Proceedings of the twelfth annual meeting of the Southern Wisconsin Cheesemakers' and Diarymen's Association held at Monroe, Wisconsin, Thursday and Friday, February 1 and 2, 1912. 1912

Southern Wisconsin Cheesemakers' and Dairymen's Association
New Glarus, Wisconsin: Courier Press, 1912

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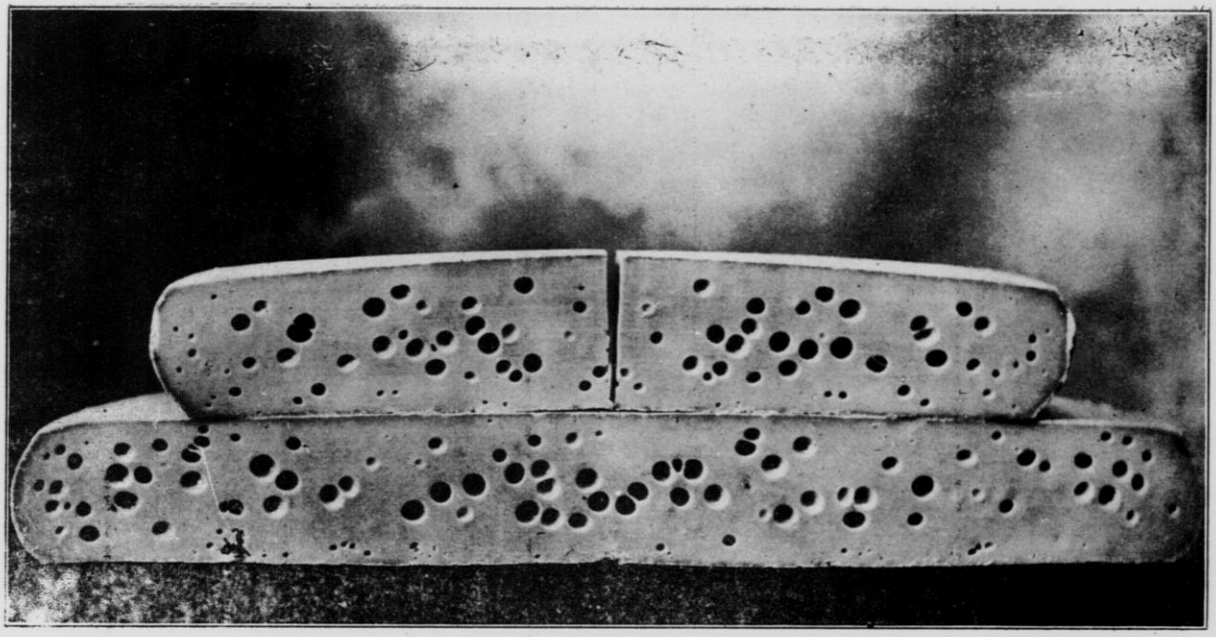


AN A1 SWISS CHEESE

PREFACE.

The Southern Wisconsin Cheesemaker's and Dairymens Association presents herewith the proceedings of their twelfth Annual Convention held at Monroe, Green, County, Feb. 1st and 2nd 1912.

The twelfth Convention was far superior to any of the foregoing. Not only that a much larger attendence prevailed, but a more progressive spirit ruled this convention in every detail. Every reader of this booklet should give the contents the most careful attention, because it contains a number of the very best papers ever brought before an assembly that works in the line of the improvement and betterment of the dairy industry. It is presented with the hope that it will stimulate the interests for the good work this association is striving for. Much has been accomplished, but there is still a large field to cultivate before the point of perfection is reached. Will you help the good cause?

MEMBERSHIP FOR 1912.

A

Atherton C. H. ..... Monroe, Wis.
Acherman Joe ..... Monroe, Wis.
Arn & Zimmerli ..... Monticello, Wis.
Arn Adolph ..... Monticello, Wis.
Abbuehl Jacob ..... Argyle, Wis.
Andrew James ..... Darlington, Wis.
Alexander C. B. ..... Chicago, Ill.

B.

Baumann Gottlieb ..... Verona, Wis.
Blickenstorfer John ..... South Wayne, Wis.
Blasing Wme. ..... Monroe, Wis.
Blumer Fred ..... Monroe, Wis.
Brown Henry ..... Monroe, Wis.
Bohren Albert ..... Darlington, Wis.
Bamford H. J. ..... Plymouth, Wis.
Baumgartner Jacob ..... Monroe, Wis.
Baer U. S. ..... Madison, Wis.
Ball Henry ..... Monroe, Wis.
Bennett W. F. ..... Chicago, Ill.
Burkhalter J. ..... Monroe, Wis.
Bruni Jacob ..... Riley, Wis.
Blumer M. ..... Darlington, Wis.
Bohen Mike ..... Hollandale, Wis.
Blumer Adam Sr. ..... Monroe, Wis.
Blumer Adam Jr. ..... Monroe, Wis.
Blumer Fred J. ..... Monroe, Wis.
Blumer Jacob C. ..... Monroe, Wis.
Burke Pet. ..... Monroe, Wis.
Bolender Fred ..... Monroe, Wis.
Becker & Share ..... Monroe, Wis.
Becker Dave ..... Monroe, Wis.
Bennet Dr. C. W. ..... Monroe, Wis.
Buckhalter Jacob ..... Monroe, Wis.

Benkert & Stauffacher ..... Monroe, Wis.
Boss Fred ..... Monroe, Wis.
Buehler Sam ..... Monroe, Wis.
Becker Wme. A. ..... Monroe, Wis.
Booth Chas. A. ..... Monroe, Wis.
Blum Werner Jr. ..... Monroe, Wis.
Bast Ray A. ..... Monroe, Wis.
Blum Sam ..... Monroe, Wis.
Blumer Fred ..... Route 3. Monticello, Wis.
Barlow C. L. ..... Monroe, Wis.
Botsford R. O. ..... Monroe, Wis.
Blumer Fred Farmer Street ..... Monroe, Wis.
Blickenstorfer John Route 1. .... South Wayne, Wis.
Baumgartner Wme. Route 3. ..... Monticello, Wis.
Barmore A. J. ..... Monroe, Wis.
Burkhart John ..... Monroe, Wis.
Botteron Alfred ..... Monticello, Wis.
Bank of Monticello ..... Monticello, Wis.
Burgy Jacob ..... Monticello, Wis.
Blaser Fritz ..... Argyle, Wis.

C.

Cassanova John ..... Monroe, Wis.
Carroll Ed. ..... Monroe, Wis.
Chambers Chas. L. ..... Monroe, Wis.
Caradine Dr. W. H. ..... Monroe, Wis.
Curran Thos. ..... Monroe, Wis.
Clayton W. D. ..... Monroe, Wis.
Clark Dr. R. B. ..... Monroe, Wis.
Chadwick Howard C. ..... Monroe, Wis.
Corson Frank C. ..... Monroe, Wis.
Chadwick W. W. ..... Monroe, Wis.
Carr George ..... Monroe, Wis.
Commercial & Savings Bank ..... Monroe, Wis.
Collentine John ..... Monroe, Wis.
Cornelius E. C. ..... Monroe, Wis.
Collentine Arthur Route 7. ..... Monroe, Wis.
Carter E. W. ..... Chicago, Ill.
Carewell F. E. ..... Richland Center, Wis.
Carver C. A. ..... Milwaukee, Wis.

D.

Dodge Chas. S. ..... Monroe, Wis.
Dodge A. C. ..... Monroe, Wis.
Dunwiddie John D. ..... Monroe, Wis.
Duerst Math C. ..... Monroe, Wis.
Dunwiddie Wme. ..... Monroe, Wis.
Discher & Schneider ..... Monroe, Wis.
Duerst J. H. ..... Monroe, Wis.
Dettwiler Fred ..... Monroe, Wis.
Dettwiler Arnold ..... Monroe, Wis.
Davis Austin ..... Monroe, Wis.
Dahler And. ..... Route 3 Argyle, Wis.
Dahler John ..... Route 3 Darlington, Wis.
Dahler M. ..... Route 5 Darlington, Wis.
Duescher Jacob ..... Route 5 Darlington, Wis.
Dibble Chas. A. ..... Milwaukee, Wis.
Davis Dallas E. ..... Route 4. Monroe. Wis.
Dow F. H. ..... Plymouth, Wis.
Dettweiler John ..... Route 4. Monroe, Wis.
Dallenbachs Gottfried ..... Monroe, Wis.

