonville	1 00
Fifth—Theo Ward, Ft. Atkinson	50

Sheaf oats, any other variety.

First—Chas. Howitt, Randolph	4 00
Second—Robt. Ward, Ft. Atkinson	3 00
Third—J. Hans, Jefferson	2 00
Fourth—Fred Grebe, Fox Lake	1 00
Fifth—Wm. Schwandt, Stanton	50

Peck Wisconsin pedigree barley.

First—H. E. Krueger, Beaver Dam	10 00
Second—J. P. Bonzelet, Eden	3 00
Third—R. W. Ward, Fort Atkinson	2 00
Fourth—Louis Groth, Cedarburg	1 00
Fifth—J. G. Jones, Beaver Dam	50

Peck Oderbrucker barley.

First—H. E. Krueger, Beaver Dam	4 00
Second—H. Marthaler, Beaver Dam	3 00
Third—G. Ryan, Sun Prairie	2 00
Fourth—O. R. Jones, Jr., Beaver Dam	1 00
Fifth—J. G. Jones, Beaver Dam	50

Peck barley, any other variety.

First—O. R. Jones, Beaver Dam	4 00
Second—Theo. S. Ward, Ft. Atkinson	3 00
Third—N. Raessler, Beloit	2 00
Fourth—H. E. Krueger, Beaver Dam	1 00
Fifth—J. G. Jones, Beaver Dam	50

Sheaf bundle pedigree barley.

First—Chas. Howitt, Randolph	4 00
Second—Wm. R. Leonard, Jefferson	3 00
Third—Fred Grebe, Fox Lake	2 00
Fourth—Theo S. Ward, Ft. Atkinson	1 00
Fifth—Noyes Raessler, Beloit	50

Sheaf bundle Oderbrucker barley.

First—R. W. Ward, Fort Atkinson	4 00
Second—Wm. R. Leonard, Jefferson	3 00
Third—N. Raessler, Beloit	2 00
Fourth—J. P. Bonzelet, Eden	1 00
Fifth—A. L. Wagner, Haven	50

Sheaf bundle any other variety.

First—Fred Grebe, Fox Lake	4 00
Second—Chas. Howitt, Randolph	3 00
Third—Geo. Leonard, Jefferson	2 00
Fourth—Theo. S. Ward, Ft. Atkinson	1 00
Fifth—H. E. Krueger, Beaver Dam	50

10 Ears silver king corn (Wis. No. 7)

First—N. Raessler, Beloit	Corn Sheller
Second—Burton Peck, Spring Green	3 00
Third—S. P. Markle, La Crosse	2 00
Fourth—Lawrence Buckley, Kilbourn	1 00
Fifth—Peter Kneeland, Windsor	50

10 Ears Wisconsin No. 8 corn.

First—N. Raessler, Beloit	Corn Grader
Second—John Van Loon, La Crosse	3 00
Third—H. E. Krueger, Beaver Dam	2 00
Fourth—F. Grebe, Fox Lake	1 00
Fifth—O. R. Frauenheim, Randolph	50

10 Ears Wisconsin No. 12 (Golden Glow)

First—John Van Loon, La Crosse ..... $15 worth pedigree seed grains
Second—W. E. Bishop, Arcadia 3 00
Third—W. A. Connell, Menomonee Falls 2 00
Fourth—Chas. Howitt, Randolph 1 00
Fifth—E. H. Thompson, Blair 50

10 Ears Clarks' Yellow Dent Wis. No. 1.

First—V. W. Post, Sextonville 4 00
Second—J. R. Thorpe, Tavera 3 00
Third—N. Raessler, Beloit 2 00
Fourth—H. Marthaler, Beaver Dam 1 00
Fifth—Eugene B. Thorp, Monroe 50

10 Ears north star yellow dent.

First—N. Raessler, Beloit 4 00
Second—Tracy Randall, Baraboo 3 00
Third—Wm. Wichern, Baraboo 2 00

10 Ears yellow flint corn.

First—J. Hans, Jefferson 4 00
Second—H. E. Krueger, Beaver Dam 3 00
Third—Chas. Howitt, Randolph 2 00
Fourth—H. C. Owens, Fox Lake 1 00
Fifth—Noyes Raessler, Beloit 50

10 Ears white flint corn.

First—Geo. Leonard, Jefferson 4 00
Second—H. P. West, Ripon 3 00
Third—Wm. Leonard, Jefferson 2 00
Fourth—H. E. Krueger, Beaver Dam 1 00
Fifth—J. Hans, Jefferson 50

10 Ears corn any other variety.

First—Leo Brueckner, Jefferson 4 00
Second—L. C. Lembcke, Onalaska 3 00
Third—H. C. Brueckner, Jefferson 2 00
Fourth—W. E. Colladay, McFarland 1 00
Fifth—J. L. Ethun, De Forest 50

Single ear of corn, any variety.

First—Lawrence Buckley, Kilbourn ..... $15 worth pedigree seed oats
Second—J. O. Brunker, Ridgeway 3 00
Third—H. P. West, Ripon 2 00
Fourth—Fred Grebe, Fox Lake 1 00
Fifth—J. W. Leverich, Sparta 50

10 Ears yellow corn.

First—N. Raessler, Beloit 5 00

50 Ears silver king corn.

First—S. P. Markle, La Crosse ..... J. I. Case Walking Plow
Second—Lawrence Buckley, Kilbourn 6 00
Third—Noyes Raessler, Beloit 3 00
Fourth—J. R. Thorpe, Tavera 2 00
Fifth—John Van Loon, La Crosse 1 00

50 Ears any standard yellow dent.

First—N. Raessler, Beloit	Berkshire pig
Second—J. R. Thorpe, Tavera	6 00
Third—H. C. Brueckner, Jefferson	3 00
Fourth—A. Ochsner, Plain	2 00
Fifth—Tracy Randall, Baraboo	1 00

Clover seed (Peck) medium red.

First—J. P. Bonzelet, Eden	4 00
Second—H. P. West, Ripon	3 00
Third—J. L. Kraus, Beaver Dam	2 00
Fourth—A. C. Ellickson, Arlington	1 00
Fifth—O. R. Frauenheim, Random Lake	50

Peck mammoth red clover seed.

First—Tennis Sebion, Westby	4 00
Second—H. P. West, Ripon	3 00

Peck alsike clover seed.

First—H. P. West, Ripon	4 00
Second—A. C. Ellickson, Arlington	3 00
Third—H. Marthaler, Beaver Dam	2 00
Fourth—Wm. R. Leonard, Jefferson	1 00

Peck white clover seed.

First—H. P. West, Ripon	4 00

Peck black soy beans.

H. Marthaler, Beaver Dam	3 00
H. P. West, Ripon	2 00
Third—R. W. Ward, Fort Atkinson	1 00

Peck green soy beans.

First—Theo. S. Ward, Fort Atkinson	3 00
Second—H. P. West, Ripon	2 00
Third—W. R. Leonard, Jefferson	1 00

Peck yellow soy beans.

First—R. W. Ward, Fort Atkinson	3 00
Second—J. G. Jones, Beaver Dam	2 00
Third—H. E. Krueger, Beaver Dam	1 00
Fourth—H. Marthaler, Beaver Dam	50

Peck brown soy beans.

First—Theo. S. Ward, Ft. Atkinson	3 00
Second—H. Marthaler, Beaver Dam	2 00
Third—H. P. West, Ripon	1 00

Bundle soy beans.

First—R. W. Ward, Fort Atkinson	3 00
Second—J. G. Jones, Beaver Dam	2 00
Third—O. R. Jones, Beaver Dam	1 00
Fourth—N. Raessler, Beloit	50

Peck alfalfa seed.

First—H. E. Krueger, Beaver Dam	5 00
H. P. West, Ripon	3 00

Bundle alfalfa hay.

First—P. A. Paulson, Hudson....$15 Salzer's pedigree seeds
Second—Swartz Bros, Waukesha..$10 Salzer's pedigree seeds
Third—J. G. Jones, Beaver Dam..... $2 00
Fourth—Theo. Ward, Fort Atkinson..... 1 00
Fifth—Chas. Howitt, Randolph..... 50

Wisconsin pedigree winter rye.

First—N. Raessler, Beloit.....Walking plow
Second—Wm. R. Leonard, Jefferson..... 2 00
Third—P. A. Paulson, Hudson..... 1 00
Fourth—H. P. West, Ripon..... 50

Peck any other variety rye.

First—P. A. Paulson, Hudson..... 3 00
Second—H. P. West, Ripon..... 2 00
Third—C. A. Koll, Eau Claire..... 1 00
Fourth—Wm. Neuberger, Reeseville..... 50

Peck timothy seed.

First—A. C. Ellickson, Arlington..... 15 00
Second—Fred Grebe, Fox Lake..... 10 00
Third—A. H. Miller, Waupun..... 1 00
Fourth—H. P. West, Ripon..... 50

Peck silver hull buckwheat.

First—H. P. West, Ripon..... 3 00
Second—H. E. Krueger, Beaver Dam..... 2 00
Third—Verne Post..... 1 00
Fourth—Claude Schiller, Beaver Dam..... 50

Peck Japanese buckwheat.

First—H. P. West, Ripon..... 3 00
Second—O. R. Frauenheim, Random Lake, Wisconsin.. 2 00
Third—H. Marthaler, Beaver Dam..... 1 00

Peck winter wheat.

First—H. E. Krueger, Beaver Dam..... 5 00
Second—H. P. West, Ripon..... 2 00
Third—H. E. Marthaler, Beaver Dam..... 1 00
Fourth—O. F. Miritz, Fond du Lac..... 50

Peck spring wheat.

First—N. R. Raessler, Beloit..... 3 00
Second—H. Marthaler, Beaver Dam..... 2 00
Third—H. P. West, Ripon..... 1 00
Fourth—P. A. Paulson, Hudson..... 50

Sheaf winter wheat.

