



LIBRARIES

UNIVERSITY OF WISCONSIN-MADISON

Wisconsin Farmers' Institutes : Forty years of Farmers' Institutes. Bulletin No. 37 1924

Wisconsin Farmers' Institutes

[s.l.]: [s.n.], 1924

<https://digital.library.wisc.edu/1711.dl/36H74WJQE432G9B>

This material may be protected by copyright law (e.g., Title 17, US Code).

For information on re-use, see

<http://digital.library.wisc.edu/1711.dl/Copyright>

The libraries provide public access to a wide range of material, including online exhibits, digitized collections, archival finding aids, our catalog, online articles, and a growing range of materials in many media.

When possible, we provide rights information in catalog records, finding aids, and other metadata that accompanies collections or items. However, it is always the user's obligation to evaluate copyright and rights issues in light of their own use.

SW 7
2
7

Wisconsin

Farmers' Institutes



THE PRINCIPAL THING

Forty Years

of

Farmers' Institutes

LIBRARY
COLLEGE OF AGRICULTURE
UNIVERSITY OF WISCONSIN
MADISON

BULLETIN 37

1924

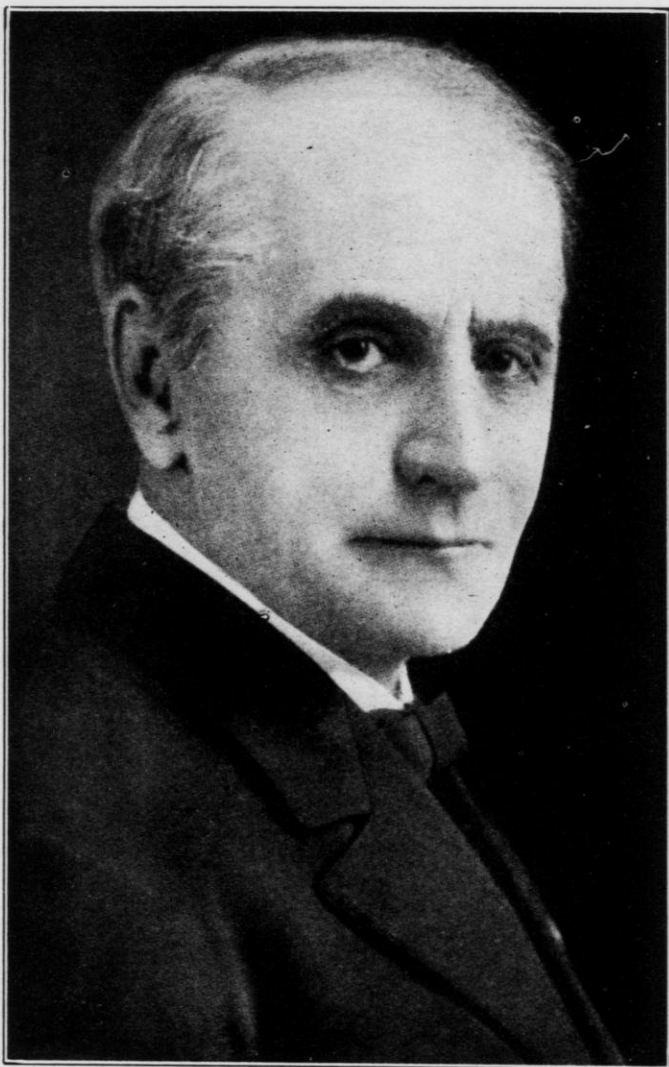


THE PRINCIPAL THING

LIMING FARM SOILS SHOULD BECOME THE RECOGNIZED POLICY UNTIL AN ABUNDANCE OF LEGUMES CAN BE RAISED IN PROPER ROTATIONS ON EVERY WISCONSIN FARM.

WISCONSIN'S LIME RESOURCES MUST BE DEVELOPED TO MEET THIS NEED.

PUTTING LIME ON PLOWED ACRES WILL BE THE GREAT FARMING FEATURE OF THE NEW HALF CENTURY OF FARMING IN WISCONSIN.



C. E. ESTABROOK

TO WHOM WISCONSIN AND AMERICA OWE THE ESTABLISHMENT OF THE FARMERS' INSTITUTE MOVEMENT WHICH HAS BEEN ONE OF THE GREATEST FORCES IN THE DEVELOPMENT OF PROFITABLE AGRICULTURE IN THIS AND OTHER STATES.

WISCONSIN
FARMERS' INSTITUTES

BULLETIN NO. 37

1924

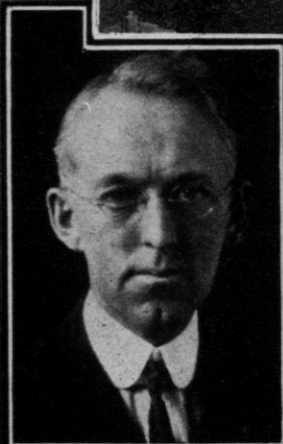
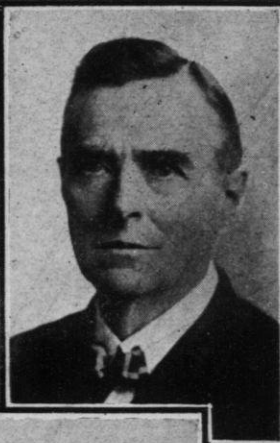
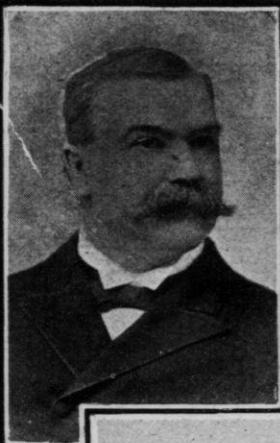
Forty Years
of
Farmers' Institutes

Edited by
E. L. LUTHER
Superintendent

FOREWORD

The Institute season of 1924-25 will close forty years of Institute work in Wisconsin. During this time Wisconsin has risen to be one of the greatest dairy sections of the world. It seems fitting then to review briefly the agricultural history of Wisconsin in which the Institutes have played one of the leading parts, to credit the fundamental principles which have been essential to the success of Institute work and to endeavor to set forth what appear to be the most pressing agricultural needs in Wisconsin and the field for future Institute effort.

That is the purpose of Bulletin No. 37.



W. H. MORRISON
1885-1894

GEORGE McKERROW
1894-1914

E. L. LUTHER
1915

THE INSTITUTE OFFICE

C. P. NORGORD
1914-1915

HIRAM SMITH

Born 1817 - Died 1890

A Successful Farmer

Pioneer in Wisconsin in 1847

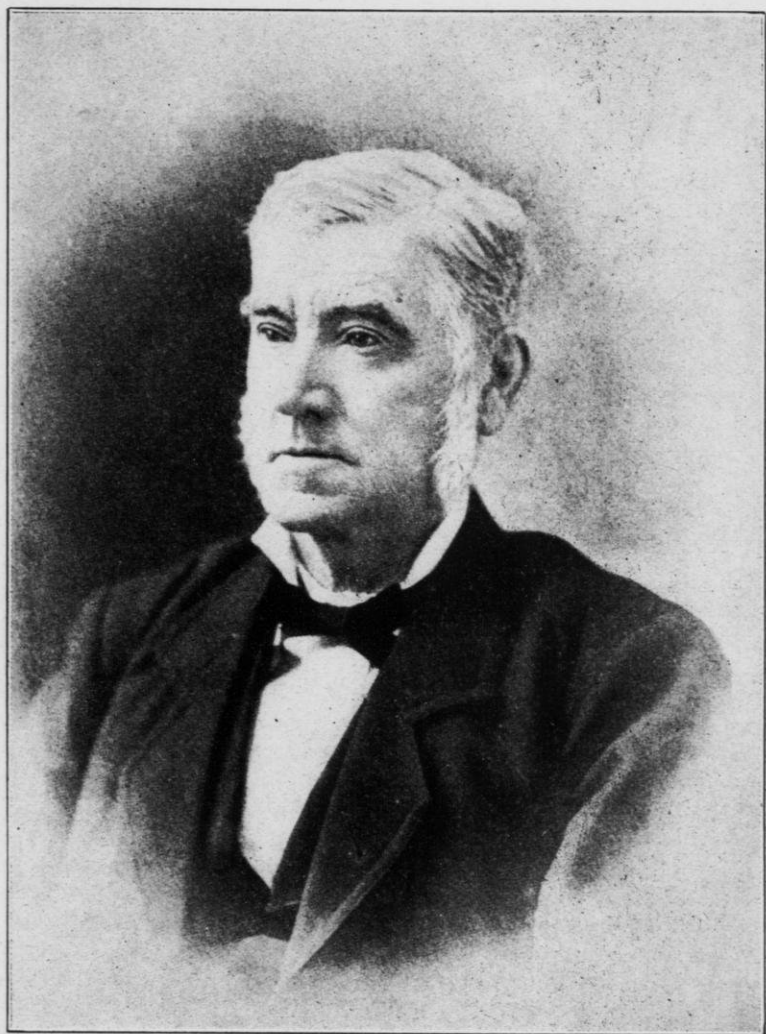
First Farmer on Board of Regents of the University of
Wisconsin in 1878

Chairman of the Farm Committee of the Board of
Regents for twelve years

Member, Vice President and President of the Wisconsin
Dairymen's Association—1873-1875

President of the Northwestern Dairymen's Association
Farmers' Institute Lecturer at the very beginning of
Farmers' Institutes

Hiram Smith was not a college trained man but came to be a man of thought and culture through reading, thinking, speaking and writing. Educated only in the rough school of experience and self help, he realized the great importance of basing agricultural development upon sound principles of research. He aided in the founding of the Wisconsin Agricultural Experiment Station. He inspired the establishment of Farmers' Institutes to spread the discoveries of the Station among the farmers of Wisconsin.



HIRAM SMITH

Forty Years of Farmers' Institutes

We are in the year 1924. For four years farming has been having its troubles after the great war. What should be done in Wisconsin that we may stabilize agriculture? What is the task that Farmers' Institutes have to do in this connection? To get our bearings it might be a good thing to review Wisconsin's agricultural past.