E.

Elmer John A. ..... Monroe, Wis.
Etter John T. ..... Monroe, Wis.
Elmer Henry ..... Monroe, Wis.
Elmer Alvin A. ..... Monroe, Wis.
Elmer John H. ..... Monroe, Wis.
Elmer John C. ..... Monroe, Wis.
Einbeck Chas. ..... Monroe, Wis.
Erwin George B. ..... Monroe, Wis.
Elmer I. U. ..... Monroe, Wis.
Ebersold Fritz ..... Argyle, Wis.
Esche Gottfried ..... Darlington, Wis.
Eaton George ..... Route 9. Monroe, Wis.
Emery J. Q. ..... Madison, Wis.
Elmer Jacob ..... Monroe, Wis.
Elston Walter ..... Chicago, Ill.

F.

Frey George ..... Monroe, Wis.
Fritz Dave ..... Monroe, Wis.

Fritsh John ..... Route 1. Clarno, Wis.
Fizgibbons Bros. ..... Monroe, Wis.
Fidler James ..... Monroe, Wis.
Faeser Fred ..... Monroe, Wis.
Faeser John A. ..... Monroe, Wis.
Fritsh John F. ..... Route 1. Clarno, Wis.
Frautschy J. S. ..... Clarno, Wis.
Friedly Robert ..... Clarno, Wis.
Frehner Carl ..... Argyle, Wis.
Frehner Conrad ..... Darlington, Wis.
Fankhauser Fritz ..... Mt. Horeb, Wis.
Frautschy C. W. ..... Monroe, Wis.
Fischer Wm. ..... Stitzer, Wis.
Freitag Bat. ..... Route 6. Monroe, Wis.

G.

Gettings M. C. ..... Monroe, Wis.
Green County Herold ..... Monroe, Wis.
Gerber & Knipschild ..... Monroe, Wis.
Gettings Wiles T. ..... Monroe, Wis.
Greenwald Sam R. ..... Monroe, Wis.
Geigel Math ..... Monroe, Wis.
Gloege Emil H. ..... Monroe, Wis.
Gnagi Doctor W. B. ..... Monroe Wis.
Gorham R. D. ..... Monroe, Wis.
Gifford A. B. ..... Monroe, Wis.
Galle Fred W. ..... Monroe, Wis
Galle S. & Co. ..... New York N. Y.
Gruble C. H. ..... Baraboo, Wis.
Grimm Fred Route 7 ..... Monroe, Wis.
Ginner Jos. Route 8 ..... Monroe, Wis.
Grinnell Jeff. ..... Route 3. Monroe, Wis.
Giesler Mike ..... Monticello, Wis.
Guse P. W. ..... Madison, Wis.
Gempeler Jacob ..... Monroe, Wis.
Gapen M. T. ..... Monroe, Wis.
Glauser Nick ..... Brodhead, Wis.
Gempeler Jacob ..... Argyle, Wis.
Hermann Ernst ..... Warren, Ill.
Hiltbrand John ..... Juda, Wis.

Hanley M. J. ..... Freeport, Ill.
Haehlen Jacob ..... Monroe, Wis.
Holt Conrad ..... Hollandale, Wis.
Hanson J. ..... Monroe, Wis.
Hall J. M. & Son ..... Monroe, Wis.
Huffman J. A. & Son ..... Monroe, Wis.
Hauser John T. ..... Monroe, Wis.
Higgins D. H. ..... Monroe, Wis.
Huffman E. A. ..... Monroe, Wis.
Hoesly & Grinnell ..... Monroe, Wis.
Herr Abe ..... Monroe, Wis.
Honeck Carl ..... Monroe, Wis.
Hefty Henry ..... Monroe, Wis.
Hoehn Henry ..... Monroe, Wis.
Huber Anton ..... Argyle, Wis.
Haverson Prof. J. B. ..... Monroe, Wis.
Holcomb R. T. ..... Monroe, Wis.
Hodges G. T. ..... Monroe, Wis.
Hodges Dr. T. L. ..... Monroe, Wis.
Haldemann Fred ..... Monroe, Wis.
Haldemann John ..... Monroe, Wis.
Huggler Ulrich ..... Monroe, Wis.
Heinzelmann Andrew ..... Monroe, Wis.
Harry Willie ..... Route 3. Argyle, Wis.
Herrmann Robert ..... Argyle, Wis.
Hart Chas. E. ..... Milwaukee, Wis.
Henn Wm. ..... Monroe, Wis.
Hickok O. G. ..... Harvard. Ill.
Harting Wme. ..... Monroe, Wis.
Hanson E. R. ..... Milwau:ee, Wis.
Habermann Henry ..... Route 9. Monroe, Wis.

I.

Ingold Fred Sr. ..... Monroe, Wis.
Ingold Eugene ..... Monroe, Wis.

J.

Jaberg Roy ..... Monroe, Wis.
Jaggie Fred ..... Darlington, Wis.
Jones F. E. ..... Chicago, Ill.
Jenny Peter ..... Belleville, Wis.

Johnson A. M. ..... Oregon, Wis.
Jeffary Felise ..... Route 9. Monroe, Wis.
Johnson E. W. ..... Chicago, Ill.
Jennings Janet ..... Monroe, Wis.

K.

Kundert J. B. ..... Monroe, Wis.
Kubly & Deininger ..... Monroe, Wis.
Koenig Christ ..... Clarno, Wis.
Kundert Bros. ..... Monroe, Wis.
Knight M. J. ..... Monroe, Wis.
Knight W. J. ..... Monroe, Wis.
Knipschild Bros. ..... Monroe, Wis.
Kohli Louis ..... Monroe, Wis.
Kohli Chas. ..... Monroe, Wis.
Kundert Hardware Co. ..... Monroe, Wis.
Krueger Sim. ..... Monroe, Wis.
Karlen Jacobs Sr. ..... Monroe, Wis.
Karlen Jacob Jr. ..... Monroe, Wis.
Karlen Gottlieb ..... Monroe, Wis.
Kaeser John ..... Monroe, Wis.
Kubly John P. ..... Monroe, Wis.
Kelly Will ..... Monroe, Wis.
Karlen John ..... Monroe, Wis.
Kennison J. R. ..... Monroe, Wis.
Kooreman George ..... Monticello, Wis.
Knobel F. B. ..... Monticello, Wis.
Kubli Abraham Jr. ..... Monticello, Wis.
Koller Anton ..... Argyle, Wis.
Klassy Josuah ..... Monroe, Wis.
Kubly Robert ..... Route 2. New Glarus, Wis.
Kessler A. G. ..... Chicago, Ill.
Kuenzi F. ..... Route 2. Darlington, Wis.
Koller Oswald ..... Brodhead, Wis.
Kundert Fritz ..... Brodhead, Wis.

L.

Luchsinger Frank ..... Monroe, Wis.
Lanz Fred ..... Monroe, Wis.
Lamboley F. C. ..... Monroe, Wis.
Lewis Andrew Hardware Co. ..... Monroe, Wis.

Lanz A. & Sons ..... Monroe, Wis.
Leiser Fred ..... Monroe, Wis.
Luchsinger Thomas ..... Monroe, Wis.
Ludlow Henry ..... Monroe, Wis.
Luchsinger John ..... Monroe, Wis.
Lamon Wme ..... Route 4. Monroe, Wis.
Ludlow Ed. ..... Monroe, Wis.
Ludlow Wme. ..... Monroe, Wis.
Losberger Gottlieb ..... Route 8. Monroe, Wis.
Lengacher John ..... Monticello, Wis.
Lehman Ernst ..... Darlington, Wis.
Lehnherr Jacobs ..... Monroe, Wis.
Lichtenwalder J. P. ..... Route 9. Clarno, Wis.
Legler Peter ..... Argyle, Wis.
Leizer Fred ..... Blanchardville, Wis.
Lengacher Fred ..... Monroe, Wis.
Lund Melvin ..... Hollandale, Wis.