First—H. Marthaler, Beaver Dam..... 3 00
Second—R. Ward, Ft. Atkinson..... 2 00
Third—Theo. Ward, Ft. Atkinson..... 1 00
Fourth—H. E. Krueger, Beaver Dam..... 50

Sheaf spring wheat.

First—J. Hans, Jefferson..... 3 00
Second—R. Ward, Ft. Atkinson..... 2 00
Third—N. Raessler, Beloit..... 1 00
Fourth—A. L. Wagner, Haven..... 50

Best sample of navy beans.

First—J. Hans, Jefferson	3 00
Second—Noyes Raessler, Beloit	2 00
Third—H. P. West, Ripon	1 00
Fourth—H. Marthaler, Beaver Dam	50

Best three single stalks of navy beans with pods attached.

First—H. C. Owens, Fox Lake	3 00
Second—Fred Grebe, Fox Lake	2 00
Third—Geo. Leonard, Jefferson	1 00
Fourth—N. Raessler, Beloit	50

Greatest display of threshed grains exhibited by a County Order.

First—Jefferson County	10 00
Second—Rock County	5 00

Greatest display of sheaf grains exhibited by a County Order.

First—Jefferson County	10 00
Second—Rock County	5 00

MEMBERSHIP—1913

ADAMS COUNTY.

Atcherson, Otto ..... Plainville
Buckley, Lawrence ..... Kilbourn
Cook, Earl D ..... Plainville
Elliott, D. P ..... Westfield
Heitman, C. J ..... Plainville
Jacobs, A. F ..... Coloma, R. 1
Peck, W. W ..... Coloma

ASHLAND COUNTY.

Anderson, F. O ..... Ashland, R. 1
Delwiche, E. J ..... Ashland
Kennedy, M. T ..... Ashland
Peterson, Andrew, Jr ..... Ashland

BARRON COUNTY.

Adams, C. L ..... Rice Lake
Bartlett, Ray W ..... Barron
Bartlett, Wm ..... Barron
Chrislow, A. M ..... Rice Lake
Erdahl, M. N ..... Rice Lake
Huser, F. E ..... Cumberland
Jorstad, Ed ..... Cameron
Muerman, F ..... Chetek
Ness, Einar ..... Cumberland
Nichols, W. J ..... Chetek
Nord, J. K ..... Rice Lake
Nordby, Edw ..... Barron, R. 2
Plenty, R. J ..... Rice Lake
Rasmussen, H. V ..... Rice Lake
Rauchenstein, John ..... Rice Lake
Svacina, Jacob, Jr ..... Rice Lake

BAYFIELD COUNTY.

Daly, J. S ..... Port Wing
Morey, Reuben ..... Cable
Pease, M. D., Jr ..... Cable
Pease, F. E ..... Cable
Sharp, F. M ..... Cable
Yderstad, Thoralf ..... Mason

BROWN COUNTY.

Anderson, Arthur ..... Green Bay, R. 8
Anderson, Sol ..... Green Bay
Dillon, James H ..... De Pere, R. 2
Nies, Peter ..... Morrison
Peterson, Walter F ..... Pulaski
Roffers, J. H ..... Green Bay
Schmidt, Arthur ..... De Pere

BUFFALO COUNTY.

Accola, Irwin E ..... Alma
Bilderbach, W. J ..... Mondovi
Engel, G. H ..... Fountain City
Fetting Elmer ..... Cochrane
Fetting, Romeo ..... Cochrane
Haigh, Edwin ..... Cream
Haigh, Emil ..... Cream
Haigh, Rich ..... Cream, R. 1
Hitt, Oscar A ..... Alma
Jahn, Chas ..... Cream
Kaste, A. H ..... Cream
Kaste, Chas ..... Cream, R. 1
Kennedy, B. J ..... Nelson
Kennedy, P. H ..... Nelson
Kennedy, Lawrence ..... Nelson
Loesel, August ..... Cochrane
Loesel, Emil, Jr ..... Cream
Loesel, J ..... Cream
Muehleisen, Gottleib ..... Alma
Reinhardt, C. F ..... Nelson
Schaub, A. F ..... Cream
Seyforth, F. J ..... Mondovi
Seyforth, R. F ..... Mondovi
Suhr, Adolph ..... Cochrane
Suhr, Otto A ..... Cochrane
Waste, F. B ..... Mondovi
Wendt, Reinhold ..... Cream
Wilk, H. F ..... Alma
Whelan, J. V ..... Mondovi

BURNETT COUNTY.

Barge, W. R ..... Grantsburg
Olson, A. H ..... Grantsburg

CALUMET COUNTY.

Bittner, Robt ..... Chilton
Christoph, Theo. F ..... Chilton
Kolher, J. P ..... New Holstein, R. 1
Peik, Arthur C ..... Chilton, R. 4
Sevenich, Tony ..... Hilbert
Weeks, Edw. F ..... Hayton
Weeks, L. G ..... Hayton
Welker, Leonard ..... New Holstein
Wipperman, Wm ..... Chilton

CHIPPEWA COUNTY.

Brunstad, Adolph ..... Chippewa Falls
Brunstad, P ..... Bloomer
Cherrier, P. B ..... Chippewa Falls
Christiansen, W. O ..... Chippewa Falls
Herbert, Raymond ..... Chippewa Falls, R. 2
Kramer, H. F ..... Chippewa Falls

MEMBERSHIP, 1913—Continued.

Lebeis, Frank.....Bloomer
Martiny, L. P.....Chippewa Falls
Roe, Edwin.....Stanley
Schroeder, H. F.....Jim Falls
Siepert, F. W.....Chippewa Falls

CLARK COUNTY.

Gueber, Edward.....Neillsville
Irvine, W. S.....Loyal
Naedler, Edwin.....Neillsville
Nelson, Carl.....Greenwood
Rued Axel.....Curtiss
Sample, F. W.....Withee, R. 2
Sorenson, John S.....Greenwood
Umlauft, Rudolph.....Dorchester
Zerbel, Paul.....Humbird

COLUMBIA COUNTY.

Barden, C. S.....Pardeeville
Barden, Reginald C.....Pardeeville
Bergum, B. E.....Rio
Bradley, J. L.....Randolph
Brereton, G. H.....Lodi
Brereton, Hugo.....Lodi
Brereton, Thos.....Lodi
Brown, I. C.....Lodi
Carncross, J. E.....Lodi
Chrisler, Edwin.....Lodi
Church, W. H.....Lodi
Derr, G. E.....Columbus
Ellickson, A. C.....Arlington
Erickson, Julius.....Kilbourn
Gasser, C. C.....Lodi
Gee, Vivian.....Pardeeville
Gloeckler, Theo.....Portage
Grove, Albert.....Columbus
Grove, Christian.....Columbus
Grove, Henry.....Columbus
Healy, Benj.....Cambria
Hein, C. W.....Merrimac
Hughes, John W.....Columbus, R. 2
Jones, Arthur.....Randolph
Lloyd, E. B.....Cambria
O'Connor, Edw. F.....Lodi
Peck, E. G.....Portage
Richards, R. E.....Lodi
Richards, W. M.....Lodi
Sharpee, C. A.....Columbus
Sharpee, Endrea A.....Rio
Sharpee, J. A.....Rio
Sharpee, Ole A.....Rio
Sharpee, P. A.....Rio
Stace, A. J.....Portage
Verbeck, C .W.....Lodi, R. 1
Walker, H. A.....Portage, R. 7
Wolfram, Frank.....Kilbourn
Wright, L. A.....Columbus

CRAWFORD COUNTY.

Banner, R. E.....Boscobel
Brodt, C. D.....Bridgeport
Fleishman, Geo. S.....Gays Mills
Hjelle, Ole H.....Soldiers Grove, R. 5
James, Harry.....Ferryville
Morton, Edw.....Ferryville
Stevenson, Carl.....Soldiers Grove, R. 5
Zimpel, Fred N.....Wauzeka

DANE COUNTY.

Anderson, Henry.....Mt. Horeb, R. 3
Anderson, H. C.....Cambridge
Angvich, Lars.....Cottage Grove
Anthony, D. C.....Oregon
Asleson, Albert.....Stoughton, R. 2
Bacon, C. W.....Burke
Belda, W. F.....De Forest
Bendickson, I. E.....Cambridge
Benson, Ed. E.....Mt. Horeb
Berg, C. O.....Stoughton
Bergum, Andrew.....De Forest
Bergum, Ed.....De Forest
Best, Thos. A.....Belleville
Bewick, W. M.....Madison
Bewick, W. W.....Sun Prairie
Bollig Bros.....Black Earth
Brickson, Andrew.....Cottage Grove
Brickson, Sam.....Stoughton
Brictson, Anfin.....Deerfield
Brigham, C. J.....Blue Mound
Brue, N. H.....De Forest
Bergum, Ed.....De Forest
Chase, J. P.....Sun Prairie
Chatterton, R. W.....Basco
Chatterton, W. E.....Basco
Chipman, W. R.....Morrisonville
Colladay, W. E.....McFarland
Daley, Edwin.....De Forest
Daley, S. S.....De Forest
Damler, Walter.....Sun Prairie
Damp, De Witt.....Dane
Davidson, W. L.....Verona
Derr, Elmer.....Sun Prairie
Dreger, E. L.....Madison
Drumasky, Geo.....Sun Prairie
Eastman, J. S.....Madison
Elvehjem, E. G.....McFarland
Engelstad, Bendie.....Deerfield
Erickson, Chas.....De Forest
Ethun, J. L.....De Forest
Fadness, J. H.....Deerfield
Felland, W. T.....Madison, R. 2
Ford, J. F.....Mazomanie
Fuller, F. R.....Madison
Gafke, A. J.....Oregon
Gangstad, J. O.....Deerfield
Garland, J. J.....Madison
Gillette, Rufus.....Verona
Graber, L. F.....Madison
Hanson, H. E.....De Forest
Henning, W. E.....Mazomanie
Hoberkorn, Dorris.....De Forest
Holmen, Peter.....Windsor
Hopkins, A. W.....Madison
Hopkins, B. F.....Morrisonville
Hopkins, J. W.....Morrisonville
Hovrud, Olin.....Mt. Horeb
Huppercorn, L. H.....De Forest
Johnson, L. O.....Sun Prairie
Jones, E. F.....Sun Prairie
Kaltenberg & Sons.....Waunakee
Kendell, G. W.....Sun Prairie
Kittleson, Wm.....Mt. Horeb
Kneeland, Peter.....Windsor
Koltes, J. F.....Dane
Koltes, L. J.....Dane
Lee, C. A.....Deerfield
Lee, Edwin.....Cambridge
Lee, P. A. G.....Deerfield
Lein, L. O, Sr.....Cambridge

MEMBERSHIP, 1913—Continued.