PHASES OF AGRICULTURAL DEVELOPMENT IN WISCONSIN

Wheat was the food foundation of the great factory and industrial development during the nineteenth century. The Mississippi Valley was opened and developed during that century and wheat was the golden product of the pioneers. Wisconsin in common with her sister states grew wheat until after the Civil War. Then things happened to Wisconsin such as have usually happened to all agricultural sections that major in a particular crop. The bottom was falling out of Wisconsin's agriculture.

THINGS DO NOT HAPPEN BY CHANCE

From 1870 to 1880 thoughtful men were wondering what next to do to restore prosperity on the farms of Wisconsin. One of the men of that time who exerted a large influence in starting the state in its new agriculture was Hiram Smith, a farmer of Sheboygan Falls, who was made a member of the Board of Regents of the University in 1878.

Several agencies have been important factors in changing Wisconsin's agriculture from single-crop wheat farming to successful dairying and diversified farming. Chief among these are the College of Agriculture (including the Wisconsin Agricultural Experiment Station), the Farmers' Institutes and such farmers' organizations as the Wisconsin Dairymen's Association, which was founded in 1872.

In 1881, three years after Hiram Smith became a Regent and Chairman of the University farm committee, W. A. Henry came to the University of Wisconsin as professor of agriculture. This was the real beginning of agricultural work at the State University. Two years later Professor Henry secured a small appropriation for investigational work in agriculture, thus beginning the Wisconsin Agricultural Experiment Station.

In 1884, Hiram Smith, Farmer-Regent of the University, gave an address at the County Fair at Manitowoc, in which he set forth the need of the farmer having a more fundamental knowledge of his work. C. E. Estabrook was an interested listener. He thought that it would be a good thing to have addresses similar to that delivered by Hiram Smith given here and there about the state under less disturbed circumstances where farmers could give better attention to them. **THE IDEA OF FARMERS' INSTITUTES WAS BORN!** Mr. Estabrook was elected to the Assembly and introduced the bill which established the first Farmers' Institute in the world.

THE INSTITUTE STATUTE

Sections 1 and 2 of the institute law of 1885, amended by the legislature of 1887, read as follows:

"Section 1. The Board of Regents of the State University is hereby authorized to hold Institutes for the instruction of citizens of this State in the various branches of agriculture. Such Institutes shall be held at such times, and at such places as said board may direct. The said board shall make such rules and regulations as it may deem proper for organizing and conducting such Institutes and may employ an agent or agents to perform such work in connection therewith, as they deem best. **The course of instruction at such institutes shall be so arranged as to present to those in attendance the results of the most recent investigations in theoretical and practical agriculture.**"

The Farmers' Institutes were really the outgrowth of the sentiment which had established the Wisconsin Agricultural Experiment Station in 1883. The Experiment Station was to find the scientific truths of agriculture; the Institutes were to be a vehicle for getting these truths to the people.

So there developed three lines of educational work in agriculture in the state, the instruction of students in the College of Agriculture, the investigations of the Experiment Station, and the extension of agricultural information directly to the farmers, first through discussions of members of the College staff and of the Farmers' Institutes and also later through the system of Extension Specialists and County Agents. In this the Farmers' Institutes have been of inestimable importance.

SUPERINTENDENT MORRISON'S ADMINISTRATION

W. H. Morrison, a man who had gained a reputation as a successful secretary of the celebrated Elkhorn Fair, was chosen as the first Superintendent of Farmers' Institutes in Wisconsin.

Superintendent Morrison administered the affairs of the Institutes most efficiently from 1885 until his accidental death in 1893. He established the policy of locating institutes at places where people had signed petitions requesting them, made the institutes two-day affairs, organized his staff of speakers, edited the Farmers' Institute Bulletin, began Women's Institutes and concluded each winter series with a Round-Up Institute. This general arrangement continues to the present with such changes as the times have seemed to require.

The first Farmers' Institute was held at Hudson, St. Croix County, on November 24-25, 1885.

THE EARLY PROGRAMS

While the early programs of the Farmers' Institutes considered various phases of agriculture as it then existed, the subject "Grain Farming vs. Dairy Farming" supplied a topic for discussion which quite often assumed the aspect of something more than friendly debate and gave the new gospel of dairying a forceful presentation.



HOME OF THE FIRST FARMERS' INSTITUTE

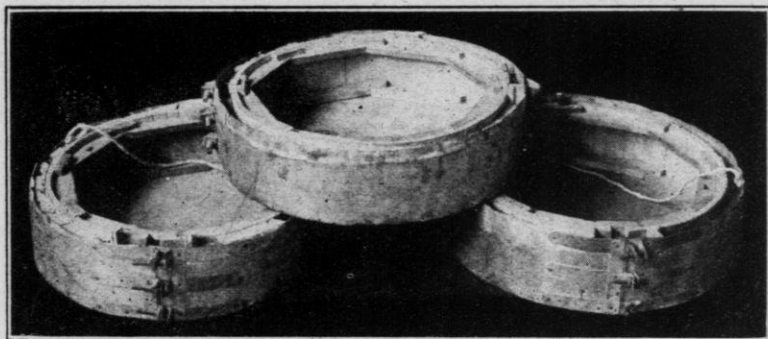
In this building at Hudson, November 24-25, 1885, the first Farmers' Institute in America was held. Hiram Smith, W. D. Hoard, Dean W. A. Henry, W. H. Morrison and other people prominent in agriculture were speakers.

SUPERINTENDENT McKERROW'S ADMINISTRATION, 1894-1914

Upon the death of Superintendent Morrison the Board of Regents of the University selected George McKerrow, a practical farmer and prominent live stock breeder of Pewaukee, Waukesha County, as Superintendent of Farmers' Institutes. Superintendent McKerrow administered the Institutes until 1914. During this long and splendid administration of twenty years, Wisconsin was transformed from a wheat growing to a dairy state. The word battles, for such some of these early discussions practically became, gradually changed from discussions of grain vs. dairy farming to scrub vs. pure bred sires and upon the advent of the silo the merits and demerits of this now state-wide structure were fiercely contested. Institute workers carried miniatures of silo forms which had been worked out and used by themselves. Probably the extension of the use of the silo is one of the main accomplishments of Farmers' Institutes. Cow testing associations were advocated during this administration; but the greatest discussions and the most heat engendered came from the proposition of the tuberculin testing of dairy cattle.

Nothing better substantiates the judgment of the men who established the Wisconsin Agricultural Experiment Station, and certainly nothing shows the place of the Station in improving agriculture better than does the part which the Station played in this most difficult undertaking of getting the

farmers of Wisconsin to eradicate bovine tuberculosis. In 1893, H. L. Russell, now Dean of the College of Agriculture and Director of the Experiment Station, became professor of bacteriology and began work upon bovine tuberculosis. His investigations, demonstrations and discussions attracted the attention of Superintendent McKerrow and his assistants who further spread the information in the Institutes.



THE INSTITUTE MUSEUM

These little silo forms bear testimony to the early work of the Institute speakers upon silos. Would that these little forms could speak. What wordy battles they could relate, what witness they could bear to eyes anxious to look them over, what history they could relate of men whom they had benefited.

When the Extension Specialists and County Agents were added to the agricultural extension forces they joined in the educational effort. This was a long, tough fight but the continual discussion finally prepared Wisconsin educationally for the state-wide clean-up of this dread disease which is now going on under the direction of the Wisconsin Department of Agriculture and the United States Department of Agriculture. During Superintendent McKerrow's administration, Departments of Farmers' Institutes were set up in all the states and in Canada and at a Round-Up in Wisconsin to which he had invited the Superintendents of the other Departments of Farmers' Institutes, he advocated an annual conference and international organization of the Institute Workers for better perfecting the system of Institutes. This organization was perfected.

SUPERINTENDENT NORGORD'S ADMINISTRATION

In 1914, Superintendent McKerrow resigned and was succeeded by C. P. Norgord of the Department of Agronomy of the College of Agriculture. Superintendent Norgord was born and raised on a Vernon County farm and completed his educational training at the College of Agriculture. Before his appointment as Superintendent, Mr. Norgord had demonstrated his ability

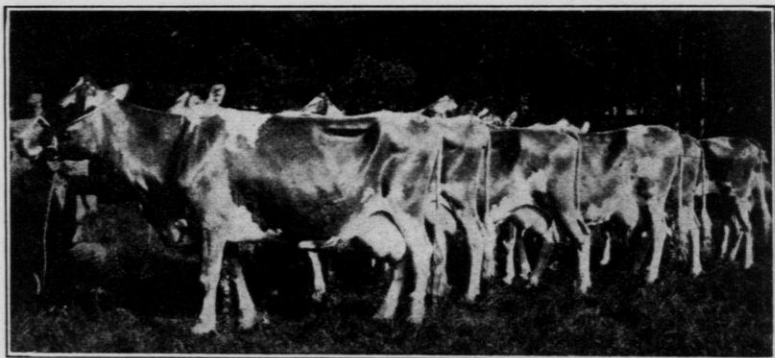
as an extension worker by organizing and carrying on field trials on County Asylum and Poor Farms and by holding summer demonstration meetings at which the results were presented. Superintendent Norgord was getting a good start at Institute work when he was appointed Commissioner of Agriculture in Wisconsin in 1915. His appointment to this new position was merited, due to his success as Superintendent of Farmers' Institutes.

SUPERINTENDENT LUTHER'S ADMINISTRATION

In October, 1915, the Regents of the University appointed E. L. Luther Superintendent of Farmers' Institutes. Mr. Luther was born in the woods of Michigan and assisted in clearing and developing a large fruit and general farm. He was a graduate of the Long Course at the College of Agriculture and served as first County Agent in Wisconsin, in Oneida County. At the time of his appointment as Superintendent of Institutes he was State Supervisor of County Agent Work and Superintendent of the Department of County Exhibits and Farm Crops at the State Fair.

The aim of Institute work in this administration, since 1915, has been to develop the idea of **producing for a market** and getting farmers ready to market their wares cooperatively.