M.

Marty George ..... Monroe, Wis.
Meyer Henry ..... Darlington, Wis.
Martina August ..... Monticello, Wis.
Musselman & Wyss ..... Monroe, Wis.
Monroe & Moore Drs. ..... Monroe, Wis.
Monroe Plumbing & Heating Co. .....Monroe, Wis.
Monroe Manufacturing Co. ..... Monroe, Wis.
Miller J. H. ..... Monroe, Wis.
Meythaler Bros. ..... Monroe, Wis.
Mauerman Dr. J. F. ..... Monroe, Wis.
Miller Walter A. ..... Monroe, Wis.
Moyer Dr. S. R. ..... Monroe, Wis.
Maeder Fritz ..... Monroe, Wis.
McGrath Wme. ..... Monroe, Wis.
Meythaler Chas. T. Sr. ..... Monroe, Wis.
McLauglslin Rev. N. E. ..... Monroe, Wis.
Monroe Electric Co. ..... Monroe, Wis.
Monroe Model Mill ..... Monroe, Wis.
Morse Calvin ..... Monroe, Wis.
Minder John ..... Browntown, Wis.
Meyer Fred ..... Route 3. Argyle, Wis.

Moritz John ..... Monticello, Wis.
Mindemann K. T. ..... Milwaukee, Wis.
Matter Otto ..... South Wayne, Wis.
Meier John ..... Monticello, Wis.
Marty Fred ..... Monroe, Wis.
Marschall A. J. ..... Madison, Wis.
Meier Adolf ..... Route 3. Monroe, Wis.
McManners H. S. ..... Madison, Wis.

N.

Neuenschwander Ed. ..... Monroe, Wis.
Neumann Dr. M. J. ..... Monroe, Wis.
Naef John ..... Argyle, Wis.
Nafzger Gottfried .. .. Monroe, Wis.
Neuenschwander Fred ..... Belleville, Wis.

O.

Odell Emery A. ..... Monroe, Wis.
Ortig Albert .... Argyle, Wis.
Oleson Wme. ..... Route 2. Browntown, Wis.
O'Conners John ..... Route 8. Monroe, Wis.

P.

Patterson & Nyman ..... Monroe, Wis.
Provision Company ..... Monroe, Wis.
Pietsch George ..... Monroe, Wis.
Patton T. P. ..... Juda, Wis.
Pfeute Carl ..... Blanchardville, Wis.
Poole A. C. ..... Darlington, Wis.
Prisk Wme H. ..... Monticello, Wis.
Parhurst S. D. ..... Chicago, Ill.
Priewe Chas. ..... Route 1. Monroe, Wis.
Parzel Wme. ..... Route 6. Monroe, Wis.
Pulver Fred ..... Darlington, Wis.

R.

Rothenbuehler Ulrich ..... Monroe, Wis.
Rote Alvin F. ..... Monroe, Wis.
Ruf Paul A. ..... Monroe, Wis.
Ross & Keegan ..... Monroe, Wis.
Regez Ernest Sr. ..... Blanchardville, Wis.
Rubin, Fred ..... Monroe, Wis.
Regez Jacob Sr. ..... Monroe, Wis.

Regez Jacob Jr. ..... Monroe, Wis.
Regez Herman ..... Monroe, Wis.
Roth Christ ..... Monroe, Wis.
Rottler G. H. ..... Monroe, Wis.
Roub Dr. J. F. ..... Monroe, Wis.
Regez Ernest Jr. ..... Blanchardville, Wis.
Roethlisberger Simon ..... Warren, Ill.
Rufer Jacob ..... Route 7. Monroe, Wis.
Rufer Ulrich ..... Route 3. Monticello, Wis.
Richard Emil ..... Route 3. Monticello, Wis.
Rothenbuehler Jacob ..... Argyle, Wis.
Roth Ernst ..... Riley, Wis.
Roelli Adolf ..... Darlington, Wis.
Reisser Adolph ..... Argyle, Wis.
Roethlisberger John ..... Brodhead, Wis.
Roth Ernst ..... Riley, Wis.

S.

Sutter Oscar ..... Orfordville, Wis.
Schumacher Fred ..... South Wayne, Wis.
Siegenthaler Fred ..... Rout 6. Monroe, Wis.
Steinmann Gottfried ..... Monroe, Wis.
Scheidegger Adolf ..... Woodford, Wis.
Steinmann Ottmar ..... Darlington, Wis.
Staempfli Nic ..... Verona, Wis.
Schaller Alexander ..... Barneveld, Wis.
Schaller Rudolph ..... Barneveld, Wis.
Salvisberg Ernst ..... Belleville, Wis.
Sylvester W. F. ..... Route 2. Monroe, Wis.
Sprecher J. U. ..... Madison, Wis.
Saunders Chas. ..... Chicago, Ill.
Schneeberger Fred ..... Warren, Ill.
Schuppener F. H. ..... Milwaukee, Wis.
Smith Rosco ..... Route 4. Monroe, Wis.
Stauffacher E. R. ..... Route 6. Monroe, Wis.
Shumway C. P. ..... Milwaukee, Wis.
Skimer David ..... Milwaukee, Wis.
Stalder A. ..... Brodhead, Wis.
Schneeberger F. ..... Brodhead, Wis.
Scheberli Emil ..... Brodhead, Wis.

Schaad Emil ..... Monroe, Wis.
Smith M. J. ..... Monroe, Wis.
Schneider Chas. ..... Monroe, Wis.
Steinmann Mrs. Fred ..... Monroe, Wis.
Schuler John ..... Route 1. New Glarus, Wis.
Schiess Conrad ..... Monroe, Wis.
Scheply Chas. R. ..... Monroe, Wis.
Schindler Dr. A. J. ..... Monroe, Wis.
Schindler Herman ..... Monroe, Wis.
Schmid Adam ..... Monroe, Wis.
Scheidegger & Marty ..... Monroe, Wis.
Soseman Dr. Glenn L. ..... Monroe, Wis.
Stearns G. O. ..... Monroe, Wis.
Schmid Bros. ..... Monroe, Wis.
Schuetze Wme. ..... Monroe, Wis.
Stauffacher Fred J. ..... Monroe, Wis.
Stauffacher Sam J. ..... Monroe, Wis.
Schneider Bros. ..... Monroe, Wis.
Summeril & Son ..... Monroe, Wis.
Schreiner Bros. ..... Monroe, Wis.
Strahm John ..... Monroe, Wis.
Steffen Jac. ..... Monroe, Wis.
Sullivan M. J. ..... Monroe, Wis.
Stocker Albert A. ..... Monroe, Wis.
Solbraa Math ..... Monroe, Wis.
Sacker & Hinds ..... Monroe, Wis.
Swits George H. ..... Ft. Atkinson, Wis.
Stauffacher Pet. ..... Monroe, Wis.
Stewart J. W. ..... Monroe, Wis.
Stauffacher T. M. ..... Monroe, Wis.

T.

Truempy Joe ..... Monroe, Wis.
Thorp James ..... Monroe, Wis.
Treat Frank B. ..... Monroe, Wis.
Treat Ben. J. ..... Monroe, Wis.
Theiler Robert ..... Monroe, Wis.
Truckenbrod Fred W. ..... Monroe, Wis.
Tschudy Otto ..... Monroe, Wis.
Twining Walter C. ..... Monroe, Wis.