Leith, B. D.....Madison
Libby, J. L.....Madison, R. 4
Lund, Gunder.....Stoughton
Lurass, M. O.....Stoughton
Lyman, C. A.....Sun Prairie
McCoy, Everett.....Sun Prairie
Marsden, L. W.....Cambridge
Messerschmidt, S. H.....Madison
Mielke, J. E.....Basco
Mitchell, James.....Cottage Grove
Mitchell, Geo.....Cottage Grove
Moen, H. C.....Cambridge
Moore, R. A.....Madison
Neis, W. H.....Mt. Horeb
Nellen, P. G.....De Forest
Nelson, O. L.....Cambridge
Niemann, Fred.....Madison, R. 6
Nordlie, C. K.....Rockdale
Norgord, C. P.....Madison
Norsman, J. O.....Madison
Noyce, Elmer.....Oregon
Notseter, O. H.....Deerfield
Orr, C. A.....Oregon
Patterson, H. J.....McFarland
Peck, A. W.....Marshall
Pederson, B. S.....Windsor
Pierstorff, Otto.....Madison
Rademacher, John.....Middleton
Rasmussen, H. G.....Black Earth
Reindahl, A. K.....Madison
Renk, W. E.....Sun Prairie
Reppen, N. O.....Dane
Roisum, O. M.....De Forest
Rorge, A. J.....Stoughton
Ross, M. F.....Belleville
Ruste, C. E.....Blue Mounds
Ruste, C. O.....Blue Mounds
Sanborn, E. H.....Middleton
Schaffer, Max.....Madison
Schmitt, R. A.....Sun Prairie
Schneider, G. P.....Oregon
Schoenfeld, W. A.....Madison
Skalitzky, F. J.....Marshall
Smith, S. J.....De Forest
Smithback, Marvin.....Cambridge
Sorenson, A. K.....Klevenville
Sorenson, C. A.....Klevenville
Sprecher, F. F.....Burke
Stewart, G. L.....Dane
Stoeber, E. G.....Madison, R. 7
Stoeber, E. J.....Madison, R. 7
Stolen, K. H.....Mt. Horeb
Stone, A. L.....Madison
Swanton, R. T.....Madison
Tenjum, A. A.....De Forest
Thibodeau Elmer.....Madison
Thompson, Melvin.....Mt. Horeb
Tjugum, Chas.....Sun Prairie
Wagner, John.....Middleton
Warner, R. E.....Windsor
Warren Scott, 237 Langdon St..Madison
Wernick, Wm.....De Forest
Whiting, Earl.....Cottage Grove
Woodward, J. L.....Madison
Zerbel, Louis.....Madison

DODGE COUNTY.

Baird, Bert.....Fox Lake
Barstow, A. F.....Randolph
Barstow, J. E.....Randolph
Becker, H. H.....Juneau
Bohl, Anton.....Beaver Dam
Bremer, E. O.....Hustisford
Bussewitz, Orla J.....Juneau, R. 2
Bussewitz, Ray.....Reeseville
Bussewitz, Wm.....Juneau
Fehling, E. O.....Juneau
Fehling, Irwin.....Juneau, R. 2
Goetsch, A. A.....Juneau
Grebe, Fred P.....Fox Lake
Howitt, C. H.....Randolph
Indermuehle, F. A.....Beaver Dam
Jones, J. G.....Beaver Dam
Jones, O. R.....Beaver Dam
Jung, J. W.....Randolph
Krause, J. L.....Beaver Dam
Krueger, E. H.....Beaver Dam
Krueger, H. E.....Beaver Dam
Kuhlman, Arthur.....Lowell
Kuhlman, Fred.....Lowell
Luebke, Albert, Jr.....Hustisford
Luebke, August.....Hustisford
Luebke, Otto.....Hustisford
Martin, E. K.....Knowles
Marthaler, H. E.....Beaver Dam
Meyer, Albert.....Beaver Dam
Miller, L. H.....Fond du Lac, R. 8
Neuberger, W. T.....Reeseville
Owens, H. C.....Fox Lake
Owens, W. E.....Fox Lake
Puls, A. O.....Hartford
Schiller, Claude.....Beaver Dam
Sette, E. O.....Juneau
Steiner, W. H.....Brownsville
Rex, E. H.....Beaver Dam
Roberts, W. E.....Randolph
Voight, Fred.....Lomira
Voight, Wm. C.....Lomira
Weston, John (deceased).....Burnett

DOOR COUNTY.

Jonas, Fred.....Jacksonport
Larson, Eli.....Sawyer
McKirnan, Howard R.....Sturgeon Bay
Matzke, Arthur.....Forestville
Powers, Wm. C.....Ellison Bay

DOUGLAS COUNTY.

Schmidt Bros.....Foxboro
Webb, W. H.....Superior

DUNN COUNTY.

Boyd, R. A.....Manning
Brill, Geo. A.....Caryville
Cramer, Joe.....Menomonie
Gehrking, F. J.....Elk Mound
Jacobs, E. C.....Elk Mound
Kent, H. W.....Rusk
Kent, J. S.....Rusk
Larson, J. M.....Knapp
Meacham, E. R.....Downing
Meacham, C. W.....Downing
Schlaugh, Roy.....Wheeler
Stegne, Chris.....Wheeler
Vorland, Geo. T.....Colfax

MEMBERSHIP, 1913—Continued.

EAU CLAIRE COUNTY.

Anderson, Knute.....Eau Claire
Arries, B. M.....Eau Claire
Burce, Ruth.....Eau Claire
Carlson, A. F.....Augusta
Donaldson, H. A.....Eau Claire
Faast, B. F.....Eau Claire
Gullickson, O. H.....Eau Claire
Halbert, J. H.....Augusta
Halbert, S. W.....Augusta
Hayem, O. A.....Eau Claire
Koll, C. A.....Eau Claire
Le Gore, H. P.....Eau Claire
Loether, E. J., 411 Eddy St....Eau Claire
McDermid, G. A.....Eau Claire
Mayo, Geo. L.....Eau Claire
Mayo, J. H., Jr.....Eau Claire
Pierce, Marshall.....Fall Creek
Pritchard, John.....Eau Claire
Rebensdorf, Fred.....Fairchild
Russell, A. C.....Augusta
Wethern, Floyd.....Eau Claire
Winter, W. W.....Eau Claire
Works, O.....Augusta
Wright, W. C.....Eau Claire, R. 4

FLORENCE COUNTY.

Bergsten, Emil.....Florence

FOND DU LAC COUNTY.

Block, A. F.....Lomira
Bonzelet, J. P.....Eden
Briggs, E. T.....Fond du Lac, R. 7
Brill, J. J.....Ripon
Brown, L. H.....Waupun
Bush, C. W.....Waupun
Costello, Dan A.....Fond du Lac, R. 5
Dickman, Ed.....Brandon
Donovan, F. J.....Van Dyne
Finder, Fred.....Van Dyne
Fisher, G. B., Prison Farm.....Waupun
Gibbard, P. J.....Ripon
Goebel, H. N.....Fond du Lac
Hargrave, Robt.....Ripon
Hatch, L. M.....Oakfield
Hayes, Carl.....Campbellsport
Hills, L. H.....Waupun
Hintze, Geo. E.....Oakfield
Horner, G. B.....Ripon
Jones, E. W.....Brandon
Kuehn, C. A.....Brandon
Leeman, R. E.....Waupun
Leith, Ray H.....Van Dyne, R. 9
Mathews, L. G.....Brandon
Maug, A. J.....Ripon
Meekin, H. W.....Fond du Lac
Michels, Henry.....Malone
Michels, Math.....Peebles
Miller, A. H.....Waupun
Miritz, O. F.....Fond du Lac
Moore, A. B.....Campbellsport
Nepuer, Paul H.....Ripon
Nolan, J. H.....Eldorado, R. 10
Oleson, James P.....Ripon
Parks, Wm. S.....Eldorado
Patrick, R. H.....Waupun
Randall, S. M.....Waupun
Rather, A. P.....Peebles
Redmond, E. M.....Calvary, R. 4
Roach, John M.....Fond du Lac
Ruesink, H. G.....Waupun
Schmoldt, Clarence.....Rosendale
Sheldon, Ben F.....Brandon
Stack, Geo.....Eden
Stack, J. M.....Fond du Lac
Towne, Wesley.....Waupun
Walgenbach, John.....Fond du Lac
Wells, R. G.....Waupun
Wepner, P. H.....Ripon
West, H. P.....Ripon
Wilsie, T. C.....Brandon

FOREST COUNTY.

Grandine, Lester.....North Crandon

GRANT COUNTY.