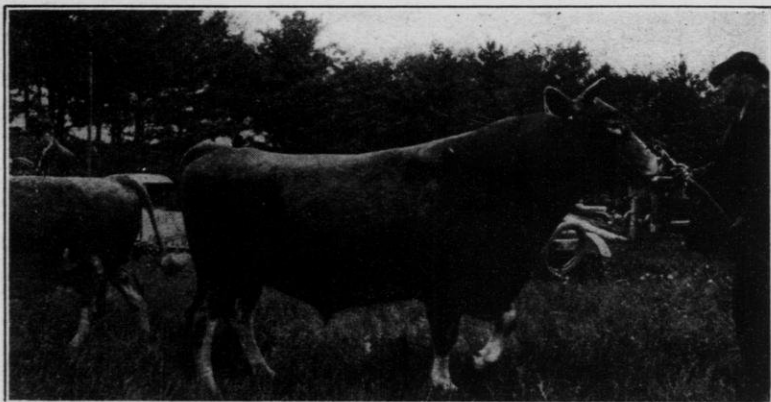
In dairy cattle work this has meant increasing pure bred dairy sires of the breeds in demand, feeding for growth and production, testing to develop good producing strains, eradication of diseases, especially bovine tuberculosis, and the organization of dairy cattle farmers into producing groups known as Neighborhood Breed Clubs for community production and marketing of dairy cattle.



THE CANTON GUERNSEY CLUB

The Neighborhood Guernsey Club at Canton, Barron County, held a field day in June, 1923. In the aged cow class, 32 cows were shown, some of which had been at the National Dairy Show. With some eight or nine other Guernsey Clubs and about a dozen Holstein Clubs do you wonder that Barron County is making wonderful progress in cattle breeding? The Neighborhood Breed Club is the way.

Wisconsin farmers sold 35,000 cattle of special dairy breeds to other states in 1921, 45,000 in 1922 and 55,000 in 1923 and these cattle went at prices far above what the breeders of native and scrub cows received at the stockyards, about the only place they can sell them. This is one evidence that producing for a market is the correct idea.



THE CANTON GUERNSEY CLUB

A splendid class of Guernsey sires was shown at the field day of the Canton Guernsey Club in June, 1923. Here is the champion. Neighborhood producing groups, such as the Canton Guernsey Club, pulling together and breeding with such sires as this and federated into county organizations for business purposes, conform to the essentials for marketing as worked out at the Marketing Conference at the College of Agriculture in 1921.

The main live stock adjuncts of dairy farming, swine and poultry, have been encouraged, the former through pastures and the latter through culling flocks and general care and organization for poultry and egg shipping. The farm income from swine has come to be second to that of dairying and the farm income from poultry is third and poultry raisers are getting in position to market cooperatively.

In 1915, clover was becoming such a doubtful crop that farmers were sowing timothy "to be sure of having a hay crop". Sorrel was rapidly appearing in pastures and hay fields. There were miles and miles of timothy fields and the producing dairy farmers were buying high priced concentrate feeds to go with the timothy. It appeared necessary to do something to assist the farmer to grow a high protein hay so as to cut the feed bill and lower the cost of producing milk, butter fat and dairy cattle. It was then not so apparent that lime was needed on dairy farm soils and the value of a high protein hay was not so generally recognized as now by dairy farmers. Alfalfa was grown where soil was limed but liming is a determined man's job. At that time it was generally impossible to get farmers to lime soil. So soybeans, a crop



THE COUNTY BOARD OF DIRECTORS

Under the Neighborhood Breed Club Plan, the president and secretary of each Neighborhood Club make up the County Board of Directors. As a rule each club selects two active farmers possessed of qualities for leadership as president and secretary. When two such men from each neighborhood organized come together to plan for county work for the breed, you will notice that they have a splendid County Board of Directors working for the breed in that county. No wonder that Barron, Clark, Marathon and Wood Counties are progressing rapidly in dairy cattle breeding and marketing.

of high protein value, carrying as much lime as red clover does, was hit upon as the crop to push. Soybeans have been discussed on practically all Institute programs since 1915 with splendid results and farmers who grow them are enthusiastic over having a dependable hay of high lime content, greatly relished by dairy cattle. **Soybeans cut feed bills.**

Alfalfa is of course the great hay crop. But Wisconsin conditions were as a rule not adapted to alfalfa growing. Alfalfa needs lime above all things and liming soil is so considerable an undertaking that men have got to be thoroughly convinced of the necessity and desirability of doing it. Again it has taken the trials and the investigations of a number of years at the Experiment Station to work out a system of growing and handling alfalfa to make it a dependable crop. The Experiment Station has done a great piece of work in this and if the farmer who really wants to grow alfalfa will follow the experience and suggestions of the Station carefully he will be reasonably sure of succeeding with alfalfa in Wisconsin. That work was not completed in 1915, but discussion of the desirability of liming soils was apparent and so

liming lime-hungry soils has been a subject on most Institute programs since 1915. It has been a long, hard, uphill piece of work, but the efficiency of a continuous educational program through a number of years is well shown by the grand results of the Institute season of 1923-1924.

The silo discussions have continued and a couple of silo campaigns have produced splendid results. To illustrate, one point alone will prove interesting: an Institute was held at Fall Creek in December, 1921. In 1922, some four or six silos were erected. Another Institute was held in December, 1922. Up to September 1, 1923, twenty-three silos had been erected. Another Institute was held in December, 1923. Since that time over thirty silos have been purchased by the farmers of that neighborhood.

The Institutes have actively aided the work started by the College of Agriculture which has made Wisconsin one of the best seed potato producing centers. Here again the matter of producing for a market has shown splendid results. The farmers who have studied and practiced the production of better potatoes have realized profitable prices for their potatoes. Even in 1923, when the price of potatoes was away down, Oneida County farmers who had been getting ready since 1912, shipped over one hundred cars of one pure bred, disease-free variety to one market, at prices which paid them well and since they produce around 180 to 200 bushels to the acre you can at once see what producing something **for a market** means. Just now the certified potato-growers feel ready to organize a cooperative marketing association because they are coming to have a large volume of standard potatoes. Farmers who continue to produce a heterogeneous, mixed, poor and unstandardized crop of potatoes are about in the position of the farmers who still use native bulls. They must take what the ordinary market will pay, which as a rule has not been much of late.

That all activities which go to make up the farm effort might be sure to receive attention, the Farmers' Institutes have supported Boys' and Girls' Clubs and the extension activities which would be of interest to women, the real home-makers of Wisconsin.

To assist those who farm light soils, whose problems are perhaps as many and as special as fall to the lot of farmers in general, a special Light Soils-Live Stock Institute was arranged. For the last eight years this form of Institute has been of large service to light soils farmers.

MARKETING FARM PRODUCTS

For twenty years cooperation and marketing discussions have appeared on Institute programs and during the past eight years almost all Institutes have dealt with the subject in two forms: first, the organization of agricultural production; and second, the marketing of the products.

Farmers' Institute Bulletin, Numbers 31 and 32, have dealt with the "Organization of Agricultural Production" and Number 33 dealt with the "Marketing of Farm Crops". Number 34, on "Neighborhood Breed Clubs", sets forth a form of organization for producing dairy cattle which embodies the principles of successful cooperative merchandising; namely, small local producing units federated into a larger concentrating and marketing organization.

During the last two Institute seasons, the marketing discussions have centered around information concerning the workings of the Wisconsin Cheese Producers' Federation and the Wisconsin Cooperative Creameries' Association and the equally essential proposition of farm cost accounting. These two great associations are farmers' cooperative going concerns and as such ought to be known about by dairy farmers all over the state. Since these discussions have started, several new units have been added to each association.



ALFALFA IN SAUK COUNTY

In Sauk County where it was so dry in 1923 that most everything was brown and dried up, this splendid nine year old alfalfa field on the farm of G. W. Hass of Loganville made the owner cheerful. Can you beat it?

The Institutes have assisted the tobacco pool, the wool growers' pool, the certified seed potato growers' pool, poultry shipping associations, egg shipping circles, and have assisted in the organization of cooperative creameries and cheese factories.

Sound information constructively stated and spread makes Farmers' Institutes the substantial educational centers for busy and progressive farmers. GIVEN CORRECT, UNBIASED INFORMATION, people as a rule have solid foundation for decisions, usually make right decisions and come through to sure success. Marketing, the business side of farming, can only succeed when conducted on sound principles well understood.

Space does not permit going into detail upon all phases of farming which have been discussed. But no matter what the problem affecting agriculture, it has received attention in Institute discussions. The letter and the spirit of the statute of Hiram Smith and C. E. Estabrook, setting up Farmers' In-

stitutes, have been carried out. The scientific findings of the men and women of the Experiment Station and the experience of practical farmers have been the sure foundation of Institute work.

The Institutes continue to be in strong demand. More Institutes are petitioned for each year than can be supplied. Attendance and interest are good. When agricultural leaders want to get something going in their communities to improve agriculture they usually turn to a Farmers' Institute.

SO WE COME TO 1924

How Do We Stand?

Farms	189,295
Dairy cows	2,217,000
Pounds of milk produced	9,075,000,000
Pounds of butter produced	138,693,000
Pounds of cheese produced	298,733,000
Creameries	667
Cheese factories	2,807
Condenseries	72
Silos	100,060
Cow testing associations	166
Farms in cow testing associations	5,000
Cows in cow testing associations	67,000
Dairy cattle sold in 1923.....	55,000
Clover (acres)—700,000 gross return per acre	\$30
Alfalfa (acres) (successful)—100,000 gross return per acre	\$50
Red clover and sweet clover pastures—some	
Soybeans (acres)—30,000	

The Wisconsin Cheese Producers' Federation

5,000 farmers, 200 factories, exerting some measure of control upon quality production and marketing of 25,000,000 pounds of cheese.

The Wisconsin Cooperative Creameries' Association

exerting some measure of control upon quality production and marketing of 25,000,000 pounds of butter.

Wisconsin's agriculture stood the shock of the great war. Wisconsin did not go from one kind of agriculture to another to meet war conditions and it is a matter of common report that Wisconsin has felt the post war depression as little as has any state. The great evidence of the success of Wisconsin's agriculture is the fact that every state in the Union but one came to Wisconsin in 1923 to get dairy cattle so that they can in some measure do like Wisconsin. This argues well for the system of farming begun in 1870 and which thoughtful farmers, the College of Agriculture and the Institutes have been continuously advocating.