Trachsel A. C. ..... Monroe, Wis.
Thoni Peter ..... Hollandale, Wis.
Tschudy J. J. ..... Monroe, Wis.
Tschudy Fred ..... Route 5. Monroe, Wis.
Thorp G. E. ..... Monroe, Wis.
Tschabold Alex. ..... Route 3. Monroe, Wis.
Truempy Fred ..... Clarno, Wis.
Thompson T. H. ..... Milwaukee, Wis.
Thoni Mike ..... Hollandale, Wis.
Trachsel Jacob ..... Route 1. Argyle, Wis.
Theiler Emil ..... Route 4. Monroe, Wis.
Thorpe Frank ..... Monroe, W.si
Theiler John ..... New Glarus, Wis.

U.

Urben John ..... Monticello, Wis.
Urweider Alfred ..... Verona, Wis.
Uhlmann M. ..... Chicago, Ill.

V.

Voss Gust ..... Monroe, Wis.
Vogt Carl ..... Monroe, Wis.
Von Wagenen Henry G. ..... Monroe, Wis.
Vinger H. G. ..... Route 3. Argyle, Wis.
Vogel Gottfried ..... Route 5. Monroe, Wis.
Vollen Henry ..... Hollandale, Wis.

W.

Wittmer Gottfried ..... Route 3. Monroe, Wis.
Wittwer Sam ..... Route 1. Riley, Wis.
White Leland C. ..... Monroe, Wis.
West Side Drug Store ..... Monroe, Wis.
Woodle L. A. ..... Monroe, Wis.
Wenger Rudy & Co. ..... Monroe, Wis.
Wilber Henry ..... Monroe, Wis.
Wenger John C. ..... Monroe, Wis.
Wenger George ..... Monroe, Wis.
Whalen George ..... Monroe, Wis.
Willimann Jos ..... Monroe, Wis.
Waldburger Joe ..... Route 3. Monroe, Wis.
Waelti John ..... Monroe, Wis.
Wampfler J. J. ..... South Wayne, Wis.

Wittwer Edw. ..... Monticello, Wis.
Wurster Herman ..... Browntown, Wis.
Wutrich John ..... Monroe, Wis.
Wittwer Franz ..... Mt. Horeb, Wis.
Weiss Fred ..... Monroe, Wis.
Wuetherich U. ..... Route 2. Monroe, Wis.
Waelti Gottfried ..... Route 6. Monroe, Wis.

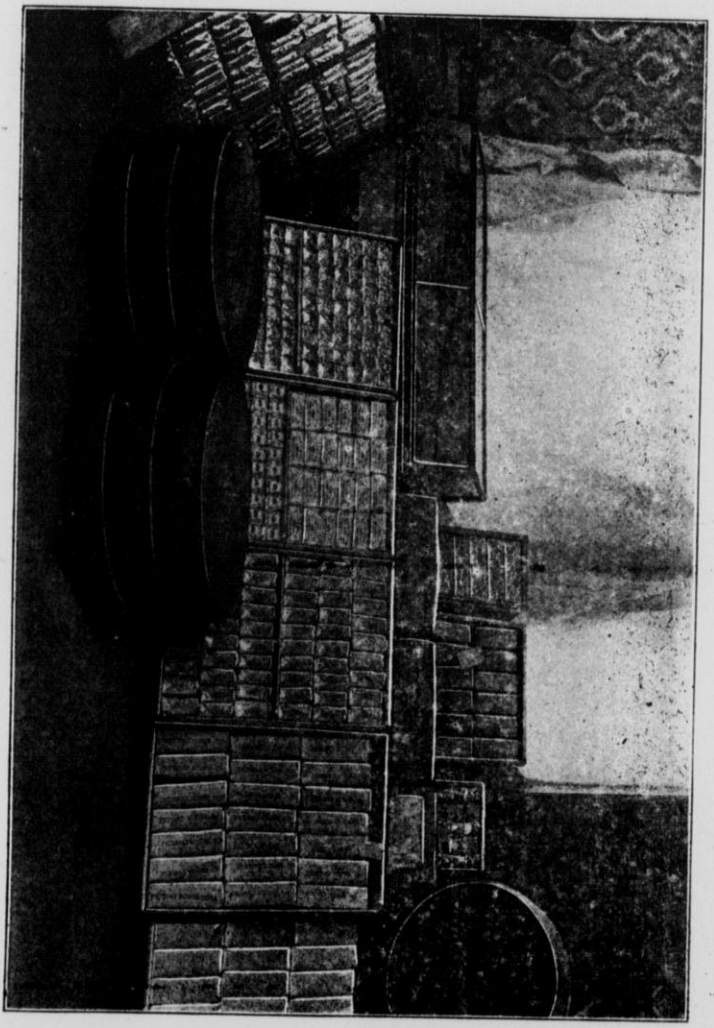
Y.

Young D. S. & Co. ..... Monroe, Wis.

Z.

Zinser & Duebendorfer ..... Monroe, Wis.
Zilmer Edward F. ..... Monroe, Wis.
Zilmer Albert ..... Monroe, Wis.
Zilmer Wme. F. ..... Monroe, Wis.
Zuercher Ernst ..... Monroe, Wis.
Zimmermann Henry ..... Monroe, Wis.
Zumbach & Zeller ..... Monroe, Wis.
ZumBrunnen Ed ..... Route 4. Monroe, Wis.
ZumBrunnen G.J. ..... Route 5. Monroe, Wis.
Zuercher Chas. ..... Brodhead, Wis.
Zuercher Chas. Jr. ..... Brodhead, Wis.

Cheese exhibition at the 1912. Convention at Monroe.



ADDRESS OF WELCOME.'

BY JOHN LUCHSINGER.

To the dairymen, cheesemakers and dealers, of Wisconsin.

Gentlemen:—

The pleasant duty has been assigned to me to welcome you to this the Twelfth annual convention of your association.

From all indications this convention promises to surpass all former ones in attendance, interest, and usefulness.

We shall have with us our best practical dairymen and cheesers, because they are those, who are eager to learn all that is best of their business, and who will in turn freely share with you the knowledge that has made them more successful than the average.

There will be here those who have training in the scientific, experimental as well as practical knowledge of your business, their knowledge is yours for the asking.

There will also be present those thru whom your product is gathered and brought to the markets, whose knowledge of the trade and its needs are of great importance. The farmer, cheeser, dealer and supply man will all come because each expects to learn from the other, and be benefitted by meeting with and becoming known to each other, for each in his line, has alive interest in the success of your business as a whole, a business that has grown so great as to overshadow every other branch of farming in this state, and all other business depends in a great measure upon the welfare of our dairy industry,

For this reason the membership of this association

is composed of good men from every calling and profession, all willing to assist in promoting its usefulness.

Here in Green county is the greatest center of this country for the production and sale of these called fancy, or foreign, kinds of cheese.

Aside from the supreme law of supply and demand, this center fixes the standard of quality and makes the prices for the American make of these kinds of cheese, much as Elgin does for butter.

This condition has not come by mere chance, climate, soil, grasses, and most important, the people, are especially well adapted for highest grade dairy farming. The quality of milk produced from the blue grass pastures of our limestone highlands is of superior quality be it for butter, cheese or condensed milk, nowhere in America is there any better. In my recent travels in the greatest dairy country of Europe, I became more than ever convinced that the locating of the hills of New Glarus in 1845 of the Swiss colony, was no lucky chance or happy accident. In going from Geneva to Neufchatel in Switzerland, I could not help notice the similarity of the lower mountains and hills and of the soil with the long ranges of limestone hills of our Wisconsin highlands, even the exposed rock in their highway and railway cuts was the identical soft yellow magnesian limestone of our own hills, which there as here supplies substance and fertility to the pasture grasses. Had there been mountains in Wisconsin our pioneers would no doubt have selected them for their colony of Swiss lacking mountains, they have selected hills, and emigrants from other lands were quite willing they might have them.

Such location and settlers, were the humble beginning of the great industry your association now represents, an industry begun in the log kitchen of the pioneer, then came the humble modest factories, all at first confined to one or two townships of Swiss

settlers, until success was assured, now spread over the greater part of the country of the five southwest counties of Wisconsin. Farmers of every nation see profit in dairying, cheesefactories hundreds of them, many built in best substantial manner, dot the country at short intervals. Two milk condensaries the first built, and the largest, in this state are in this county. The production and sale of cheese alone in this district exceeds three million dollars annually not mentioning butter and condensed milk.