Anderson, Martin.....Muscoda
Bennett, A. J.....Platteville
Bennett, C. V.....Platteville
Bennett, O. J.....Platteville
Biddick, Elmer.....Livingston
Biddick, J. R.....Livingston
Buben, Henry.....Fennimore
Bushnell, Roy.....Platteville
Carmody, Dan.....Mt. Ida
Cullen, Clarence.....Sinsinawa
Di Vall, Wm.....Montfort
Groom, H. L.....Cassville
Gunderman, Hubert.....Louisburg
Jackson, E. G.....Cuba City
Kahle, John.....Louisburg
Kettler, Roy.....Platteville
Kolar, John M.....Muscoda
Kreul, August.....Fennimore
Kreul, Herbert.....Fennimore
Marks, C. E.....Fennimore
Marsden, M. R.....Fennimore
Mathews, Chas.....Livingston
Nowak, J. C.....Muscoda
Offerdale, P. E.....Boscobel
Orth, A. F.....Muscoda
Preston, Geo.....Montfort
Rector, F. J.....Fennimore
Ruchti, Clarence.....Fennimore
Runde, August.....Sinsinawa
Runde, Lawrence.....Louisburg
Shemak, J. F.....Muscoda
Steinhoff, Walter.....Platteville
Stivarius, G. A.....Fennimore
Walker, G. A.....Fennimore
Walker, W. A.....Fennimore
Wilkins, Chas. A.....Platteville
Wilkins, Lee.....Platteville
Wilkins, Osmer.....Platteville
Wilson, S. S.....Livingston
Wise, J. H., Sr.....Platteville

GREEN COUNTY.

Biglow, L. F.....Brooklyn
Brown, Wm. A.....Monroe
Brunner, Ed. Z.....Monroe
Dettwiler, John.....Monroe
Douglas, R. J.....Juda

MEMBERSHIP, 1913—Continued.

Geigel, John.....Monroe
Hoesly, Clarence.....New Glarus
Hoesly, M. J.....New Glarus, R. 2
Jeffery, F. D.....Monroe
Klassy, Henry.....Monroe
Leurs, L. M.....Monticello, R. 1
Mau, H. G.....Brodhead
Morgan, Chas.....Albany
Thorp, E. G.....Monroe
Tochterman, C.....Monroe
Trumpy, Fred.....Clarno
Tschudy, Benj. O.....Monroe

GREEN LAKE COUNTY.

Clark, J. J.....Berlin
Davison, Harley.....Markesan
Kutchin, Victor, M. D.....Green Lake
Page, G. F.....Berlin

IOWA COUNTY.

Aavang, H. O.....Barneveld
Bainbridge, R. .....Livingston
Bainbridge, R. J.....Livingston
Brunker, J. A.....Ridgeway
Brunker, J. E.....Ridgeway
Convey, Thos.....Ridgeway
Enloe, Jefferson.....Rewey
Farwell, R. R.....Ridgeway
Kelly, A. N.....Mineral Point
Kittleson, Albert.....Hollandale
Knutsen, M. H.....Ridgeway
Ley, John P.....Dodgeville
Ley, Mike.....Dodgeville
Liddicoat, L. H.....Linden
McKenzie, Maxwell.....Barneveld
Morrissey Bros.....Arena
Muller, Alfred.....Arena, R. 2
Oimoen, Otto .....Barneveld
Paulson, H. E.....Hollandale
Peterson, Andrew.....Barneveld
Peterson, Carl.....Hollandale
Swenson, Olin.....Hollandale
Thomas, Wm.....Ridgeway
Willis, R. J.....Rewey

IRON COUNTY.

Auger, Wm. O. .....Saxon

JACKSON COUNTY.

Anderson, Ubbe.....North Bend
Bullock, Jas. P.....North Bend
Dietrich, J. J.....Black River Falls
Engleman, John .....Hixton
Erickson, Rob.....Melrose
Haag, Frank.....Melrose
Haag, Henry.....Melrose
Huseboe, H. M.....Taylor
Joos, F. B.....Alma Center
Lane, O. J.....Hixton
McNab, A. J.....Black River Falls
Patterson, Harvey.....Melrose
Ristow, C. S.....Black River Falls
Rustad, L.....Black River Falls
Smith, E. J.....Taylor
Thompson, A. H.....Black River Falls
Thomas, Frank.....Black River Falls
Wallen, Aaron.....Taylor

JEFFERSON COUNTY.

Albert, Ed. F.....Watertown, R. 5
Anthes, Henry.....Jefferson
Beck, H. M.....Jefferson
Brown, Abbott.....Waterloo
Brueckner, H. C.....Jefferson
Brueckner, Julus.....Jefferson
Brueckner, Leo.....Jefferson
Crossman, A.....Lake Mills
Emmert, H. L.....Johnson Creek
Emmert, O. J.....Johnson Creek
Goecke, P. L.....Watertown
Grell, H. J.....Johnson Creek
Guttenberg, Fr. Jr.....Jefferson
Hans, Joe.....Jefferson, R. 1
Hardtke, Wm.....Watertown
Hooper, S. C.....Palmyra
Hooper, W. G.....Palmyra
Hoselin, E. E.....Waterloo
Kracht, Albert.....Jefferson
Kreuger, Alexander.....Watertown
Lean, G. A. .....Palmyra
Lehman, Theo.....Watertown
Leonard, Geo. H.....Jefferson
Leonard, Wm. R. .....Jefferson
Longley, H. N.....Dousman
McIntyre, Ivan.....Fort Atkinson
Mathews, M. D.....Helenville
Parsons, Wm. A.....Fort Atkinson
Pester, J. H.....Whitewater, R. 3
Popp, Arthur.....Jefferson
Niere Stuart.....Watertown
Northey, W. G.....Palmyra
Slagg, Milo J.....Fort Atkinson
Rabenhorst, B. W.....Jefferson
Rieck, Wm.....Watertown
Torgensen, Christ.....Lake Mills
Vosburg, Carlin.....Fort Atkinson
Ward, Rob. W.....Fort Atkinson
Ward, T. S.....Fort Atkinson
Wendt, A. L.....Lake Mills
Woelffer, Herbert.....Waterloo

JUNEAU COUNTY.

Bentson, A. P.....Elroy
Frederickson, E. A.....Necedah
Hansen, Harry.....Camp Douglas
Jones, F. R.....Mauston
Moore, H. G.....Mauston
Niles, Milo E.....Mauston
Remington, M. O.....Mauston
Schultz, Arthur.....Mauston
Wagner, J. M.....Union Center, R. 1
Wick, H. A.....Mauston

KENOSHA COUNTY.

Beimer, Geo.....Salem
Betzer, R. A.....Kenosha
Curtis, Mark W.....Trevor
Curtis, W. R.....Trevor
Dexter, Walter S.....Kenosha
Holt, Ed.....Pleasant Prairie
Kerr, Herbert.....Kenosha, R. 36

MEMBERSHIP, 1913—Continued.

Kreuscher, Wm. R.....Somers
Orvis, L. C.....Salem
Rhodes, Clarence.....Kansasville
Rhodes, Frank L.....Kansasville
Roberts, F. W.....Woodworth
Sheen, C. J.....Salem
Sheen, W. J.....Trevor
Thiers, L. M., 426 Park Ave.....Kenosha
Yule, Earl S.....Somers

KEWAUNEE COUNTY.

Boudnick, John.....Kewaunee, R. 7
Cherveny Wenzel.....Kewaunee
Collin, D. W.....Luxembourg
Drissen, Geo.....Kewaunee
Glandt, R. C.....Kewaunee
Haevers, Martin.....Luxembourg
Jelinek, Wm.....Kewaunee
Kassner, Edw.....Kewaunee, R. 6
Katel, Wm.....Kewaunee
Krofta, Rudolph.....Kewaunee
Mack, J. J.....Algoma, R. 1
Murphy, Jas. H.....Kewaunee
Nemetz, Frank.....Kewaunee
Peckman, John.....Luxembourg
Pelisek, Frank.....Kewaunee
Ripley, J. W.....Kewaunee
Rohde, H. W.....Kewaunee
Runke, Henry.....Algoma
Schmidt, Wm.....Algoma
Stangel, Richard.....Kewaunee
Zahorick, A. J.....Kewaunee

LA CROSSE COUNTY.

Bosshard, E.....Bangor
Casberg, C. M.....Holman
Davis, L. H.....Bangor
Dengel, Peter.....La Crosse, R. 1
Griswold, H. W.....West Salem
Harrison, F. A.....Bangor
Hemker, F. H.....West Salem
Keppel, V. S.....Holman
Keppel, Wm.....La Crosse, R. 5
Knudson, Math.....Holmen
Larson, P. A.....La Crosse, R. 3
Lovejoy, Hiram.....West Salem
Lemke, L. C.....Onalaska
Markle, S. P.....La Crosse
Moss, Carl.....Onalaska
Moss, Wm.....Onalaska
Nuttelman, Arthur.....Holman
Nuttleman, Alfred.....West Salem
Nuttelman, Fred.....West Salem
Quall, Oscar P.....Midway
Schaller, F. G.....Holmen
Schaller, Geo. W.....Holmen
Van Loon, John.....La Crosse
Westerhouse, Garret.....Onalaska, R. 1
Whitbeck, W. F.....Onalaska
Wielinga, Jippa.....Midway
Whitehead, H. W.....Rockland
Wolf, Otto.....La Crosse

LA FAYETTE COUNTY.

Andrews, A. L.....South Wayne
Benedict, O. N.....Darlington
Glindinning, H. L.....Shullsburg
Gunderson, Ashley.....Argyle
Ingwell, Albert.....Blanchardville
Kilpatrick, Elmer J.....Belmont
Merriam, L. J.....Darlington
Morrison, M. O.....Woodford
Perry, Wm.....Gratiot
Rood, M. C.....South Wayne
Rood, Ole.....South Wayne
Watrud, H. O.....Blanchardville

LANGLADE COUNTY.