THE DRAWBACKS

Yes, Wisconsin has them; and they are making it hard for Wisconsin farmers. In considerable measure the drawbacks fall upon those who have not lived up to teaching such as advocated in the Institutes. They are as follows:

1. Lime exhaustion of cultivated lands, which has resulted in
 - a. Red clover failure
 - b. Consequent dependence upon timothy and oats
 - c. Sods becoming thinner
 - d. Depletion of soil humus
 - e. The appearance of sorrel, moss and other weeds in crops and pastures
 - f. Low water holding capacity of soils
2. 2,000,000 acres of timothy
2,600,000 acres of oats
returning scarcely more than \$15 an acre gross
low acre returns
3. Poor, unprofitable summer pastures
low acre returns
4. An annual feed bill approximating \$25,000,000 with a great many cows underfed at that
5. 125,000 farms still without silos
low acre returns on these farms
6. 195,000 farms still not testing cows
low acre returns on these farms
2,133,000 cows still untested
low acre returns where these cows are
7. 1,100,000 native and scrub cows for which the owners can not get more than \$30 a head on the average; low acre returns from these cows
8. 120,000,000 pounds of butter upon which there is little or no measure of control in quality production and marketing exerted by farmers
9. 275,000,000 pounds of cheese upon which there is little or no measure of control in quality production and marketing exerted by farmers
10. The farmer a producer with little or no thought upon market demands or lowering cost of production
11. Denudation of woodlands and soil erosion calling for a more general and "farmer" forestry policy

Remedying these agricultural drawbacks will be the appropriate field and the predominating enterprise of Farmers' Institutes as the drawbacks of agriculture in Wisconsin in 1885 were the inspiration and field of Farmers' Institutes in that day.

Lime Exhaustion

In 1870, the soil phosphorus exhaustion was telling on the wheat crop. The chinch bug and the hard times did the rest. Low acre returns could not keep wheat farming going in Wisconsin.

By 1915, soil lime exhaustion told on the clover crop so severely that resort

was made to timothy and oats; but the low acre returns of timothy and oats are as hard on farming now as the low acre returns of wheat were hard on farming in Wisconsin in the hard times of 1870-1873.

On top of low acre returns for timothy and oats are feed bills which are enormous. **How does dairying stand up under the double strain?**

In 1870, farmers began to turn to dairying. Dairying, with its accompanying buying of such feeds as oil meal and bran, has kept up the soil phosphorus supply in a measure but purchased feeds have not kept up the lime supply as there is little lime in oil meal, bran and other concentrates. With the soil lime exhaustion and resort to short rooted crops like timothy and grains, our sods have become thinner, with the result that we have not kept up our soil humus supply, thereby reducing the water-holding and retaining capacity of the soil. This has meant a further stunting of field crops so that weeds have had a better chance to grow with the result that acid tolerant plants like sorrel and other weeds are found in the hay fields and pastures. Weeds are not salable crops nor are they edible crops for stock kept on the farm.

Sorrel

Anyone who traveled through the country this last spring, 1924, and was at all observing was impressed with the large patches of red sorrel which he saw ungrazed in cow pastures. Some pastures were almost totally occupied by sorrel. At least fifty per cent of other pastures were occupied by sorrel. A great many timothy meadows were seen with large spots of red sorrel in them. Unless such fields are soon limed and made suitable for a good legume crop, they will be entire losses. Farms can not prosper on the sorrel crop as there is no market for it. As men in the past have not been able to "gather grapes of thorns or figs of thistles", so in our time cows are not going to get milk from sorrel. The situation is the more alarming for a great many people pay no heed to this new menace and a lot of people who have come to notice it do not know what the plant is, what causes it or what dire results the soil condition which makes it possible has in store for the unheeding. Soil lime exhaustion gives sorrel its opportunity and sorrel is quick to accept.

So we have got to get back that lime. It can not be done by any indirect process now known of, as phosphorus was returned through the indirect process of buying feeds. Unconsciously phosphorus is returned to the fields of farms which buy high-protein feeds; **BUT LIME MUST BE DRAWN ONTO THE FIELDS DIRECTLY.** It must be a conscious act of farmers. There is no use putting it off and just taking a chance "once more" another year.

Taking Another Chance: The Clover Seed Tax

At one of the Institutes in March, in a county where 56,500 acres of oats were sown and where about eight pounds of clover seed are as a rule sown to the acre in the oats, it was figured that at twenty-six and one-half cents a pound, what the price was then, the clover seed bill was \$119,782 in 1923. Then the farmers present were asked what they got back for this money.

None reported anything. The clover had all "burned out", an entire loss of \$119,782.

The clover crop has been almost a state-wide failure three or four times since 1915. Yet farmers keep on "taking another chance". It is the customary thing to sow clover; but why continue this expensive custom?

\$119,782 is a tremendous tax for nothing. It would go a long way in liming those oat acres at \$3 a ton for lime.

On May 1, a farmer in Pierce County said he seeded one hundred twenty-five acres to clover in 1923 and there was no clover there now. Figure his loss in dollars and cents. Probably \$250 for seed alone. Then the loss of time in seeding the clover and the loss of the feed which he planned on. Some tax, we'll say. Now he's joined the County Agent's lime and alfalfa campaign in which 24,000 pounds of certified Grimm alfalfa seed will be sown. For the alfalfa sowings in 1923 in Pierce County then looked fine. Lime and alfalfa are pretty sure to save the clover seed tax.

Timothy and Oats

With lime exhaustion came clover failures. Alfalfa "turned yellow" and died. But timothy and oats would still produce something, though nothing like the yields before lime exhaustion came. So we sow timothy and oats. One year with another we realize little more than \$15 gross returns per acre from the timothy and oat acres and NEARLY 5,000,000 ACRES, ONE-FIFTH OF THE PLOW LAND OF WISCONSIN, is in timothy and oats!

This crop system makes for shallow sods, short pastures and a forage shortage. It is no unusual sight to see farmers drawing hay away from freight depots. On top of this we must not forget that if timothy hay is fed to dairy cows, every day's allowance of ten pounds calls for at least ten cents' worth of such feeds as oil meal and bran, PURCHASED FEEDS. It is a pretty sure guess that Wisconsin dairy farmers spend \$25,000,000 a year for purchased feeds and cows as a rule are scrimped at that. The timothy and oats combination means steadily decreasing acre returns. The times steadily make for mounting farm costs. Where is farming going "to get off at" if the timothy and oats combination is continued? IT MUST BE CHANGED.

Low acre yields of low-feeding-value crops are staring us right in the face. These are making production costs run so high that it takes the profit out of dairying. LIME is one remedy. Liming fields is going to be our first and most important step in the next half-century of Wisconsin's agriculture. So the Institutes will discuss the scientific and practical points in liming soils and the Institute workers will carry Truog testers to test soil samples for farmers at Institutes or advise farmers to have the County Agents or College of Agriculture test soil samples.

Alfalfa

What shall we sow on the limed fields? We should seed to a high-producing crop of high feeding value which will give us lots of deep roots and thick sod. Red clover used to be a winner when the soil was new and full of water-holding humus, but it is a slow-growing plant and when the hot sun strikes on soil that



PETER THE SECOND

Peter Lewis Swartz, son of Peter C. Swartz, and nephew of Jayson Swartz, joint owners of Cornalfalfa Farms, in a field of beautiful alfalfa all in bloom on July Fourth, 1923. Peter C. is the man you have heard talk alfalfa at the Institutes. If the Institutes had performed no other service than the inspiring discussion of this practical farmer on alfalfa the Institutes would have repaid Wisconsin for its investment in them.

lacks humus and there is not a large water supply, the water that is there is drawn out of the soil faster than the roots of the clover can get on down to moisture. So the clover withers up and actually burns out.

County Agent Sand of Juneau County had 44 clover trials on limed land scattered over that county in the summer of 1923. It was a very dry summer. In 42 of the 44 trials the clover burned out.

But alfalfa is a deep-rooting plant that gets right onto the job and hustles. The lime which has been applied to the top of the soil gives it food which it requires. Its roots start right down and keep ahead of the drying out of the soil. County Agent Sand had 56 trials with alfalfa on limed land; 54 of these trials came through and were successful. The alfalfa did not burn out. Trials similar to those of County Agent Sand are to be observed any hot dry summer most anywhere in Wisconsin.

So the Institutes are going to advocate sowing alfalfa on limed soils and putting farm acres in condition to grow dependable legume crops. This means more than liming a few acres in the corner of the farm on which to grow alfalfa. The treatment which we apply to grow alfalfa will make most fields more profitable with other crops. This will result in rotations which will fill the soil with roots and rootlets, make for thick sods, reincorporate vegetable matter in the soil, and restore soil humus and soil water-holding capacity. The farmer who sets out on this program and makes his soil suitable for growing dependable legumes in a regular rotation is the man who is going to be the successful farmer, the style of farmer of the next half century.

A great start was made with this program in the Institute year of 1923-1924. As nearly as results can be determined from reports of the Institute speakers, farmers signed up at the Institutes during the past season for 1,000 cars of lime. At the rate of two tons to the acre this would cover 15,000 acres at least. As this lime for the most part was used in small trials of one-half acre to two acres each, with alfalfa, it means that in each of the sixty-five counties from which we get the most of our reports some 200 acres were sown with alfalfa on somewhere around fifty farms. Thus you see it is a big demonstration and will afford farmers plenty of opportunity to "look over the fence" to see what liming land will do.

Allowing \$20 per ton for alfalfa hay on 15,000 acres at a yield of two tons to the acre, it may be stated confidently that this season's Institute campaign for alfalfa will bring the farmers who sowed this alfalfa a profit of at least \$200,000 in 1925 over what timothy on those acres would have brought them, after deducting the cost of lime and seed, and the alfalfa fields will last some years longer with little or no extra expense. This alfalfa campaign has paid for the Institutes for ten years.

Lime rock crushers have already gone into some eight or ten communities since the Institutes were held this last winter and the Institutes stimulated the discovery of a number of marl beds and lakes.