The future of your business is as permanent as the limestone hills on which it is flourishing, for in that stone is stored and preserved fertility in the form of fossil remains of countless ages of early forms of animal life. If those engaged in dairying in future will but maintain the highest reputation for honest, pure, and excellent quality of dairy products they now enjoy in the markets, they will surely reap their reward of good name and wealth.

It needs no argument that the dairy farmer is the best farmer and that his farm is best kept and best looking farm. The proofs are before you. Nowhere are farms more fertile and productive than in the dairy countries. No farms have better dwellings, barns, fences, and soil, for your dairy farmer is really progressive in all that concerns his business, and last but most important, the people young and old are intelligent law abiding useful citizens, for the dairy farm trains people to steady continuous und useful work, and it follows, that there is no time for practice in idleness and vice. When the evening of life comes as it must come to all, there is a sufficiency saved to supply the wants and often the luxuries so grateful to the aged.

This convention as in other years, will bring together those who are alive to their best interest, in all lines of dairying, they will meet to compare results with each other, to that end a free and full exchange of thought and talk is much desired, for in

this way information of much greater rang and value can be brought out than by any elaborate speech no matter how well written or spoken. Let every one here feel and act as if he was at home among friends, gathered together for the welfare and improvement of the industry you are all closely interested in, so that when this meeting closes each may feel that he has been helped, and benefitted.

With such desire I most sincerely welcome you in the name of the association, to the exercises discussion, and entertainments, of this convention.

RESPONSE.

BY FRED MARTY.

Mr. Chairman, Ladies and Fellows members.

It is with pleasure that I respond in the name of the Southern Wis. Cheesemakers and Dairymens Association to the cordial welcome extented to us by your Honorable John Luchsinger in behalf of the citizens of Monroe.

We asure you that is is with greater pleasure that we accept your hospitality and hope to partake in them in full measure, and should your Honorable represantative have reason to learn that while during our stay in this city we have become mixers of considerable extent be he not alarmed as we only intend to mix business with pleasure.

We have come to this city to assemble in convention to discuss our various questions, to talk over and reconset our varied experiences of the past year, and take up such questions that are of the most importance for the future welfare of our industry.

We believe that by this way and only by such intercourse can we expect to be up to date in our professions, for it is here where the best thoughts and ideas in this line of business converge.

We realize that in our branch of business same as any other business competitions has brought about cruel methods with such results that the import of Swiss cheese is anually increasing and our domestic output of Swiss cheese is annually decreasing.

This I contribute to the Sole fact of our Swiss cheese make system which if continued means no less than the spoil of our industry.

As there is nothing shown in our present buying system that would have any influence towards en-

couragement of higher qualification of cheese makers better equipped cheese factories, and quality.

That there is a ready demand for a well finished and cured Swiss cheese is shown by the willingness of the consumer that are paying six cent a pound duty on hundreds and thousands of cwts. of imported Swiss cheese.

Is there any good reason why the Dairyman of this Section can not be the beneficiary of the six cent a pound that is now paid for duty.

But let me ask you, can we ever expect it, under our present buying and marketing system. I say no, as long as we do not discriminate between quality and pay for it accordingly, the reward will never go where it wrightfully belongs.

But perhaps I am wandering from the subject; but I could not refrain from touching upon questions so timely and important: that in order each and every private in our ranks may use his influence to voice the sentiment at this convention that will tend to again reastablish the grading system of buying cheese

Then we may look forward with the call for higher qualification of cheesemakers, better equipped cheese factories and higher quality of cheese.

Then will we stern the tide of import and finally place the reward where it wrightfully belongs.

Again I thank you.

ANNUAL ADDRESS.

S. J. Stauffacher, President, Monroe, Wis.

After another years experience, we have again assembled in our twelfth annual convention.

I am glad to meet you here on this occasion, for we have met here for a two days conference on one of the greatest industries in the state of Wisconsin. I am pleased to state what some of you no doubt have read in reports and from statistics, that no industry in this state, and especially southern Wisconsin has the opportunities for greater advancement are very numerous. This forward movement in the rapid development of the dairy industry has been fostered and aided in a large measure by the Southern Wisconsin Dairyman's and Cheesemakers, Association. I can savely say without fear of contradiction that this association has done more for the dairy and agricultural interests of southern Wisconsin, than all other organizations combined.

From a small body of interested, wide-awake men who twelve years ago organized themselves in an association for the furtherance of the dairy interests we have gradually grown to be the greatest dairy organization in the state and one that stands high with the best in the United States.

Today, we are recognized as a live, working, helpful dairy organization, and consequently solicited for information and help from organizations of state, national and international repute. It is an honor to belong to a great, useful organization as the Southern Wisconsin Dairimen's And Cheesemakers Association. Every man in southern Wisconsin, no matter what calling he follows, should belong to this asso-

ciation and gladly do all he can to promote the grand work it has undertaken. It is with greatest satisfaction and pleasure that I see before me this afternoon some of the most progressive and successful farmers and cheesemakers in southern Wisconsin, who are strong adherents of this association and who have helped make this association the great blessing it is to the dairy man and agricultural interests of southern Wisconsin. It is you farmers and cheesemakers who are introducing and leading the modern and scientific movements in the agricultural and dairy work of today in southern Wisconsin. It is just this class of wide awake dairymen and cheesemakers who read our dairy papers, attend our agricultural schools, institutes and conventions, like the one we are holding now and gather new inspiration and new ideas– put them into operation and thus make our dairy interest grow bigger and better and bring greater returns every year. Ideas are potent facts. Ideas have revolutionized the history of nature within the last few months western ideas have changed that great consirvatius empire of the Orient into a republice. Ideas developed have transformed these rolling prairies round about us into fertile farms. They have changed in many places, our arid lands in the west, into fruitful gardens. They have harmessed the wasted energy of the great Niagara to the wheels that operate great industries. They have delved into the depth of the seas and land, ascended the high places, crossed the mountains and the oceans and brought unmeasured opportunities to you and me and mankind everywhere. They have made the seemingly impossible-- possible.

Many of you progressive farmers and cheesemakers here today have witnessed and experienced marvellous change, because you have put into operation and to test new ideas gained at conventions like this. Your neighbor who does not attend, never attemps to gain new ideas– he simply follows your example.

He keeps cows because it is sort of customary to keep cows on a farm. He plants corn and oats and barley because it is a natural thing for a farmer to do. He is a farmer by accident only, for thought does not regulate his activities, he simply follows, you must lead. He reaps without effort what you have gained through study, experiment and sacrifice. Because of this fact, you are the logical leaders in the fight against the poor daily cow and scrub breeder, the unsanitary barn, the unclean factory, the impure milk and the untaught, wreckless cheesemaker. On the other hand you are also the wide-awake and natural leaders for the better dairy cow, the sanitarybarn and pure milk, the most economical and best feed for milk production, the raising and curing of alfalfa, the silo the clean cheesefactory and the manufacture of a better cheese, a finer grade of butter and a great many other problems that a successful dairyman and cheesemaker must solve. Upon your shoulders rests to a great extent the future growth and development of the great possibilities of the dairy and agricultural interests of southern Wisconsin

EX. – Governor Hoard one time said, "I have spent over $4000 taking cow census for the United States from Atlantic coast to the Missouri River – in twelve of those states, hurrying over foundation work who have kept cows and sent their milk or cream to the creamery for many years, nearly 45 percent of those farmers read not a single page connected with dairy literature, make no study. The trouble in Wisconsin as well as all over the country is a lack of study of the dairy interests. The result is they are not successful, farming becomes a drudgery, they get tired, sell out and move to the city. Our cities are becoming congested and our country depleted. The boy does not want to stay on the farm and you cannot the proper opportunities to make good, he leaves the blame him. There is nothing to attract him in a so-

cial or financial way. The old time method of farming can no longer pay the expense and so deprived of farm for the city where greater opportunities are offered him financially, socially and intellectually.