Follstad, Anton.....Elco
Johnson, Geo. R.....Antigo
McNutt, Leonard.....Antigo, R. 3
Schwartz, John.....Antigo, R. 4

LINCOLN COUNTY.

Weisner, L. R.....Merrill
Parrott, G. L.....Merrill

MANITOWOC COUNTY.

Axley, Walter.....Cleveland
Bauer, A. H.....Manitowoc, R. 2
Berge, Otis I.....Valders
Bernhardt, O. C.....Two Rivers
Beyer, Hans.....Mishicot
Bruhn, J. F.....Two Rivers, R.
Clusen, Reinhold.....Manitowoc
Courchane, Liston.....Two Rivers
Dvorak, Henry.....Mishicot, R. 3
Eiseman, Harvey.....Mishicot
Geraldson, M. E. G.....Manitowoc
Gustaveson, Chas.....Manitowoc, R. 4
Heidemann, O. C.....Kiel, R. 2
Hetzel, Gilbert.....Cleveland
Hoefner, Herbert.....Manitowoc, R. 1
Jackson, Van E.....Valders
Kiel, Wm.....Mishicot
King, Benj.....Reedsville
Klann, Adolph.....Reedsville
Klemme, Walter C.....Kiel, R. 2
Klessig, Edwin.....Cleveland
Koellmer, Gustav.....Cleveland
Kozelka, J. A.....Mishicot
Larson, John A.....Valders
Linnane, Dan J.....Reedsville
Lorfeld, A. E.....Cleveland
Lutze, Geo.....Cleveland, R. 20
Meyer, Lewis.....Cato
Moldenhauer, W. C.....Manitowoc, R.
Nate, Geo. B.....Grimms
Prince, Geo.....Mishicot
Pritzl, John A.....Cato
Rice, Wm.....Mishicot
Riederer, Blasius.....Cato
Roethel, Herman.....Kiel
Salzmann, A. A.....Kiel, R. 2
Schuster, Chas.....Manitowoc, R. 7
Specht, Edwin A.....Manitowoc
Spletter, Edgar.....Manawa, R. 1
Stein, Joseph N.....Cleveland
Straka, Edw. E.....Maribel
Strowig, Wm. A.....Cleveland
Thielke, Arthur.....Kiel
Thielke, Ed. A.....Kiel, R. 1
Tyler, J. G.....Valders, R. 1

MEMBERSHIP, 1913—Continued.

Wagner, J. M.....Cleveland
Wiegand, O. R.....Cleveland
Wieting, Ed.....Kiel
Witte, Oscar.....Two Rivers
Zeddier, Arthur.....Cleveland

MARATHON COUNTY:

Aderhold, H. F.....Athens
Baesemann, Otto.....Edgar
Baumann, E. H.....Merrill
Brotherton, Alvin.....Colby
Frane Victor.....Colby
Hass, Julius A.....Sturgeon Bay
Helmke, Theo. J.....Hamburg
McAdam, Cecil.....Rothschild
Nieman, W. G.....Hamburg
Parsch, Gustav.....Wausau
Steinwand, Theo.....Colby
Vaughan, John M.....Unity

MARINETTE COUNTY.

Parsons, Harry.....Crivitz
Ramsay, R. C.....Peshtigo

MARQUETTE COUNTY.

Bennett, Kenneth.....Endeavor
Cutsforth, Edw. F.....Westfield
Ellis, S. R.....Endeavor
Hamilton, T. J.....Westfield
Hoskins, Leon.....Montello
Manweiler, Wm. L.....Westfield
Houslet, Neal.....Packwaukee

MILWAUKEE COUNTY.

Arnold, A. A. 1460 Richard St.....
..... Milwaukee
Austin, Edward, Jr., Station D.....
..... Milwaukee
Basse, Wm. H.....West Allis, R. 5
Bernhardt, Chas R.....Hales Corners
Brown R. H., 4624 Grand Ave.. ....
..... Milwaukee
Brunnquell, Herbert, 2709 Elm St....
..... Milwaukee
Brunnquell, Wolfram, 2709 Elm St..
..... Milwaukee
Burnham, G. L., 733 Racine St.....
..... Milwaukee
Coddington, Clyde.....North Milwaukee
Didervich, N. A.....North Milwaukee
Dittman, H. F.....North Milwaukee
Dufenhorst, A. E.....West Allis, R. 5
Duve, H. F.....West Allis, R. 3
Guenther, N. W.....South Milwaukee
Hinz, Edgar.....West Allis, R. 4
Horten, Geo.....Milwaukee
Kurtze, Otto.....West Allis, R. 4
Kremer, Paul, 434 Wells Bldg.....
..... Milwaukee
Marti, Herman, Station D, R. 2.....
..... Milwaukee
Peterson, F. B., 1209 Ry. Exch.....
..... Milwaukee
Pierner, Fred.....North Milwaukee
Pierner, J. W.....Thiensville
Roscher, E. D. 422 West 24th St.....
..... Milwaukee
Schwab, John, 1626 Kinnickinnic Ave.
..... Milwaukee
Schwerman, Chas., Station D, R. 3...
..... Milwaukee
Sievers, F. J.....Wauwatosa
Swan, N. J.....Wauwatosa
Swan, R. G.....Milwaukee, R
Usinger, Fred, Jr., 302 3rd St.....
..... Milwaukee
Zimmermann, H. W...Wauwatosa, R. 14

MONROE COUNTY.

Aarness, O C.....Cashton
Ebert, Francis.....Tomah
Errickson, H. N.....Cashton
Foth, E. A.....Norwalk
Foth, F. D.....Norwalk
Freeman, G. A. .....Sparta
Harris, R. E.....Warrens
Hovland, Harold.....Sparta
Hubbard, E. S.....Norwalk
Hubbard, W. E.....Norwalk
Jones, E. F.....Sparta
Kirst, A. L.....Tomah
Leverich, J. E.....Sparta
Leverich, J. W.....Sparta
Mistele, Wm. O.....Kendall
Robertson, Donald.....Tomah
Vieth, F. W.....Norwalk
Vieth, H. E.....Norwalk
Vieth, Otto.....Norwalk

OCONTO COUNTY.

Anderson, Alfred.....Mosling
Anderson, Dewey.....Mountain
Bagsted, A. C.....Lena
Berger, J. H.....Oconto Falls
Brendimuehl, F. .....Gillett
Brock, Martin .....Lena
Bubolz, Otto.....Underhill, R. F. D. 1
Close, Wm. C.....Mountain
Cole, Schley .....Mountain
Degeneffe, Joe .....Oconto
Doyle, Henry .....Oconto
Fitzgerald, John.....Oconto Falls
Gallagher, B. J.....Gillett
Gomber, Peter, ...Gillett
Grosse, R. S.....Little Suamico
Hansen, M. J.....Mosling
Howell, John .....Gillett
Jaeger, Wm. .....Gillett
John, A. C.....Gillett
Kosso, Chas. .....Lena
Kehl, John .....Oconto
Lembcke, Louis.....Oconto Falls
Markel, Clarence .....Oconto
Martineau, Andrew .....Gillett
Meyer, Edward.....Oconto Falls
Olson, S. .....Mountain
Olson, Thorwald .....Mountain
Peterson, Lawrence .....Gillett
Piepenburg, Bert .....Gillett
Rabe, Roy .....Oconto
Richter, Allen .....Oconto
Rohan, B. J.....Mountain

MEMBERSHIP, 1913—Continued.

Ruege, Ed. .....Gillett
Saffran, Herman .....Mountain
Smith, R. P.....Underhill
Tate, F. F.....Breed
Volk, E. S.....Oconto Falls
Weber, August.....Underhill, R. F. D. 2
Wilson, Raymond .....Abrams
Young, Alex .....Gillett

ONEIDA COUNTY.

Burkhart, Clyde .....Rhinelander
Luther, E. L.....Rhinelander
Schoeneck, Gust .....Enterprise
Schoeneck, Paul .....Enterprise

OUTAGAMIE COUNTY.

Blake, W. G. F.....Black Creek
Bleek, W. A.....Black Creek
Brownson, Thos.....Black Creek
Gehring, Ralph..Little Chute, R. F. D. 9
Jamison, Clarence.....Appleton, R. 2
Jamison, Harvey.....Appleton
Jamison, Howard.....Appleton
Jamison, Robt.....Appleton, R. 2
Jamison, Stanley.....Appleton, R. 2
Jamison, W. G.....Appleton
Letts, E. F.....Appleton, R. 4
Lockery, R J.....Black Creek
Meulemans, Mathias.....Kaukauna
Mills, R. C.....Appleton, R. 2
Pierner, Ira C.....Sugar Bush
Renn, Joseph...South Kaukauna, R. 15
Ryan Malachi .....South Kaukauna
Sauberlich, Geo.....Greenville
Schaefer, R J.....Appleton
Schmit, Geo.....Greenville, R. 16
Thoma Ernest.....Sugar Bush
Tubbs, Herbert .....Seymour
Wussow, Chas. .....Seymour

OZAUKEE COUNTY.

Behrens, Bernhard.....Grafton
Bittner, John .....Saukville
Blank, G. A.....Grafton
Boerner, W. N.....Cedarburg
Dineen, C. F.....Cedarburg
Dineen, Joseph .....Cedarburg
Groth, Hugo.....Cedarburg
Groth, Louis.....Cedarburg
Groth, Walter.....Cedarburg, R. F. D.
Kieffer, Mike .....Fredonia
Kressen, Reinhold.....Cedarburg
Mueller, N J.....Grafton
Sorweid, Wm....Cedarburg, R. F. D. 2
Wulff, J. B.....Grafton

PEPIN COUNTY.

Fleishauer, C K.....Arkansaw
Gustafson, Theo. .....Stockholm
Jahnke, Julius.....Pepin
Olson, Edw. .....Arkansaw
Pattison, H. A.....Durand
Steinhaus, W. E. .....Pepin

PIERCE COUNTY.