Alfalfa Inoculation

Another line upon the success of the past season of Institute and Agricultural Extension work may be had from the fact that the orders upon the College for inoculating material were so many that about thirty people were required by

the Bacteriology Department each day, working in three shifts of eight hours each, to fill the orders. Around 4,000 bottles were sent out each day for several days and one day the high water mark was 6,000 bottles. Nothing like this was ever known before.

Poor Pastures

Another losing dairy proposition to complicate the farm difficulties of these troublous times is the pasture problem. Soil lime exhaustion here repeats the story of the timothy hay fields. The clover pastures are no more on many farms. So June grass is the pasture and it is a wonderful pasture while it lasts. It will do pretty well on acid soils in the months of May and June; but in July and August, one-third of the pasture period of each year, these pastures are not fields where cattle can eat and produce, but are simply places for the cattle to stay and starve. Then the dairy business stops. How does dairy farming manage to carry this third serious drawback? A manufacturing establishment or place of business could hardly survive the loss of one-third of the working time.

PASTURES

Pastures on acid soil on lime exhausted land, pastures that are full of sorrel and other weeds which cows will not eat, pastures on thin sods and on soil that dries out quickly, pastures that are burned out and brown in July and August, one-third of the usable time each year, do not pay; pastures that only produce milk in May and June when milk and dairy products are cheapest and bring least money are low in acre returns and are not profitable. They will hardly pay the taxes on the land. We must get away from such pastures right early in this new half-century.

A Possible Solution

This pasture loss can probably be remedied. Some farmers in Wisconsin are realizing splendid results from sweet clover pastures; but sweet clover can only be grown by supplying lime where the soil is sour.

The liming process must not stop with simply liming a few acres on the farm for alfalfa. We are going to lime some land and prepare it for a trial seeding of sweet clover seed in spring grain for pasture.

Sweet clover where successful makes a wonderful pasture. It comes early, is a rapid grower, has a good root system, restores humus and nitrogen to the soil and will carry more cattle to the acre than any other pasture plant. It is there in dry weather and furnishes food for milk production when milk is scarce. So farmers who succeed with sweet clover for pasture will have milk when milk is scarce and high in price, will keep their stock in better condition and will very much increase acre returns.

SWEET CLOVER PASTURE

In 1922, H. W. Smith of Bear Creek, Wisconsin, seeded six acres to biennial white sweet clover.

On May 10, 1923, Mr. Smith turned 14 cows, 6 young stock and 3 horses onto this pasture and kept them on it until August 10.

Thirteen of the cows produced \$252 a month while on the pasture.

Mr. Smith also fed these 13 cows five pounds each of a grain mixture of corn and oats. He believes in feeding grain to producing cows the year around.

The summer of 1923 was a period of severe drought; but Mr. Smith got high production of milk during this time, which meant low cost of production and high acre returns.

An authority who has had considerable experience says that a successful practice in some parts of the country is to seed biennial white sweet clover in early peas. Along in August the sweet clover will afford considerable pasture and the next season the pasture will be excellent.

The same authority says that seedings of sweet clover to plow down have most anything else beaten for soil improvement purposes. This is also the opinion of Conrad Kruse, Farmers' Institute worker, who grows a legume on every acre of his farm every year and who has practically restored a run down farm to

wonderful fertility. But Mr. Kruse found that he had to lime land to get sweet clover to succeed.



SWEET CLOVER AS A SOIL IMPROVER

Conrad Kruse plows down crops like this for corn and potatoes. Do you wonder now that he renewed a worn out farm? This land was limed to grow the sweet clover.



SWEET CLOVER AND CROPS

While his neighbor across the way grew corn too poor to cut and left it standing in the field, Conrad Kruse of Loganville was enjoying this fine crop of immense shocks of Golden Glow corn. Conrad sells splendid Golden Glow seed corn. But notice the ground covered with a seeding of sweet clover, alfalfa and vetch. This land was limed. Conrad limes all his fields.

Consequently, in canning sections in Wisconsin where the soil is sour, the growers **should lime the pea ground** if they want to get sweet clover for pasture or for plowing down. **Don't forget that.**

The same authority also says that farmers get onto June grass pastures in some sections of the country in the very early spring, disc and "mud in" sweet clover seed and get good results. **But that is on a loam soil having plenty of lime.** In Wisconsin in most places June grass pastures should be limed before they are disced and before sweet clover is "mudded in". Heavy clay soils should probably not be worked by the "mudding in" process as clay "puddles" and bakes when worked while wet.

It would seem that farmers in Wisconsin might lime some of our old worn out river bluff pastures and then get on them early in the spring with spring tooth harrows and "mud in" sweet clover seed.

It looks good. Won't somebody try it?

Caution

But unless care is taken efforts at getting sweet clover pasture will prove failures. So we have called on our good friend Professor R. A. Moore of the College of Agriculture to help with some hints and cautions and these will be found on a page further along. Be sure to read what Professor Moore has written before sowing sweet clover.

Cattle must be confined on a field entirely devoted to sweet clover or they will not eat it at first; after they become used to it, they like it. So to begin with as a trial, a small field which can be fenced off should be taken. Don't experiment on too large a scale. Learn on a small field how to grow the crop and about how many cattle to turn upon it to keep it down. If it gets the start of the cattle and shoots up it will prove not to be a pasture.

Soybeans, the Dairyman's Wonder Crop

And finally, while we are waiting for our alfalfa hay fields and our sweet clover pastures, and now and then when some unforeseen misfortune befalls these two great crops, we are going to remember the always sure and dependable SOYBEANS, THE DAIRYMAN'S WONDER CROP. The Ito Sans, the Manchus, the Black Eyebrows or the Mid Wests,—any of these varieties will do well on the average Wisconsin farm.

Alfalfa, sweet clover pastures and soybeans, instead of timothy and June grass, will bring up our acre returns and keep down a considerable part of that \$25,000,000 feed bill, pay the taxes, make farming pay and a business the envy of all other businesses.

This is the dairy crop improvement work for Farmers' Institutes.

Farms Without Silos

100,060 silos in Wisconsin! But that does not mean silos on 100,060 farms, for lots of farms in Wisconsin have two silos and some have several more. So it is a conservative estimate that there are 125,000 farms still without silos. Last winter in a drive out to an Institute in a pronounced dairy cow section, a distance of eight miles, a count showed only one farm in every three having a silo. The dreams of Hiram Smith and C. E. Estabrook, of W. A. Henry and

F. H. King are far from true yet. In the last nine years we have nearly doubled the number of silos in Wisconsin; yet over one-half of the farms are still without silos. And there is scarcely a silo owner who keeps track of his feeding but will agree that a silo saves from five to ten cents a day on the ration of every dairy animal kept on the place and one-third of the feeding value of the corn crop.

A lot of people are moving off from their farms where there are no silos and turning them over to renters. How can they expect renters to "make the grade" on high priced land without silos when they could not "make the grade" with the unearned increment of land in their pockets is hard to understand. Dairy agriculture can not "make the grade" without silos. Siloless farms mean low acre returns. The teachings of Henry and King, and of all the Institute men up to now are just as vital as they were in the days when there were no silos in Wisconsin. We must continue to preach silos and bring up the low acre returns on siloless farms.

Untested Cows

195,000 farms with 2,133,000 cows still untested! This means that a lot of cows are kept which do not pay the cost of their keep, either because they have low producing ability and are "boarder" cows, or because they are not properly fed. In the last three years, 7,534 cows have been sold as unprofitable cows by cow testing association members. Around twelve per cent of the cows, one in every eight, in cow testing associations, in which the members were getting EXACT INFORMATION on their cows, **were judged by their owners when reliably informed**, as cows too poor to keep. This means that men owning 2,133,000 untested cows are keeping at least 300,000 cows which they would not keep if they tested them. 300,000 low-returns cows, fed low-returns-per-acre crops and feeds purchased at high prices, mean low-returns-per-acre farms where these conditions exist. No other business would long remain out of bankruptcy if conducted under conditions comparable to low-acre-returns crops and untested cows. Only long days of constant toil will support such crops and cows.

A Wisconsin farm paper recently presented the case of a dairy farmer in another state who kept 36 cows and was not getting along very well for all of his hard work on that large herd. He finally concluded to test his cows and discovered that 18 of his cows returned a reasonable profit and that 18 just about lost for him what the other 18 gained. The paper also said that the market milk center to which he sent his milk was oversupplied, making the price of milk low. His unprofitable cows caused the glut. And that is about the situation in Wisconsin. Our 300,000 unprofitable cows supply high cost dairy products to low price markets which are oversupplied about to the extent of the product of these 300,000 cows.

On the other hand, 9,155 cows were sold by cow testing association members in the last three years to out-of-the-state buyers who have wanted good cows, at a price which averaged around \$35 per head more than could have been secured for untested grade cows, or \$320,000 more than had they not been tested.

Saving loss by getting rid of unprofitable cows and feeding good cows more economically and selling tested cows at good premiums will certainly help Wisconsin's agricultural condition in the next forty years. The Wisconsin Dairy-

men's Association which is sponsoring cow testing association work in Wisconsin would like to have 500 cow testing associations in Wisconsin by 1930. Let's help them reach that ideal. Farmers' Institutes must continue to preach cow testing. We must not sell high-acre-returns crops to low-acre-returns cows.

Grade Cattle in Placc of Scrubs

1,100,000 native and scrub cows now contribute to low-acre returns, because they have little market value beyond that for cutters and canners which may be \$30 a head. These must be replaced by grade cows, the offspring of pure bred dairy sires, for which there is a brisk market demand, at a general average of about \$90 a head.

Here again is the proposition of producing a particular product for a particular market which is willing to pay well for grade cattle. Buyers will not look at native and scrub cows. In the production of dairy cattle as in the production of any other article, quality and standard count, **QUALITY AND STANDARD COUNT**. We must get the growers of native cattle to grow grades.

The orderly processes of education such as come from Farmers' Institute discussions will avail. The preachment of the pure bred dairy sire and of the Neighborhood Breed Club as a means of cooperative effort in reaching the breeders of native and scrub cattle furnishes as great a need now for Farmers' Institutes as was offered in the days of Hiram Smith and C. E. Estabrook, and securing this transformation will be one means of steadying agriculture in Wisconsin and maintaining the agricultural leadership of the state.