This is why we hear that constant cry, I cannot get help to run my farm as it should be. My boys have gone to the city and hired help I cannot get, I guess I must sell out."

These conditions will remain, until labor can find more profitable employment on the farm than in the shop, then and then only will the equilibrium between the farm and the shop be restored. This can only be done through education. Therefore, I would again urge the establishment of a dairy and agricultural school for southern Wisconsin, so that we can work out our special problems which are peculiar to our own local conditions. We are losing annually here in southern Wisconsin thousands of dollars because we fail to secure the highest possible results as determined by tests and experiment. A school of this kind is not an expense to the people, but statistics and reports prove to us that it is a gain. Wisconsin appropriates over a halfmillion of dollars every year for agricultural and dairying purposes and the returns have been manifold.

Every boy who expects to farm should as far as possible spends a year or two at one of these schools It will be money and time well spent. Do this and the hired man problem will be solved to a great extent. If your boy shows a love for farm life, make that his ideal and give him the opportunities necessary to make his calling a success. Simply to teach him how to milk cows, feed hogs, plant corn, make hay, raise potatoes, etc; is not enough to hold a bright boy on the farm. Forty years ago, this might have been possible, but not today when intensive, scientific farming is the only successful farm life. Intensive, scientific farming teaches the farmer to make two stalks of corn, oats or barley grow where now only one

grows, or where one stalk only grows make it bear double the amount of grain it now bears. To make five cows produce more than ten cows produced, and five acres yield more than ten acres yielded fifteen years ago. These conditions the succsessful farmer must meet on the high priced land he is compellen to till at the present time.

One of our great problems today in southern Wisconsin is to develope a class of dairymen who are able to successfully cope with present conditions. Land the past twenty years has raised from $35 to $180 per acre. Hired help is scarse and hard to get. $45 per month, board and a horse kept is paid by many farmers, and it is reported that some even paid more than this the past year Furthur requirements are better homes to live in, better barns to house and feed the stock in, better roads to travel on, better schools and churches are clamored for, more music, papers and books, more receation and entertainment to properly supply the development of that higher life that is demanded to make the best citizens for this the best, freest, geatest and grandest country on the face of the globe, the United States of America.

Another problem that must be solved sooner or later is that of hauling milk twice a day. I believe that it is not only needless but an actual waste of time and a loss of money to continue the old practice of hauling milk twice a day. I furthur believe the time has come when under the present conditions of high priced land and scarcity of help, the busy farmer can no longer afford to keep up this old time custum of hauling milk twice a day. Men who have given this subject much thought and study say it is not neccessary if the farmers will put up the proper milk houses and cooling systems and then deliver the milk in separate cans. This hurry and extra burden of hauling milk at night after hard days labor can be done away with, and it is furthur believed as good a guality of cheese can be made. If this be ture, my

dairy friends, you cannot afford to carry out the old custom of two milk deliveries a day when one will answer the purpose as well if not better. You need the rest, your cheesemaker will give better service and your horses will be saved this extra trip, thereby gaining additional strength for the coming day.

The practice so prevalent in southern Wisconsin of hiring the cheapest man obtainable to work up your milk cannot be too strongly condemned. The best man instead of the cheapest should be your aim, he will more than save you the extra he asks. Then above all things you should hire your cheesemaker on the percentage basis. It is the only just method to patron and maker. Every year we find more engaged by this method and where once carried out it is never dismissed. By this methode the cheesemaker gets just what he is worth and that is all any man is entitled to. I recall an instance last summer where a limburg cheesemaker received but 16 cents per box as his hire or about $9.00 for the months wages. He got all he was worth. If the man had been hired on the old plan so much per hundred, the net proceeds of the Sale of cheese for such months would not have been sufficent to pay his wages.

Further we as interested parties in the great dairy movements of the day should condemn in strongest terms possible the act which is practiced by some cheesemakers of plugging the cheese. Just a few months past my attention was called to a small tub of swiss in which there was one small swiss which had been plugged thirteen times, another nine and still another eight times. This ruins the sale of this cheese on the market and should be stopped. The practice of placing your cheese on auction and then letting every body who comes along to stick them is wrong and detrimental to our industry.

Another great loss and nuisance to the dairy interests of southern Wisconsin is the cheap tub, box and especially second hand butter tub. Cheap se-

cond hand butter tubs shrink, leak and in transit often go to pieces and thus you not only lose actual weight but the appearance of the package is bad and so the butter sells for less money. You may save 10 cents a tub on the original cost but some one will lose several times this amount before the goods are disposed of, and ulternatily this will fall back on the producer. The package has much to do with the sale of the product. I hope no one here will buy a second hand tub this season. These may look like matters to many of you, but it is these small matters that is causing southern Wisconsin to lose her reputation as a cheese section in the markets of the country. It is these small matters that we so easily overlook in but great rush for big returns. It is these small matters that are honey-combing our great industry and unless checked will ultimately cause its downfall. Our limburg a few years ago the equal of any limburger made in the United States today is forced to take second place in the markets.New York limburger practically everywhere is driving our goods out. Unless, we unitedly, cheese dealer, cheesemaker and dairymen take a definite stand in this matter, southern Wisconsin will not only annually lose thousands of dollars but ultimately be driven off the market. In fact New York Limburger to day is bringing one to two cents per pound more than our Wisconsin limburger. There is no reason why our limburger should not bring the same price if we make it properly. Our limburger in so many cases is not limburger anymore, it is sort of a mixture of limburger and brick or commonly termed a brick limburger. It is improperly made and pushed on the market too soon. Instead of cooking it slowly and stirring it well, our cheesemakers often cook it too much and stir it very little which naturally gives it very soon a yellow color on outside and then it is rushed in the boxes where it is left to cure instead of curing on the shelf. On the other hand if our cheesemaker

would cook it less and stir it more, give it more salt etc., it would take longer to cure but we would get limburger and not brick limburger which is so rapidly killing our limburger trade.

Again so much of our limburger is not made in uniform cakes. I saw limburger last summer where in the same box were cakes three inches and others less than one inch all mixed together. Further, this cheese was wrapped in the cheapest foil and paper. The foil on the large cakes was not large enough to cover the cheese which naturally gives bad apperance. New York is very particular about the manufacture and packing of her cheese, only even cakes wrapped in the very best of material is shipped out. These conditions facing the limburger of Wisconsin, do you wonder why we are losing out in the markets of the world.

Should you go to a store to buy an article, say apples, and the merchant would show you some in a poor untidy package, large and small apples all mixed together. Then suppose he would show you some more, all nice and apparently of about the same size in a good clean package. Suppose the taste and quality were the same in every respect, which package of apples, would you take. Gentlemen, do you think you can force the market on cheese where you could not do so on some other articles? Let us remember by so doing we only injure our own future welfare. If our limburger is to gain its former prestige and check the heavy inroad that the New York limburger is making in our markets, we must make some radical changes at once, such as making, curing and packing of our limburger.

I might continue to recite things favorable and unfavorable about our great industry, but as we have a rich programm of good helpful information, I will not take anymore of your time, but will simply add this let us unite and stand as one man for everything that is for the good of our great dairy industry, for

upon it depends our happiness as well as the future comfort and welfare of every man woman and child in southern Wisconsin.

The Raising and Curing of Alfalfa.

Professor L. F. Graber, Madison, Wis.

Mr. President, Ladies and Gentlemen:

It affords me particular pleasure to attend this meeting of the Southern Wisconsin Cheesemakers and Dairymen's Association. A year ago I attended your convention and it was at this time that I made, with much previous worry and anxciety, my first public address. And so, I am exceedingly gratified to have received an invation to be with you again this year.

Since a year ago I believe we have made great strides in our effort to awaken the Wisconsin farmers to the great possibilities in alfalfa growing. We have organized an **Alfalfa Association** primarily to encourage more alfalfa growing in Wisconsin. I believe today there is no one other movement which will do as much for the general agricultural welfare of the entire state than will the effectual extension of the small average of alfalfa now grown in Wisconsin.

Alfalfa, a Wisconsin Crop.