Bailey, H. E.....River Falls
Brown Earl.....Bay City
Brown, Monroe .....Bay City
Brown, Wm. .....Spring Valley
Chapman, Chas. .....River Falls
Chapman, John.....River Falls
Chapman, Lyman.....River Falls
Chapman, W. A.....River Falls
Clark, W. W.....Ellsworth
Finstad, Frank.....Beldenville
Fuller, R. J.....Maiden Rock
Gustafson, W. H.....Maiden Rock
Hanson, H. O.....Spring Valley
Jacobson, Chas.....Spring Valley
Kuehn, H. F.....Spring Valley
Nimlos, Johnson .....Ellsworth
Nimos, Thos. .....Ellsworth
Persons, M. B.....Plum City
Pierce, W. O.....River Falls
Ryan, John.....River Falls
Smith, Fred.....River Falls
Taylor, J. B.....River Falls
Taylor, Neal.....River Falls
Thompson, Hilder.....River Falls

POLK COUNTY.

Aune, Isaac.....Amery
Engelhardt, F. A.....Osceola
Harkness, Harold.....Luck
Jerdee, P. S.....Deronda
Lindberg, Clint H.....Dresser Jct.
Pedersen, Hans N. R.....Luck
Perry, Edw. B.....Amery
Perry, Richard.....Amery
Petersen, E. M.....Amery
Peterson, Henry...Centuria R. F. D. 1
Ravnholt, A. B.....Milltown
Rehbein, A. E..St. Croix Falls, RFD 1

PORTAGE COUNTY.

Arnot Grace, 932 Clark St. .....
..... Stevens Point
Brekke, Anton B...Rosholt, R. F. D. 1
Clark, W. E..Stevens Point, R. F. D. 1
Frost, H. G.....Almond
Hanson, N. P..Amherst Jct., R. F. D. 2
Hans Enoch .....Junction City
Loberg, Almer.....Nelsonville
Shelburne, A H.....Bancroft
Tobie, E. P.....Amherst

PRICE COUNTY.

Frank Dismas .....Phillips, R. F. D. 2
Hoffman, Conrad.....Phillips
Maeder, J. W.....Brantwood
Morner, Arvid.....Ogema

RACINE COUNTY.

Adland, P. H.....North Cape
Bennett, J E.....Waterford
Chambers, O. Q.....Union Grove
Cook, G. L.....Burlington
Cook, J. C.....Burlington

MEMBERSHIP, 1913—Continued.

Cooper, Archie H.....Franksville
Dunkelow, W. H.....Franksville
Erbe, Geo.....Caledon
Gehrand, A. A.....Waterford
Hansen, Hans P..Union Grove, R.F.D.6
Hinchliffe, Walter.Burlington. R.F.D.18
Jacobson, John.....Racine
Karcher, Gilbert.....Burlington
Klofanda, Reuben..Racine, R. F. D. 8
Klofanda, Royal....Racine, R. F. D. 1
Linneman, W. H. Waterford.R F. D. 23
Mekwlecky, Joseph...Racine, R F. D. 1
Nelson, H. A.....Union Grove
Nelson, R. W.....Union Grove
North Eugene..Waterford R. F. D. 23
Reeseman, H. G..Burlington, R F. D. 17
Renak, Edw. .....Racine, R. F. D. 2
Robers, W. J..Burlington, R. F. D. 20
Rolfson, C. E.....Waterford
Schelling, Edw. W...Racine, R. F. D. 2
Schelling, J. J.....Racine
Skewes, E. B.....Union Grove
Skewes, Thos. H.Union Grove, R. F. D 6
Sorenson, Hilbert, Franksville, R F.D. 9
Spartz, N. A. ..... Union Grove
Stephen, Geo.....Racine, R. F. D. 1
Wilson, J. A.....Burlington R. F D 22
Zachar, M. R.....Racine, R. F. D. 1

RICHLAND COUNTY.

Bailey, Harry.....Richland Center
Bowen, B. L.....Richland Center
Brewer, G. G.....Rockbridge
Collins, Edmund.....Tavera
Collins, Robert.....Tavera
Cook, A. E.....Boaz
Ellsworth, Raymond.....Tavera
Ghastin, Wm. J.....Twin Bluffs
Householder, Glen....Richland Center
Logan, S. H.....Tavera
Martin, A. M.....Gotham
Nicholson, Thos.....Tavera
Nourse, Glen .....Sextonville
Oman, Carl.....Tavera, R. F. D. 1
Post, H. L.....Sextonville
Post, V. W.....Sextonville
Schmitz, Herbert.....Lone Rock
Smith, J. H.....Gotham
Stang, Frank.....Lone Rock
Thorpe J. R.....Tavera
Turgasen, J. H.....Richland Center
Welton, Guy E.....Twin Bluffs

ROCK COUNTY.

Austin, C. P.....Janesville
Austin, G. M.....Janesville, R. F. D. 6
Austin, W. B.....Janesville
Benedict, E. L.....Beloit
Bingham, H. L.....Milton
Bingham, E. L.....Milton
Brown, Fred. F.....Edgerton
Coon, Elam P.....Milton Jct.
Donner, C. F.....Janesville
Dougan, W. J.....Beloit
Dresser, J. G.....Beloit
Emery Sidney.....Edgerton
Gates, C M.....Clinton
Hemingway, Geo. L.....Hanover
Holm Rob.....Clinton Jct.
Holmes, G. A.....Beloit, R. F. D. 31
Hueble, E.....Beloit
Johnson, H. I.....Edgerton
Johnson, Roy M.....Edgerton
Klusmeyer, Harold.....Evansville
Lather, C. H.....Beloit
Lentell, Howard.....Beloit
Liddle, Wayne.....Beloit
Marston, A. E.....Beloit, R. F. D. 30
Moore, F. W.....Beloit, R. F. D. 30
Morgan, Hiram.....Beloit
Mosley, Bert.....Beloit
Newhouse, K. K.....Clinton
Parker, E. H.....Janesville
Peterson, Carl.....Beloit, R. F. D. 26
Porter, W. V.....Evansville
Raessler, N. R.....Beloit
Rasey, E.....Beloit
Saron, Otto.....Evansville
Schuman, Chas.....Koshkonong
Schuman, Frank.....Koshkonong
Simpson, L. L.....Edgerton
Smith, L. E.....Beloit
Taylor, P. E.....Milton
Van Etta, James.....Milton Jct
Winkley, C. A.....Clinton Jct.

RUSK COUNTY.

Gillies, J. H.....Tony
Reihmer, Carol.....Weyerhauser
Manley, Byrne.....Ladysmith
Volkman, R. H.....Weyerhauser

SAUK COUNTY.

Accola, Arthur.....Spring Green
Accola, J. H.....Prairie du Sac
Accola, M. J.....Prairie du Sac
Borck, Sam.....North Freedom
Clavidatscher, T.....Sauk City
Clingman, E. E.....Reedsburg
Clingman, E. S.....Reedsburg
Frederickson, Fred.....Spring Green
Grass, C. F.....Prairie du Sac
Gonsolin, Fred.....Reedsburg
Hatz, J. A.....Prairie du Sac
Hatz, O. J.....Prairie du Sac
Herwig, Theo. E.....Delton
Hood, D. L.....Spring Green
Johnson, Glenn.....Baraboo, R. 2
Kindschi, E. A.....Prairie du Sac
Kinsman, Glenn.....La Valle
Kruse, Conrad.....Logansville
Langdon, Earl.....Baraboo
McGilvra, Ed.....Baraboo
McGinnis, Chas.....Baraboo
Marshall, W. S.....Delton, R. 1
Martiny, Pierce.....Baraboo
Moely, Edwin.....Prairie du Sac
Ochsner, Arthur.....Plain
Payne, Ed. H.....Prairie du Sac
Pearson, L. T.....La Valle
Peck Burton.....Spring Green
Peck, H. B.....Spring Green
Premo, J. E.....Baraboo
Premo, W. H.....Baraboo
Randall, T. E.....Baraboo
Rusch, Albert.....Reedsburg
Rusch, E. W.....Reedsburg
Schreiber, L. E.....Baraboo

MEMBERSHIP, 1913—Continued.

Schuette, H. W.....Reedsburg
Stang, Frank.....Lone Rock
Steidtmann, Edwin.....Merrimac
Strassman. Ed.....Prairie du Sac
Toole, W. A.....Baraboo
Vonder Ohe, W. N.....Reedsburg, R. 2
Waston, Harry.....Baraboo
Weirich, M. J.....Baraboo
Wheeler, Chas.....Reedsburg
Wheeler, I. W.....Reedsburg, R. F. D.
Wichern, L. M.....Baraboo

SAWYER COUNTY.

Luidwen, Walter.....Hayward
Uhrenholdt, S. J.....Leonard
Uhrenholdt, Jens.....Leonard

SHAWANO COUNTY.

Ahsmann, Paul.....BellePlaine
Berg, Carl J.....Tigerton
Boldig, W. L.....Tigerton
Briggs, Guy, E.....Lyndhurst
Brockman, Edw. A.....Shawano
Gjermandson, Martin.....Tigerton
Hildemann, Alex. E.....Belle Plaine
Noorbom, Gust.....Eland
Olson, M. S.....Green Valley
Olson, W. H.....Green Valley
Sorley, E. B.....Tigerton
Wedgwood, R. E.....Shawano, R. 1

SHEBOYGAN COUNTY.