Tuberculosis Clean-Up

Outside buyers also want to know that they are buying dairy cows and not consumptives. **Cattle affected with bovine tuberculosis won't go.** So we must preach the tuberculin test and accomplish the state-wide clean-up of this bad disease.

Well grown, pure bred and grade dairy cattle of good breed type, known to be good producers from being tested for milk and butter fat production, and clean of diseases, constitute standard cattle of quality. These will keep Wisconsin cattle in demand and high priced.

Cooperative Production and Marketing

The great mass of our dairy products, 120,000,000 pounds of butter and 275,000,000 pounds of cheese, is still produced more or less on the individual basis. Milk and cream are sold on a flat butter fat basis and few are rewarded for extra quality of these products. Little or no control upon production and marketing is exercised by those who produce this great mass of dairy products. The result is a large assortment of grades of butter and cheese, an unstandardized product which is marketed probably not the most economically.

A considerable number of dairy farmers are improving butter and cheese production and are marketing their product in a way to lower freight charges and are buying their factory supplies cooperatively, thus lowering production costs. These farmers are grouped in two great going cooperative organizations, the Wisconsin Cooperative Creameries' Association and the Wisconsin Cheese Producers' Federation. Each of these great cooperative dairy organizations exerts a

large measure of control over the production and marketing of about 25,000,000 pounds of product.

These organizations are following a course of procedure which appears to be well thought out and calculated to result in great advantage to the dairy farmers who choose to join them.

The Department of Farmers' Institutes considers the work of these two organizations of merit sufficient to warrant informing the dairy farmers who attend Institutes of the form of these organizations and the work they are trying to do.

Production is the foundation of marketing. Quality production facilitates marketing. Whether farmers market individually, direct to consumers or through the customary business channels, or collectively through cooperative organizations, **quality products standardized and branded so that consumers may be able to depend upon what they buy are going to bring the producer more money.** So it is up to the individual producer on each farm to improve his production. In the dairy business right now the greatest service that the Institutes can do is to inform individual producers of the necessity of producing cleaner milk and handling it with greater care. No system of marketing can succeed based upon the production of a poor product. Quality lumber can not be made from worm eaten or rotten logs; quality milk, butter, cheese or confections can not be made from milk which is carelessly made or handled in a way to increase the number of bacteria in it. **The largest single service which the dairy farmer can do for himself is to improve his milk product so that it will be clean and with a low bacteria count. This is the individual farmer's part in marketing dairy products.**

The next large step for him, one which will prove of large educational value to him, and which will prove of considerable financial worth to him, depending upon the thought and management which he puts into it, is the marketing of the product. It will not be all sunshine. There are losses in this as many who are now marketing will testify. These must be expected and taken gracefully. For the most part the product must be marketed cooperatively and far from the home farm. If the dairy farmer is not satisfied with the present system of marketing he must do it. He cannot expect some one else to do the work, take all of the losses and pass up all of the gains. It is a big job. It can be done. It will be the leading phase of dairy farming improvement in the next forty years. **And the success that will be enjoyed will come from sound, unbiased information arrived at by practical operators here and there or worked out at the Experiment Station and this information must have some such regular channel of reaching the people as was inspired by Hiram Smith and set up by C. E. Estabrook.**

Every day witnesses new creations, new arrangements, new successes, new failures. Information and knowledge must be kept up to date. Working on misinformation or knowledge which is out of date can only lead to difficulty and loss. The Institutes will discuss the work of any cooperative organization in Wisconsin which is endeavoring to produce an article of quality and market it with credit to its farmer members.

Let's find out the truth and apply it in the new forty years of agriculture in Wisconsin. As the establishment of dairying was the predominant feature of

agriculture in Wisconsin during the last forty years there is little question but that the cooperative marketing of dairy products along with liming soil will be the two outstanding agricultural enterprises during the next forty years.

Diversification

Dairying is our big agricultural business. It is our main source of farm income; but the total farm income is made up from sales of other things together with milk and its products. The second source of Wisconsin farm income is from swine and the third is from poultry. The average farm should not become too lopsided dairywise. Let us look after some side line sources of revenue as these make for balance and success.

A Farmer Forestry Policy

Wisconsin is an agricultural state. Farming is our big business. It is bound to lead in the competition for land. In time every foot of land that can be used for agricultural purposes will be used for farming.

Forests have got to compete with the progress of agriculture for the land. They never have been able to compete successfully and likely never will be able to do so. But land which is not used for agriculture or which can not be so used should be growing trees.

Wisconsin is all within an area where trees can be grown successfully and there is not a county in the state but has some land here and there that is non-agricultural. Much of this is suitable for forestry.

A few forest reserves away off somewhere are not a comprehensive policy as they do not bring forestry to very many of the people and reserves where all of the expenses of a large hired force of foresters must be paid for will add greatly to the tax budget of Wisconsin and we shall still have denuded bluffs, bald rocky hills, waterless streams and dry lakes.

A policy that will lead to the reforestation of our denuded bluffs and worn out lands, that will keep trees on waste places in populated areas, that will restore the wealth of beauty which can be Wisconsin's in all its parts, a policy that will become in large measure a farm proposition where it can be looked after with little expense (farms make effective fire lines), that is the policy that will restore trees to all of Wisconsin, get them within the enjoyment of all of our people, of rich and poor and those who have to work, and not simply of a few well-to-do and people who are on pleasure bent.

We have the educational machinery now to reach all of the people and an educational plan will gain the active support of our people.

There will probably be need of some legislation. The seedlings can be propagated in our present reserves. That there may be no competition between farm and forest but that the reforestation may be an agricultural proposition it should be linked up with farming all over Wisconsin before this beautiful state becomes as bare as Mesopotamia.

SWEET CLOVER

R. A. MOORE, Madison, Wisconsin

The Experiment Station is testing out several varieties of sweet clover. Until these experiments are completed, it is advised to use the common white blossomed biennial sweet clover for pasture. The yellow blossomed biennial sweet clover, being a finer stemmed plant, will probably make a better quality hay.

To be most successful with sweet clover, the seed bed should be prepared very carefully in the spring on land that has been plowed in the fall. Great care should be taken to pulverize the soil as sweet clover seed does not sprout readily in soils that are cloddy and not packed.

The soil in most parts of Wisconsin should be limed the same as for alfalfa after the land has been plowed and before sweet clover is seeded. This is important as sweet clover is a plant requiring a sweet soil and plenty of lime.

If the particular field has not had alfalfa or sweet clover on it before, the seed should be inoculated with the sweet clover germs which are the same as those for alfalfa. This is important.

About fifteen pounds of seed should be used per acre and sown with spring grains. If farmers are desirous of being sure of securing a good crop of sweet clover or a good sweet clover pasture, it will be well to sow only about a bushel of the grain for a nurse crop. This may allow the sweet clover to be pastured some the same fall.

The chief uses of sweet clover are for pasture, hay, silage, seed production, honey and as a green manure to plow down. Alfalfa makes such a fine hay that we are thinking of sweet clover mainly for pasture. No other plant comes on so fast in the spring or grows faster in hot, dry weather.

Live stock have to learn to like it as a rule; consequently, sweet clover pasture should be fenced so as to confine the stock upon it when it is about six inches tall. It may take a day or two to get the cattle accustomed to it, which they will do if they can not get onto pasture with which they are familiar. Each farmer will have to experiment a little to discover how many cattle per acre will keep it down. If it is not pastured down it will grow tall, hard and tough so that nothing can eat it.

It is a rather difficult crop to prepare for hay as it comes on early in June when the rainy season is usually on. It is a large stemmed, juicy plant and cures out slowly even with no rain. For this reason it may be run into the silo and used for summer feed in times of short pasture.

The first crop should be cut rather high before it is budded out. A stubble of six inches should be left. This will necessitate an attachment on the end of the cutter bar. The second crop comes from little knobs or swellings on the stubble. From three to five plants may come from a single stubble.

The second crop will be more dense than if seed is taken from the first crop and a great yield of seed will be realized. If seed is wanted the second crop may be cut with the ordinary grain harvester, the bundles bound and shocked. Use the regular clover huller for threshing out the seed. The clover huller will partially perform the work of "scarifying" the seed, that is, making little scratches in the hard seed coats. "Scarifying" seed is quite essential, as the hard seeds may fail to sprout.

Cautions

The chief reasons why sweet clover has not made more rapid progress are as follows

1. Farmers have found that it is harder to get a good stand of sweet clover than a catch of the other clovers. It seems fully as hard as getting a good stand of alfalfa, consequently the sowing of sweet clover has been attended by a large number of failures where conditions were not just right.

2. Sweet clover has not been able to compete from the quality standpoint or from the success attending its use as a hay forage with either the other clovers or alfalfa.

3. The sweet clovers used in our state, being biennials, do not fit properly into a four year rotation, which is usually followed by the larger percentage of farmers.

4. Unless it is sown in a natural limestone region where soils are amply supplied or if **sufficient lime is not put upon the soil** the sowing of sweet clover results in failure.

5. Owing to the fact that sweet clover is cut for hay at an early stage when the plant is so filled with moisture and also at a time of year when hay curing weather is not of the best, the practice is attended with a great deal of poor hay which, while eaten by farm animals, is not of the best quality and is sometimes attended by danger.

6. The seeds of sweet clover have a heavy, hard coat and sometimes the seed coats are so hard that the germ can not sprout. It is therefore wise to purchase sweet clover seed that has been "scarified", that is, the seed coats have been scratched by being run through a machine for the purpose. Ask for "scarified" sweet clover seed.



A WONDER FIELD

A second crop of alfalfa on the farm of L. P. Hanson, Mondovi, Wisconsin, July 26, 1923, when ordinary clover and timothy were all burned up.