There is a place for alfalfa on every live stock farm in the state of Wisconsin. No one other hay crop is capable of promoting the material agricultural wealth and rural happiness of Wisconsin farmers than is alfalfa. In no one crop are combined the blessings, the riches and the benefits that we find in this truly marvelous plant. Producing annually three bounteous crops of the most nutritious hay, alfalfa performs an unequaled service for mankind. Other crops may be burned to a crisp by long continued drought, but alfalfa with its powerful root

An Alfalfa field.

system draws its moisture and nourishment from great depths of the soil where no other plant is capable of penetrating. There is no greater soil renovating plant nor is there any plant which is capable of producing as much nutritious hay per acre, and yet, today in Wisconsin it is only being grown on one farm out of every forty. Today there are only 18,000 acres of alfalfa grown in Wisconsin against 3,000,000 acres of other hay crops.

An Alfalfa Club.

It is due to this comparatively small acreage of such a truly marvelous crop that the Alfalfa Order of the Wisconsin Agricultural Experiment Association was established. It was felt by energetic and progressive agriculturists that Wisconsin farmers did not fully appreciate the true value of alfalfa as a forage crop. That it can be successfully grown has been demonstrated time and again by numerous tests carried on by the Agronomy Department of the Agricultural College and by tests of farmers themselves. With this in view, alfalfa has been and is today a neglected crop in this state. To encourage a more extensive and wide-spread growth of this valuable plant no better method could have been used than that of cooperation. Due to the efforts of Professor R. A.; Moore, of the College of Agriculture and Mr. Jas. B. Cheesman, Racine, Wisconsin; a meeting was held at the State Fair, September 14, 1911, at which the Alfalfa Order was organized, as an auxiliary of the Wisconsin Agricultur Experiment Association, a body of sixteen hundred farmers, which has done so much in the way of establishing Wisconsin's worldwide reputation as a great pure bred seed producing state. Officers were duly elected as follows: Pres. Jas. B. Cheesman, Racine; Vice-Pres., Ex-Gov. W. D. Hoard, Ft. Atkinson; Secretary-Treasurer, L. F. Graber, Madison; and a constitution and by-laws were adopted.

Alfalfa, a Neglected Crop.

The Alfalfa Order has begun an investigation to secure some date relation to the acreage of alfalfa on various farms; why is it not more generally grown; its value as a feed for live stock, its adaption to the soil etc. The idea is chiefly to obtain the farmers altitude toward the crop. Our 1000 inquires were sent out to progressive farmers in all parts of the state.

From the reports of over 500 of farmers, eighty per cent of whom are growers of alfalfa. a broad idea can be obtained of the status of alfalfa growing in Wisconsin. The chief reasons given why farmers hesitate to grow alfalfa are far from being sufficiently important to hinder any progressive farmers from attempting to grow this crop.

Eighty–two per cent of the replies show that alfalfa is not receiving more attention for the following insufficient reasons. Farmers do not know how to raise it and are not using correct methods of culture; the value of the plant is not being appreciated; farmers are conservative and do not want to attempt growing any "new–fangled" crops; alfalfa seed is somewhat high priced (this year only a little above timothy and clover) and it is somewhat difficult to secure good seed; farmers lack confidence and fear it cannot be grown; they are afraid to "tackle" it!

We Can Grow Alfalfa if We Want To.

Only eighteen per cent stated that it was hard to secure a stand and that the soils in their localities were not adapted. Perhaps they were not. Perhaps their soils were acid or poorly drained. But these are difficulties that can be overcome. Lime will neutralize the acidity and tiles will run off the excess soil moisture. Gentlemen, if we **want** to grow we **can** and we can grow it if we want to. The Alfalfa Order plans on the wide dissemination of information relative to the proper Wisconsin methods of growing alfalfa, both by bulletins and lectures. Alfalfa exhibits

will be put up at county fairs and at the State Fair to arouse and stimulate rural interest in this crop. Every member of the Order should not only be a grower, but a demonstrator of alfalfa growing in his locality so that in our united efforts we will destroy this unproductive sentiment that alfalfa cannot be grown in Wisconsin and bring our farmers to a realization of the great possibilities of alfalfa growing.

Good Alfalfa Seed May Be Secured by Cooperating with the Alfalfa Order.

Partially due to the fact that many Wisconsin farmers were having difficulty in securing clean, high germinating alfalfa seed and that many failures in securing successful stands were due to poor seed, the alfalfa order has decided on the purchase of a large amount of high grade alfalfa seed for distribution among its members at cost price. At the present writing orders for no less than 15,000 lbs. have been received and in buying such a large amount it will be secured at a very much reduced price, ranging from $1. to $2. per bushel cheaper than the marked price. It is the purpose of the Order to place at the disposal of its members the very best seed at the most reasonable rates. Good seed is the foundation of success in the growing of any crop.

The Alfalfa Order invites the cooperation and membership of every interested farmer in the state. of Wisconsin. I firmly believe with earnest efforts and assistance of the members of the Southern Wisconsin Cheesemakers and Dairyman's Association and other progressive farmer's throughout the state, that we can do much in the way of making Wisconsin a great alfalfa state of the Union.

Green County, the Largest Alfalfa Producing Co. in the State.

Green Co. leads all other countries in the production of alfalfa, raising at the present time 2280 acres. John Waelti, Monroe, Wis., is no doubt the most ex-

tensive grower of alfalfa in Wisconsin today. On his 220 acre farm in Green County he is now raising 140 acres of alfalfa. It will be of interest to read what Mr. Waelti says about alfalfa.

"Seven years ago farmers did not know how to sow it to get a stand, now many farmers will sow no other seed but alfalfa."

What is your opinion of alfalfa as a profitable forage crop and as a feed for live stock?

"It is the most profitable fited crop I know of. I feed it to cattle, horses, and swine with the very best results."

The opinion of the largest and most successful growers of alfalfa in this state should bear considerable weight and is of great importance to us at this meeting.

Important Statisties.

The most recent goverment statisties show that in Wisconsin the value per acre of alfalfa is $31. against $14. for timothy and clover. In yields per acre the average for alfalfa is 2.8 tons, Clover 1.7 tons, Clover and timothy 1.6, timothy 1.4 tons. These figures ought to make us realize the importance of alfalfa as a financially profitable crop.

The Introduction of Alfalfa in Wisconsin.

The first important introduction of alfalfa in Wisconsin was made about ten years ago when Prof. R. A. Moore of the Agricultural College, Madison, supplied the members of Experiment Association with alfalfa seed and instruction as to the proper methods of planting. Prior to this time, alfalfa had been tried in Wisconsin but met with failure. Methods of culture adapted to the South-west, where fall seeding at the rate of seven or eight pounds per acre was in vogue, were profusely written up in the agricultural papers. These ideas were far from applicable to Wisconsin conditions and were the means of retarding the rapid introduction of alfalfa in the state of Wisconsin. It was not until Professor Moore

discovered the Wisconsin methods of culture that the future of alfalfa in this state seemed assured. From numerous tests of members of the Experiment Association and the Agricultural Department on County Farms it has clearly been demonstrated that where proper methods are used it is possible to secure a good stand of alfalfa in any part of the state. Let us hope that the work of the Alfalfa Order will result in a thorough dissemination of knowledge relative to growing alfalfa in Wisconsin, which will consequently result in a more extensive growth of this great forage crop.

Good Alfalfa Seed May be Secured.

Good alfalfa seed may be secured by cooperating with the Alfalfa Order. The first requirement in the growing of any crop is good seed and it is the plan of this oganization as previously stated to have a large amount of tested alfalfa seed on hand which they can supply their members with at the most reasonable rates.

The two requirements of good seed are purity and high germinability. Practically all' the' bad' weeds the Wisconsin farmer has to contend with at present have been introduced by the purchase of foul seed. In spite of the fact that we have a seed inspection law in this state which is devised to condemn all foul seeds and prevent their sale, it is necessary to exercise the most careful precautions in buying alfalfa seed. Have your seed inspected free of charge before you sow it by the State Experiment Station, Madison, Wis.