Athorp, W. G.....Sheboygan
Bechlem, E. W.....Plymouth
Forke, E. J.....Adell
Frauenheim, O. R.....Random Lake
Gorsege, M. E.....Haven
Heberer, C. H.....Adell
Hoppert, M. J.....Sheboygan, R. 4
Illian, W. L.....Adell
Jurss, Fred.....Plymouth, R. 25
Knoener, George.....Plymouth
Levering, E. W.....2030 N. 8th St., Sheboygan
Marx, Oscar H.....Haven, R. F. D.
Meyer, Hubert.....Plymouth, R. 25
Oeldrich, Edw. F.....Sheboygan
Opgenorth, Anton.....Sheboygan, R. 4
Parrish, J. O.....Plymouth
Reineking, R. H.....Sheboygan Falls.
Streiber, Walter.....Elkhart Lake
Swart, Witt.....Plymouth
Ubbelohde, Frank.....Sheboygan Falls
Wagner, A. L.....Haven
Wunsch, A. J. C.....Haven, R. 6
Wunsch, H. E.....Haven, R. 6
Zehn, A. F.....Plymouth

ST. CROIX COUNTY.

Albert, Will.....New Richmond
Anderson, Alfred M.....Baldwin
Anderson, Otto.....Emerald
Arnquist, J. F.....New Richmond
Arnquist, J. P.....New Richmond
Aune, H .A.....Baldwin
Aune, J. G.....New Richmond
Bakke, Ernest.....Baldwin
Batten Glen.....Hudson
Batten, Sydney.....Hudson
Beebe, C. C.....Boardman
Bennett, W. E.....New Richmond
Benoy, E.....Hudson
Boder, R. C.....Stanton
Brown, O. H.....New Richmond
Brunner, Fred.....Hudson.
Brunner, Rob.....Hudson
Buttner, Albert.....New Richmond
Carlson, S.....Glenwood
Casey, W. H.....New Richmond
Christensen, V. F.....Roberts
Christoffersen, Chris..New Richmond, R. 4
Cody, J. F.....New Richmond
Dowling, C. E.....Hudson
Fay, A. W.....New Richmond
Fay, R. E.....New Richmond
Fillback, A.....Hudson
Fuiten, B. H.....New Richmond
Germain Leo.....New Richmond
Gridley Bert.....Hudson
Hargrave, W. E.....Roberts
Hennessey, T. E.....New Richmond
Hocking, C. R.....Hudson
Hocking, C. R.....River Falls
Hogan, E. J.....New Richmond
Holliday, E. L.....New Richmond
Hosford, Harry.....Hudson
Imrie, David.....Roberts
Imrie, John.....Roberts
Jabusch, Wm.....Deer Park
Jacobson, H. C.....New Richmond
Jones Walter.....Deer Park
Kirsch, John J.....Deer Park, R. 2
Kottke, Geo.....Deer Park
Kruschke, Alvin.....New Richmond
Kruschke, Geo.....New Richmond
Larson, Theo.....Hudson
Legvid, Henry E.....Deer Park, R. 1
Lundy, John.....Hudson
McNamara, Jas. F..New Richmond, R 4
Nelson, Nels R.....Baldwin
Ohman, E. E.....Glenwood City
Paulson, P. A.....Hudson
Rasmusson, W E.....Hammond
Rudd, R. R.....Deer Park
Ruemmele, Albert.....Hudson
Ruemmele, Geo.....Hudson
Ryan, Andy.....New Richmond
Ryan, Peter E.....New Richmond
Schwandt, Wm.....Stanton
Sette, Ben.....New Richmond
Silver, W. W.....New Richmond
Stiles, Chas.....Hudson
Stindt, Forest.....New Richmond
Stindt, C. W.....New Richmond
Tracy, Lyman.....New Richmond
Uber, Dewey.....New Richmond
Watkins, J. E.....Hudson
Webster, W. E.....Hudson
Wettleson, Otis.....Baldwin

TAYLOR COUNTY.

Amacher, Fred.....Stetsonville
Brandt, Henry.....Medford
Brecke, Wm. R.....Stetsonville
Buehler, Geo.....Medford

MEMBERSHIP, 1913—Continued.

Schemanski, Albert.....Stetsonville
Schmoldt, Paul C.....Whittlesey
Searle, R. O.....Donald

TREMPEALEAU COUNTY.

Becker, P. V.....Galesville
Bishop, W. E.....Arcadia
Carlson, Ed.....Pigeon Falls
Christopherson, Eniar.....Pigeon Falls
Dahl, O. A. .....Osseo
Dutton, C. A.....Trempealeau
Hagestad, A. C.....Ettrick
Hanson, L. M.....Eleva
Hegge, Albert.....Galesville
Henderson, H. L.....Ettrick
Herried, G. P.....Ettrick
Imholt, B. A.....Trempealeau
Johnson, J. G.....Blair
Johnson, Theo. .....Blair, R. 3
Lamberson, R. A.....Whitehall
Lund, Geo. S.....Arcadia
Markham, F. C.....Independence
Mattison, Thos. ..... Blair
Moen, Gilbert.....Eleva
Peterson, B. A.....Blair
Ristau, E. O.....Osseo
Ristau, E. W.....Osseo
Saed, A. H.....Blair
Thompson, A. L.....Blair
Thompson, Ed. H.....Blair

VERNON COUNTY.

Aberg, Jacob.....De Soto
Amodt, Marcus .....Viroqua
Dahl, A. J.....Viroqua
Davis, J. L.....De Soto
Fisher, Leslie.....Viroqua
Freehoff, R. E.....Coon Valley
Groves, John J.....Viroqua
Hanson, Martin L, ...Viroqua
Lawrence, W. J.....De Soto
McKenzie, Chester.....Mukwonago
Neprud, N. O.....Coon Valley
Olson, Alfred.....Viroqua
Rogers, H. J.....Stoddard
Sebion, Cornelius.....Westby
Sebion, Stanley .....Westby
Seymour, Ben .....De Soto
Seymour, J. H.....De Soto
Seymour, Millard .....De Soto
Smith, Rob .....Mukwonago
Tollefson, Andrew .....Viroqua

WALWORTH COUNTY.

*Anderson, H. E.....Whitewater
Bowers, C. W.....Delavan
Bromley, F. G.....Whitewater, R. 4
Bundy, M. F.....Genoa Junction
Dunbar, H. D.....Elkhorn
Ells, F. W.....Elkhorn
Ells, Ross. H.....Darien
Harris, J. S.....Delavan
Hofs, Oscar .....Genoa Jct. R. 1
Kimball, L. A. ..Lake Geneva, R. No. 1
Kiteley, L. W.....Sharon
Lauderdale, Roy.....Elkhorn
Lewis, E. H. .....Whitewater
Meurer, Paul F. .....Genoa Junction
Mills, Edmund.....Elkhorn
Millis, Horace. .....Whitewater
Palmer, F. Earl.....Lake Geneva
Peters, Ezra .....Sharon
Peters, J. W.....Lake Beulah
Peters, R. A.....Sharon
Robinson, A. S.....Lake Geneva
Rockwell, Clarence.....Whitewater
Rieck, Christ.....Elkhorn
Sweno, Harley... ...Whitewater, R. 4
Taube, H. E..... .....Elkhorn
Tess, Chester L.....East Troy
Thacher, Ed. F.....Zenda
Utter, Delwin.....Lake Beulah
Warmington, P. G.....Honey Creek
Wright, John.....Whitewater

WASHBURN COUNTY.

Carlson, M. J.....Spooner, R. 2
Curtis, R. D.....Madge
Melby, Dan.....Spooner
Rylander, Ed. .....Shell Lake
Rylander, Frank .....Shell Lake
Soholt, G. L.....Spooner
Soholt, Ole S.....Madge
Wesenberg, Fred .....Spooner R. 2

WASHINGTON COUNTY.

Ahlers, Edwin.....West Bend
Backus, F. G. .....Kewaskum
Baertlein, W. A.....South Germantown
Bartelt, Paul.....Jackson
Braun, John.....South Germantown
Gerner, Ed. W.....Barton
Gettelman, Ira R...South Germantown
Groth, Albert .....Rockfield
Groth, Henry .....Rockfield
Hoelz, Jacob, Jr.....Rockfield
Klinka, Joe .....West Bend
Klinka, J. S. .....West Bend
Klumb, Albert.....Rockfield
Klumb, Arthur.....Rockfield
Konrad, P. G.....South Germantown
Opgenorth, J. E.....Kewaskum
Puls, John.....Hartford
Quandt, Wm. F.....Hartford
Rather, Edw. .....Colgate
Rather, Herman .....Colgate
Salter, Milo.....West Bend
Schottler, C. J.....South Germantown
Schwenberg, Herman.....Hartford
Stark, F. G.....Rockfield
Techtman, C. W.....Kewaskum R. 4
Weiss, Glen C.....Barton, R. 1
Wilke, Leander,.....West Bend, R. 1
Zierner, P. F.....Jackson

WAUKESHA COUNTY.

Aarons, H. M.....Dousman
Baird, J. W.....Waukesha
Baird, Robt. L.....Waukesha
Baird, W. L. .....Waukesha
Boyd, J. T.....Waukesha, R. 7
Brady, L. A.....Mukwonago
Brandt, Herman
713 South St., Oconomowoc
Butler, G. E.....Templeton

MEMBERSHIP, 1913—Continued.