ALFALFA IN THE LAND OF COWS

L. F. Graber, Madison, Wisconsin

Wisconsin farmers use an immense quantity of feed for dairy cattle. Why do dairy farmers haul so much feed, both mill feeds and hay, away from railway depots? This adds the cost of freight on the feed to the cost of producing milk, butter fat and dairy cattle on Wisconsin farms, and this increase in the cost of production surely cuts down farm profits. The answer is that farmers are growing hay crops of low producing ability and of low feed value or are depending upon hay crops which fail them. This trouble must be corrected and it looks now as if alfalfa is the solution.

**LOCAL LIME GRINDING**

Some 70 or 80 home lime grinders are turning out hundreds of tons of ground rock to put pep into alfalfa this spring. These are the machines which are mining the farmers' gold at lime rock outcrops.

**MINING "WHITE GOLD" IN ADAMS COUNTY**

Eleven teams can be counted in this picture. As many as sixty teams have been counted here at one time. They are drawing away marl to make light soil bloom with alfalfa.

Alfalfa Scarce in the Land of Cows

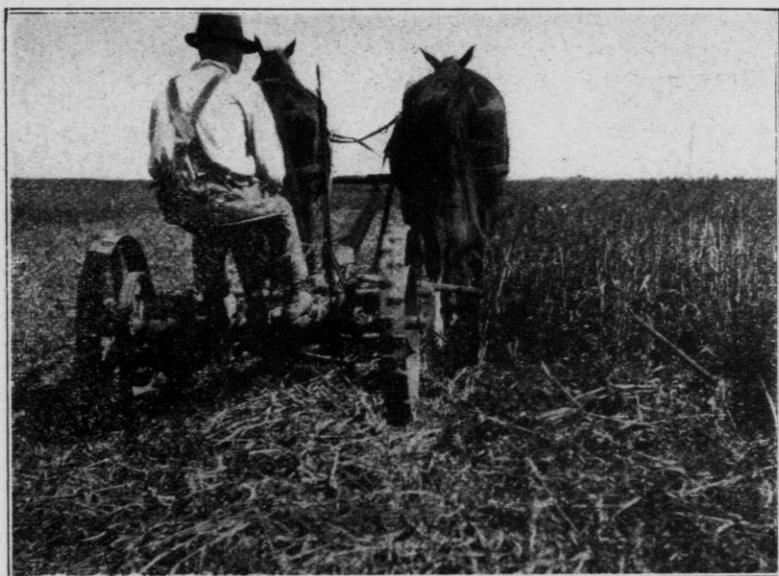
George Fitch once wrote that "alfalfa is the best known breakfast food for cattle" and he further stated that it "possesses a flavor that makes the most blase cow brighten up and pass her plate for more". George Fitch surely knew the right way to a cow's stomach—the alfalfa way. But Wisconsin farmers—in fact all farmers in the states bordering and east of the Mississippi—would have a tough job right now, (April, 1924), if their cows and their cattle began passing their plates for more alfalfa. Why? Well, because alfalfa hay is a scarce article on most farms in the land of dairy cows and cattle. Of course, it can be bought and shipped in from the West but for this alfalfa hay there's a long price to pay. If the two and a quarter million dairy cows of Wisconsin declared a strike until that time when their plates would be kept full of alfalfa hay it would cause some consternation. It would require the purchase of a total of 3,000,000



THE OLD STORY

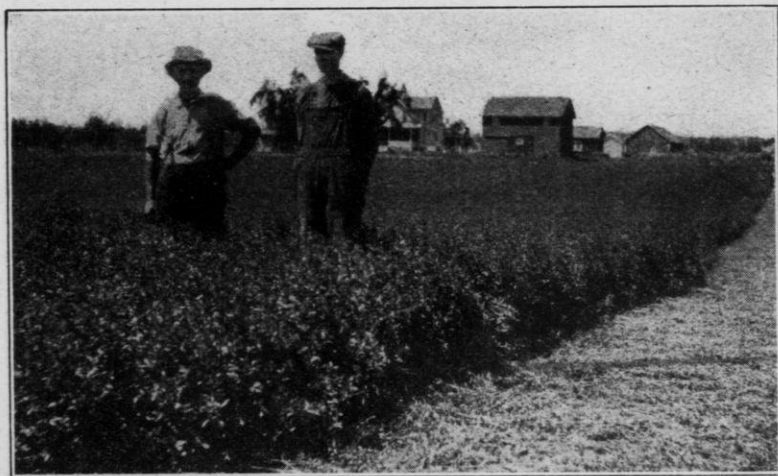
Alfalfa grows where clover fails. This is J. J. Soik's field in Portage County, on sandy soil which had been limed and sown, a part to clover and a part to alfalfa. The hot summer drought "burned out" the shallow rooted clover but the deep rooted alfalfa came through. This is only one of innumerable instances of the same kind. Lime the land and sow alfalfa.

tons of alfalfa hay for the six months' fall and winter feeding period. This at most conservative prices would cost fully \$60,000,000. To grow sufficient alfalfa to supply daily helpings for a six months' period to Wisconsin's dairy cattle, would require over one million acres. Last year we cut 155,000 acres of alfalfa hay in Wisconsin and that was all. But alfalfa is coming thick and fast. Never has there been so much demand for the alfalfa information which the Experiment Station and the Alfalfa Order have discovered and assembled for the past fifteen years as there has been this past season. The Farmers' Institutes, the extension forces, the County Agents, the Alfalfa Association and other agencies have cooperated in spreading these alfalfa facts. Wisconsin has sown this year the largest alfalfa acreage known in the history of the state. Nothing could be more fitting than this splendid means of eliminating the heavy drain on farm profits occasioned by the feed bill required to maintain our live stock and to aid in bringing back better times.



GETTING RID OF CANADAS

Cutting the nurse crop full of Canadas to give the young alfalfa a good strong start to kill the Canadas.



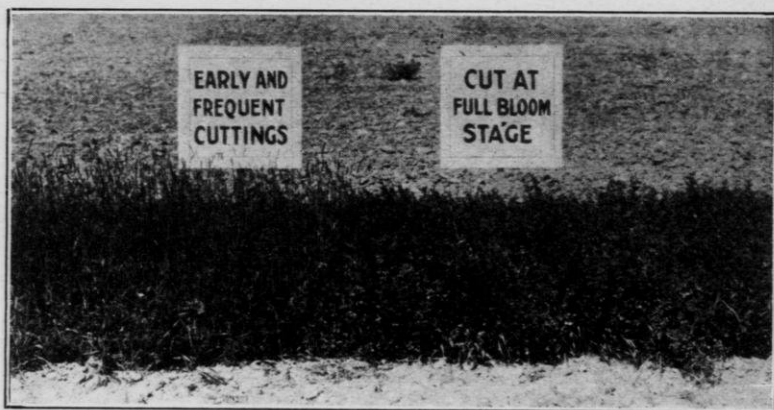
GOOD BYE CANADAS

This fifteen acres was a mass of Canada thistles but in three years alfalfa completely eradicated them and left it a field beautiful.

Let's Play Safe with Alfalfa

Now that Wisconsin is sowing the largest acreage of alfalfa in its history, let us play the game sure. Let us give alfalfa a square deal if we expect a square deal in return. To those who have never tried alfalfa, to those who have carelessly tried and failed with alfalfa, the following suggestions may well be considered: the first step is to make our soil conditions right for alfalfa. This means well drained land, it means a reasonably rich soil or one made so with manure or fertilizer, it means inoculation, it means a well prepared seed bed, and the use of a corrugated roller on all loose soils, but above all it means **lime**.

It takes from 8 to 10 times as much lime to raise a season's crop of alfalfa as it does to produce the average crop of oats, barley, wheat, rye or timothy. Alfalfa must have lime and lots of it to grow. Many of our fields are lacking in lime and alfalfa fails to do well unless lime in some form is put on top of and worked into the plowed land before seeding.



TO KEEP OR KILL ALFALFA

Three cuttings made when the alfalfa was about eight inches high so weakened the plants at the left that a mass of foxtail and barnyard grass took possession of the soil. Immediately at the right where the alfalfa plants were cut only in full bloom, the alfalfa remained strong and kept the weeds in subjection.

Wisconsin surely has been blessed with numerous sources of the lime which alfalfa needs so badly. Perhaps no greater service has been rendered to help out the feed situation and to bring about better times than the grinding of lime at local quarries and the development of our marl beds.

It is not assumed that all fields need lime but by sending a one-half pound sample of soil taken from four or five average places in the surface of the field, to the Experiment Station at Madison, Wisconsin, or to your County Agent, it can be tested and its lime needs determined. If the test shows the need of lime, get the amount required per acre, and put it on the land after it is plowed.

Get the Nurse Crop Off Early

There are several ways to sow alfalfa, but one of the surest is to use a bushel of early spring grain an acre as a nurse crop. Cut this grain for hay just after it has headed out. **This is a splendid way to play safe on the matter of summer drought.** By cutting the grain early for hay, we save from 100 to 200 tons of water in every acre which would otherwise be used up during the ripening process of the grain. This moisture and the early removal of the grain crop gives the alfalfa an excellent chance to make a good deep root growth before the hot dry weather sets in. Alfalfa may be seeded successfully with canning peas, since they are taken off the land early. Other methods may be used, but late summer or fall seeding should be avoided in Wisconsin. For many places the mixture of two pounds of alsike and two pounds of timothy along with about 16 or 18 pounds of alfalfa seed an acre, makes a very desirable hay mixture.

<i>BUD STAGE</i> 3 CUTS	1.8 Tons
<i>TENTH BLOOM</i> 3 CUTS	3.2 Tons
<i>FULL BLOOM</i> 2 CUTS	3.5 Tons
<i>SEED STAGE</i> 2 CUTS	3.1 Tons

THREE YEAR CUTTING TRIAL

Average yields of weed free hay an acre with three varieties of alfalfa—Grimm, Turkestan and Kansas Common—cut at four stages.