Claffey, Jas. ..... Pewaukee
Connell, C. J. ..... Menomonee Falls
Connell, Wm. A. ..... Menomonee Falls
Cooper, G. S. ..... Pewaukee
Craft, Lester E. ..... Hartland
Craig, J. M. ..... Oconomowoc
Craig, O. P. ..... Mukwonago
Cumming, G. H. ..... Dousman
Dance, Geo. ..... Brookfield
Dance, J. H. ..... Brookfield
Dibble, R. A. ..... Menomonee Falls
Douglas, F. H. ..... Oconomowoc
Fuller, Albert ..... North Lake
Fuller, Horace ..... North Lake
Fuller, Roland ..... North Lake
Good, Richard G. ..... Dousman
Green, H. T. ..... Genesse Depot
Grengo R. L. ..... Menomonee Falls
Gunderson, Forrest ..... Oconomowoc
Gunderson, I. Lee ..... Oconomowoc
Hall, Frank ..... Hartland
Hall, John ..... Hartland
Hicken, A. B. ..... Pewaukee
Hill, C. F. ..... Brookfield
Hill, J. T. ..... Waukesha
Holt, F. C. ..... Oconomowoc
Holt, L. H. ..... Oconomowoc
Ingels, J. E. ..... Waukesha
Jacobson, F. E. ..... Oconomowoc, R. 26
Kuhtz, P. H. ..... Waukesha
Lobdell, M. C. ..... Mukwonago
Lund, Peter K. ..... North Lake
McKenzie, Wm. ..... Mukwonago
Mann, S. L. ..... Waukesha
Mann, W. J. ..... Waukesha
Mitchell, C. J. ..... Brookfield
Mitchell, D. S. ..... Brookfield
Mitwede, Henry ..... Waukesha, R. 1
Moldenhauer, Fred ..... Oconomowoc
Nicholas, D. C. ..... Waukesha, R. 4
Reyer, W. R. ..... Templeton
Rosenow, Arthur ..... Oconomowoc
Rosenow, H. E. ..... Oconomowoc, R.
Seitz, Adam ..... Waukesha
Sexton, S. P. ..... Mukwonago
Sleep, S. S. ..... Mukwonago
Smith, G. J. ..... Nashotah
Swartz Bros. ..... Waukesha
Swoboda, F. G. ..... Dousman
Tempera, R. J. ..... Menomonee Falls
Van Buren, E. W. ..... Waukesha
Weaver, E. W. ..... Waukesha
Weeks, Allen ..... Templeton
Will, Chas. J. ..... Menomonee Falls
Williams Ed. T. ..... Wales, R. 31
Woelful, F. J. ..... Waukesha

WAUPACA COUNTY.

Burnham, D. R. ..... Waupaca
Constance, F. R. ..... Waupaca
Glocke, Arthur A. ..... Weyauwega
Green, Jas. D. ..... Waupaca
Harrington, M. H. ..... Waupaca
Kendall, Myron ..... Iola
Kneip, Wm. ..... Weyauwega
Kunkel, A. M. ..... Manawa, R. 4
Knutson, A. C. ..... Ogdensburg
Larson, Le Roy ..... Iola
Meisner, Wm. ..... Embarrass
Murray, Reid F. ..... Manawa
Nace, F. A. ..... Iola
Pirner, John ..... Manawa R. 4
Potts, A. R. ..... Waupaca
Quien, P. A. ..... Scandinavia
Smith, Elmer ..... Sheridan
Spletter, Oscar ..... Manawa, R. 1
Swenson, Henry ..... Scandinavia
Tellock, Raymond ..... Clintonville

WAUSHARA COUNTY.

Barnes, Phil H. ..... Hancock
Caves, R. E. ..... Hancock
Eagan, J. J. ..... Wautoma
Fairbank, L. B. ..... Plainfield
Hamlin, H. J. ..... Wautoma
Jones, Chas. ..... Wild Rose
Knuteson, E. L. ..... Wautoma
Larson, J. M. ..... Wautoma
Simonson, G. S. ..... Wautoma
Unger, Edw. F. ..... Hancock, R. 1
Unger, Ernst F. ..... Hancock, R. 1
Weymouth, M. H. ..... Plainfield
Wiley, W. D. ..... Hancock
Wiley, W. J. ..... Hancock

WINNEBAGO COUNTY.

Blakely, A. J. ..... 517 Oak St., Neenah
Boss, Samuel Jr. ..... Oshkosh
Boss, U. C. ..... Oshkosh
Bussey, W. P. ..... Omro
Calkins, U. B. ..... Allenville
Cross, A. J. ..... Allenville
Cross J. T. ..... Winneconne
Davis, J. T. ..... Winneconne
Downs, Benj. ..... Picketts
Hinz, A. F. ..... Picketts
Humphreys, J. M. ..... Winneconne
Ihrig, J. J. ..... Oshkosh
Jennings, Edwin ..... Fisk
Krings, Joseph ..... Winneconne
Miller, Homer ..... Pickett
Miller, H. C. ..... Allenville
Nieman, Arnold ..... Appleton
Plummer, A. P. ..... Oshkosh
Pommereing, Ed. C. ..... Oshkosh
Race, Edw. ..... Omro, R. 22
Roberts, K. S. ..... Pickett
Smith, S. L. ..... Oshkosh
Teela, F. W. ..... Winneconne
Treleven, Guy ..... Omro

WOOD COUNTY.

Cahill, J. B. ..... Grand Rapids
Huser, C. J. ..... Grand Rapids
Jensen, Albert ..... Grand Rapids
Kassilke, Arthur ..... Marshfield
Leu, O. J. ..... Grand Rapids
Malde, O. G. ..... Grand Rapids
Petersen, Anton ..... Milladore
Schroeder, Herman ..... Marshfield
Smith, Alva J. ..... Pittsville
Ten Pas, John A. ..... Arpin, R. 2
White, Frank M. ..... Milladore
White, T. J. ..... Vesper
Zahradke, J. J. ..... Granton

MEMBERSHIP, 1913—Continued.

CANADA.

Kramer, C. N....Walkersville, Ontario

CALIFORNIA.

Belz, F. A.....Visalia, R. 2

ILLINOIS.

Albrecht, H. C.....Ohio
Anderson, F. J.....Xenia
Anderson, J. C.....Xenia
Bates, Carl A.....Rockton
Bennett, H. J.....Cherry Valley
Briggs Lynn.....Barrington
Bruning, Oliver.....Shermanville
Bushman, L. E.....Yale
Butler, Donald.....
1555 Ridge Avenue, Evanston
Chetlain, L. A.....Galena
Dilmer, W. E.....Dakota
Hill, Chas. E. Jr.....
220 E. 57th St., Chicago
Hitchcock, H. R.....Pecatonica
Howland, R. P.....Barrington, Ill.
Hult, L. P....1139 5th Ave., Rockford
Hunter, Ray D..Monon Bldg, Chicago
Ker, Alan W. W.....Rockford
King, E. W.....Russell
Lawrence, C. P.....Hudson
McGeachie, E. P.....Rockford
Miller, H. H.....
c/o Albert Dickinson Seed Co., Chicago
Miller, R. B.....Antioch
Muirhead, Boyd.....Plato Center
Phillips, Jesse.....Elizabeth
Schafer, F. W.....Hinsdale
Smith, Stanley M.....Cedarville
Winker, H. W.....Millstadt

INDIANA.

Eisenbeiss, G.....

IOWA.

Fawkes, L. A.....Otho
Gronna, Theo.....Waterville
Hamann, Harvey.....St. Olaf
Pahlas, J.....Garnavillo
Voelker, Ed.....Farmersburg
Schlake, Herman.....Garnavillo

MEXICO.

Cardenas, F. F.....Ocampa, Coah

MICHIGAN.

Arnold, H. A.....Boyne City
Carpenter, Florence.....Menominee
Danforth, Willis.....Flushing
Eskill, O. F.....Whitney
Evans, Howard T.....Eau Claire
Fox, C. W.....Elk Rapids
Vandercook, R. I.....Linden

MINNESOTA.

Alcalay, S. J.....Cottonwood
Balmer, F. E.....Morris
Daellenbach, Chris.....Aitkin
Florsheim, I. S.....Neving
Hillier, H. B.....Brownsdale
Schafer, O. H.....Stillwater
Schafer, Peter.....Stillwater

MONTANA.

Kirk, C. L.....Bozeman

NEW JERSEY.

Lee, Helen C.....Uplands, Flemington

NEW YORK.

Coleman, C. H.....Perry
Coleman, Maurice.....Perry
Colenso, J. E.....Oyster Bay
Lawson, H. L.....Salt Point
Lindley, Ella M...Wastic, Long Island
Mills, Stanley.....Walden
Schermerhorn, G. B.....Keeseville

NORTH CAROLINA.

Wood, G. C.....Endenton

NORTH DAKOTA.

Lawson, A. C.....Kenmare
Thorp, Henry O.....Plaza

SOUTH DAKOTA.

Porter, W. L.....Madison

OREGON.

Drolshagen, A. F.....Hermiston

PENNSYLVANIA.

Megie, D. E.....Troy
Rorer, Wm. A.....Mt. Gretna

TENNESSEE.

Einsel, E. D.....Murfreesboro

WASHINGTON.

Newberry, W. T.....Mica

WEST VIRGINIA.

Bowles, Whitney.....Romney

MEMBERSHIP, 1913—Continued.

HONORARY MEMBERS

Ames, W. L.....Oregon
Babcock, Dr. S. M.....Madison
Bull, Prof. C. P.....St Anthony Park Minn.
Cary, Prof. C. P.....Madison
Cheesman, Jas. B.....Racine
Emery, Prof. J. Q.....Madison
Harvey, Prof. L. D...Menominie, Wis.
Hays, W. M.....Washington, D. C.
Henry, Dr. W. A....Wallingford, Conn.
Karel, Hon. L. A.....Kewaunee
Lehmann, Mrs. Eva.....Woodland
Lehner, Philip .....Princeton
McCormick, G. W...Menominee, Mich.
McKerrow, Supt. Geo.....Pewaukee
Newman, Geo. .....Mobile, Alabama
Philips, A. J.....West Salem
Renk, Katharine.....Boise City, Idaho
Russell, Dean H. L.....Madison
Schauer, Hon. A. G.....Kewaunee
Toole, William.....Baraboo
True, Hon. John M.....Madison
Utsunomiya, S. T. Sapporo, Hokkaido. Japan
Utter, Delbert.....Lake Beulah
Wojta, Prof. J. F....Menominee, Mich.