To Make Alfalfa Last -

To those who have good stands of alfalfa and want them to last, do not overwork your alfalfa. Do not ride the willing horse to death. Two crops cut as near the full bloom stage as is possible without getting the hay too coarse will yield more hay over a period of years than three crops annually cut at earlier stages. Here are the results of a three year cutting trial. A good tall fall growth makes a splendid winter protection. It holds the snow and tends to hold ice sheets from forming close to the soil surface all of which helps make alfalfa last. Early and frequent cutting wears out alfalfa, exhausts the roots, weakens the top growth, permits ready entrance of blue grass and weeds and lowers the yields. Where a lasting stand is not desired, early and frequent cutting may be



RAPID GROWTH INCREASE FROM BUD TO FULL BLOOM STAGE

From the formation of flower buds until full blossoming occurs is a period of about three weeks, approximately from June 1 to June 21, during which time alfalfa may grow sufficiently to double its yields and builds down a larger, stronger root system which gets the plants ready for a rapidly growing second crop.

satisfactory, but for permanence the two crop system is becoming very popular. This cutting procedure together with the use of hardy strains of common alfalfa from such states as the Dakotas, Montana, Kansas and Nebraska, and especially the use of officially certified seed of such hardy varieties as the Grimm and Cossack, will aid very materially in solving our winterkilling and blue grass difficulties.

Note: If farmers would figure the cost of time, the extra horse for the harvester, the threshing bill and grain handling charge, they would see that the hay from the nurse crop cut early would as a rule bring in more net returns than the grain and straw from the threshed crop grown on the land seeded to alfalfa. In times of drought, let us cut the nurse crop early for hay and do all things as Professor Graber says to make alfalfa sure in the land of cows.—(Superintendent.)

WHAT ONE INSTITUTE DID

A Farmers' Institute was held at Princeton on February 21-22, 1924. H. W. Ullsperger, Light Soils Specialist of the College of Agriculture, who for the past ten or twelve years has been assigned to special research and extension work in the light soils areas of the state, and who for the past eight years has conducted Institutes for the Department of Farmers' Institutes in the light soils areas, was conductor of the Institute at Princeton. This Institute was in Green Lake County of which James Lacey is County Agent and who, with the assistance of Mr. Ullsperger, has been developing the marl beds and lakes of that county.



THE MONTELLO WAY

Setting the slusher in dredging marl in the simplest and cheapest way yet devised.



THE MONTELLO WAY

Just after the start. By raising and lowering the crossbar the slusher can be well loaded.

Now, there was no Institute at Montello and there had not been one for a long time. So when this Institute was placed at Princeton and news of it reached Montello, two farmers of the Montello neighborhood who were desirous of getting in on any new ideas which would help them in these times strenuous for farmers, Emil Hein and Alonzo Cartwright, concluded to attend that Institute, which was twelve miles from Montello. They went and heard Ullsperger tell about marl, marl beds, marl lakes and alfalfa, and also heard what Lacey was doing to develop the **white gold** resources of Green Lake County. They were inspired.

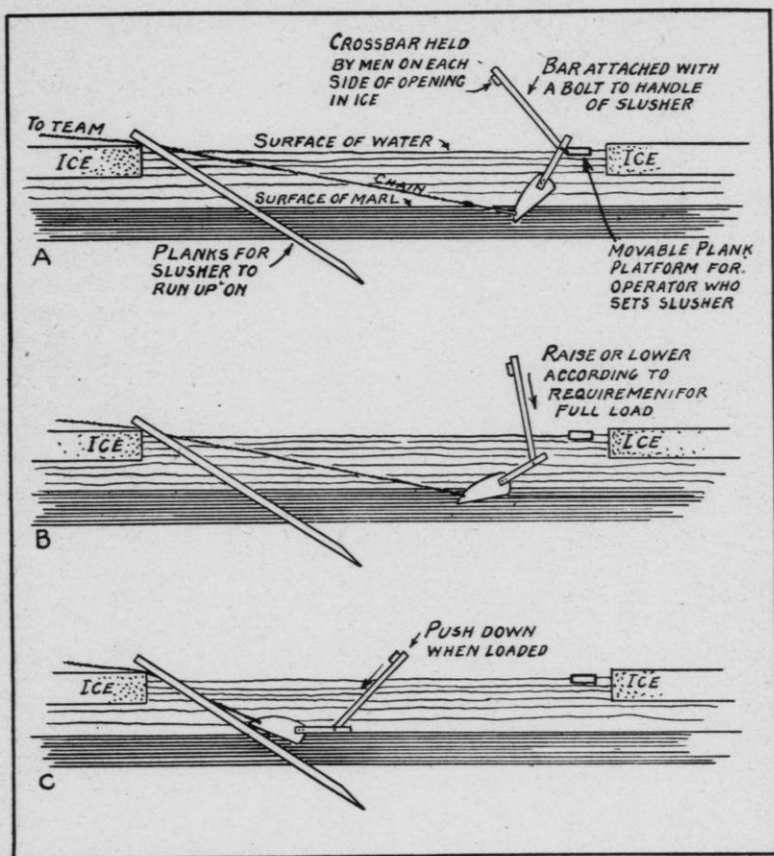
Hein and Cartwright had seen the marl which reached far out into Reardon's Lake and with Reardon went to prospect. They cut holes through the ice. There it was, the **white gold**, just under the ice, so near that they could reach it with their hands.



THE MONTELLO WAY

Shoveling the "white gold" into the sleigh box. This cut shows the simplest nature of the contrivance with the exception of the slanting planks up which the slusher rises in coming out of the water.

They left the lake and as they climbed the side of the basin they laid plans. Back they came with teams and shovels. They cut large holes and tried shovels but shovels wouldn't do. More plans. An old slusher, some extra handles hinged to the handle of the slusher, a cross bar for operators to handle, a long, rather wide, opening in the ice, planks driven in slantwise at one end of the opening for the slusher to run up on, and a team, and out came a slusher full of **white gold**! But in two or three draughts the slusher ran under the ends of the slanting planks and ripped them out. "If it were not for that, it would be a fast way for us to get marl out", said young Cartwright in explaining the process to a wayfarer. The wayfarer, becoming interested, went out and added his suggestion and the slusher no longer caught under the slanting planks. The contraption worked.



THE MONTELLO WAY

With these diagrams it will be easy for farmers who live in the vicinity of marl lakes to reach these deposits of "white gold". Where the marl is rather deep the standards attached to the slusher might be made of jointed gas pipe with a cross bar of gas pipe. **REMEMBER:** Don't set the slusher too close to the slanting planks upon which it is to run up with its load. Set it well back. Then it will not get caught under the planks and will work fine.

Loads and loads of a yard and a half each were soon going up the basin side out onto those hills and fields hungry for Lime, the Miracle Working Stuff. The plans laid on Reardon's Lake will be realized. In the summer they will go with their neighbors back to the fields to see what happens.

Thus the Institutes of Hiram Smith and C. E. Estabrook, thus the Ullspergers and the Laceys, the Heins and the Cartwrights, thus the neighbors in the Montello community, thus a changed and more remunerative agriculture.

That the simple machinery of Hein and Cartwright and Reardon may be adopted by all who may chance to read this little bulletin, it is here reproduced in cut and diagram.

Let's look into the lakes of Wisconsin. Let's prospect for marl. Let's get our contraptions ready and when cold winter again favors us with its rigors and its ice, let's go out on those lakes which we have spied out and get that marl, the farmer's **white gold**, which is Lime, the Miracle Working Stuff.

TO THE BOYS AND GIRLS OF WISCONSIN

As this Farmers' Institute Bulletin will find a place in all school libraries, the Superintendent thinks he should say a word to the school boys and girls of our splendid state.

The more we study the farm situation the more we feel that the farm drawbacks are in considerable measure due to what we do not know about farming. If you have carefully read the pages of this little bulletin you have discovered that the College of Agriculture and the Wisconsin Agricultural Experiment Station have done a great work in trying to find out the things to do which would most make farming successful.

But with all that has been done, we yet see lots of things which we must find out about to make farming successful and keep it up even with other industries.

Wisconsin agriculture will therefore need the services of your bright and well prepared minds. A lot of you ought to plan to continue your education in the College of Agriculture, for there will be need of you when you are ready. Write the College of Agriculture for the bulletins on the Long Course, the Short Course and the Home Economics Course of the College of Agriculture and plan to study agriculture or home economics.

—(Superintendent.)

THE INSTITUTE SPEAKERS OF 1923-1924

Institute Staff

W. C. Brill
 W. H. Clark
 C. H. Imig
 J. D. Imrie
 Emil Jacobson
 P. W. Jones
 E. L. Luther
 Roy McDonald
 George A. Nelson
 Robert J. Plenty
 R. C. Powers
 N. A. Rasmussen
 C. S. Ristow
 L. E. Scott
 Peter C. Swartz
 H. W. Ullsperger
 E. A. Umbreit
 Ray C. Walker
 W. Woodard
 Mary Brady
 Mildred Hagerty
 Mrs. C. E. Hatch
 Mrs. L. D. Hopkins
 Mrs. J. L. Miller
 Mrs. Delmar Nelson
 Mrs. B. E. Pontius
 Mrs. L. P. Whitehead

College Staff

H. W. Albertz
 J. W. Brann
 Howard J. Brant
 George M. Briggs
 Lucy A. Case
 C. B. Chapman
 A. O. Collentine
 E. J. Delwiche
 John S. Donald
 L. F. Graber
 J. B. Hayes
 A. W. Hopkins
 G. C. Humphrey
 James Johnson
 C. Kuehner
 F. B. Morrison
 Wakelin McNeel
 F. L. Musbach
 Theodore Macklin
 R. A. Moore
 J. G. Moore
 Reid F. Murray
 J. G. Milward
 G. B. Mortimer
 Griffith Richards
 W. A. Rowlands
 A. L. Stone
 John Swenehart
 R. E. Vaughan
 J. C. Walker
 A. H. Wright
 O. R. Zeasman
 and the COUNTY AGENTS

Other Representatives

Dr. F. F. Bowman
 Allen Carswell
 Dr. A. V. de Neveu
 Dr. V. A. Gudex
 Dr. Guy Henika
 Dr. A. J. Knilans

H. M. Lackie
 Mrs. A. L. Mattson
 E. A. Polley
 Milo K. Swanton
 William Walker
 Merton Wright

89044379030



b89044379030a

JUL 20 '78

JAN 1 '86

APR 3 1985

SEP 11 1985

LIBRARY
COLLEGE OF AGRICULTURE
UNIVERSITY OF WISCONSIN
MADISON

89044379030



b89044379030a