Varieties of Alfalfa.

There are several varieties of alfalfa which are particularly adapted to certain regions. Thus we have varieties and types that only do well in the south-west and far from being hardy enough to withstand the sullen blasts of our northern winters. There are varieties and types particularly adapted to regions of great drought as well as to regions of great rainfall.

For Wisconsin conditions the common northern grown American alfalfa seed produced on the non-irrigated lands of the north-west is hardly, vigorous, will not winter kill and has proven to be the best adapted to this state.

Alfalfa, a Soil Renovator.

Like clover, alfalfa is one of those great soil renovating plants that we call legumes, which add fertility to the soil by means of the bacteria which grow and multiply in the nodules on its roots. These bacteria the nitrogen of the air and convert this gas in a nitrate compound. This compound contains identically the same material that is found in our most expensive commercial nitrogen fertilizers. Under favorable conditions a good stand of alfalfa will fix into an acre of soil no less than 170 pounds of nitrogen per year through the agency of these nitrogen gathering bacteria. The commercial value of the nitrogen in nitrogenous fertilizers is 15 cents per pound and so a realization of the actual value in dollars and cents of the fertility that alfalfa will store in our soils each year can be obtained from these figures.

Roots of alfalfa.

Alfalfa has a powerful tap root which often extends to the depth of seven and eight feet in our porous soils. Depths of from three to four feet are common. Alfalfa owes its great ability to resist drought to this fact. When shallow rooted crops such as clover, timothy and our grain crops are burned to a crisp by the drought, alfalfa continues green and draws its moisture from greater depths where water is always abundant.

Alfalfa not only draws moisture from the deeper strata of the soil but nourishment as well. It is not a shallow feeder like timothy or clover and other grasses. It utilizes the entire volume of soil to a depth of not less than 3 to four feet instead of the first seven or eight inches only. In fact the alfalfa

draws the fertility from the lower soil strata where other crops cannot penetrate and brings it to the surface where subsequent shallow rooted plants can make use of it.

Alfalfa has a powerful root system and produces a tremendous network of root growth in the soil. The actual tonnage of roots per acre of alfalfa has not been determined but must run very high. This is of importance because the roots are a most valuable source of humus making material in the soil. They not only increase the vegetable matter but improve the physical condition or tilth of the soil as well, by making it more friable.

Having in mind that alfalfa adds nitrogen fertilizer to the soil through the bacteria that live in the nodules on its roots, and the plant is the deepest feeding and has most expensive root growth of any agricultural crop we now know of, we may safely conclude that alfalfa is the greatest soil renovating crop in existence.

Soil Requirements of Alfalfa.

Alfalfa does well on a variety of soils ranging from fertile sandy loams to heavy clay and the black muck soils of our river bottoms. A fertile clay loam however, seems best adapted although our heaviest clay soils are producing excellent crops of alfalfa. The ideal subsoil should be of a loose gravelly texture so as to allow the deep roots to permeate the soil without difficulty. However, a stiff subsoil is not a serious detriment, unless it be a solid "hard pan" with a shallow surface covering.

Alfalfa Requires a Fertile Soil

The idea has become prevalent in some sections that alfalfa being a renovating crop should be seeded on the poorest soil on the farm. Let me say that all crops require fertile soils,and especially alfalfa. The young plants need a good, vigorous start and if handicapped by growing on worn out soil, will soon lose their vitality and a thin stand and weeds will result.

The soil should be rich in humus and in mineral elements, phosphorous, potash and calcium. Nothing will aid more in securing a good stand of alfalfa than a heavy application of well rotted manure prior to planting—especially where the land is not as fertile as it should be. The question often arises as to the advisability of putting alfalfa on new virgin soils. This has not proven successful and it is always well to sow alfalfa on a fertile soil which has been subjected to cropping for some time.

Alfalfa Requires a Well Drained Soil.

A well drained soil is a most consideration in alfalfa growing. The saying that 'alfalfa can't stand wet feet" well taken. Choose a gradually sloping hillside, having natural drainage and you have an ideal location for an alfalfa field. Of course, alfalfa will do well on level land if the natural drainage is food or on tiled drained land where the tiling is in good oder. Bot where the soil has a tendency to be swampy the alfalfa invariably will be drowned out. If the land has numerous small depressions, water will collect in these and by freezing forms an ice sheet which smothers the plants beneath it, thus making the field look spotted or patchy.

Alfalfa Requires a "Sweet Soil.

By a sweet soil we mean one that is high in lime content and is consequently not acid or "sour" as term it. Perhaps you have seen fields where the growth of the weed, "sheep sorrel" was extremely abundant. This is an indication that the soil is acid or "sour", because sheep sorrel is an acid loving plant. Soils that have been cultivated for a long period are often found acid and more than one failure of alfalfa and of clover may be traced to this acid condition. There is a chemical test for soil acidity which is easy to apply. Procure a small amount of blue litmus paper at a drug store and by means of a knife bring it in contact with the moist soil to be tested. If it turns pink or pink spots appear the soil is acid. Sam-

ples of soil may be sent to the Experiment Station at Madison, Wis. to be tested for acidity where a more accurate determination can be made.

The Importance of Lime.

Alfalfa is a lime loving plant. One ton of alfalfa contains no less than 48 pounds of lime which it must secure from the soil. Acidity indicates a lack of lime. Furthermore acidity prevents the growth of the famous bacteria that produce the nodules on the roots of alfalfa and are so prominent in the fixation of nitrogen in the soil. For these reasons alfalfa fails to do well on acid soils. Lime has the power of neutralizing this acidity and brings about a corrected condition for the growth of alfalfa.

Methods of Liming Soils.

In general there are four kinds of lime products on the market for liming soils, viz., ground limestone, marl, air slacked lime and lime refuse from sugar beet factories. Ground limestone is the raw limestone rock ground to a fine powder. Marl is a raw products mined from ancient deposits of shells. Both of these forms give very good results. They are usually applied at the rate of about one ton per acre and cost arund $1.25 per ton.

Air slaked lime refuse from sugar beet factories are two very pure products which can often be purchased locally at very reasonable rates. They are generally applied at the rate of 800 to 1000 pounds per acre and give immediate results on acid soils. Lime refuse sometimes contains considerable moisture whish is no detriment but should be taken into consideration at the time of purchase.

Fresh quicklime should never be applied to soils until it has been slaked to a powdery condition with water. As a rule quicklime is quite expensive compared to the other forms above mentioned.

Lime should always be applied to the surface of plowed soils and thoroughly harrowed in before seeding. Lime has a natural tendency to work down-

ward in the soil and plowing it under as you would manure is an exceedingly bad practice. As to the application, too much cannot be applied. Ten tons per acre would not do any harm and while it might not pay it would be a good thing for the soil. However the amounts previously stated will usually suffice.

Lime may be scattered on the soil if the day is quiet by hand using a broad shovel. Care should be taken to spread it as evenly as possible. Fertilizer drills are used with good success. Some wagon boxes may be fitted with a lime distributing attachment or a manure spreader may be used by covering the apron about six inches deep with barnyard cleanings or chaff or straw and placing the lime on this.

Soil Inoculation.

Professor Moore has the following to say relative to soil inoculation:

"Alfalfa belongs to the plant family known as Leguminosae. Like our common red and white clovers it has the power, through minute living organism found in the little nodules on the roots, to take the free nitrogen from the air for the purpose of building plant tissue. Consequently the plant is exceedingly high in nitrogen content and receives the greater portion of that valuable constituent from the air instead of form the ground. These little organisms or bacteria are necessary for the successful growing of good crops of alfalfa, and where the soil only contains them in limited numbers the alfalfa plants soon wither and die. In some sections of the State the ground is sufficiently supplied with the alfalfa bacteria, but there are many localities where they are present in so limited a number that it seems impossible to get a catch of alfalfa that will succeed in surviving the first winter."

Inoculation.

"Sweet clover, an ordinary roadside weed, which naturally grows to the height of five or six feet

throughout nearly all of the counties in southern Wisconsin, is one of the essential alfalfa bacteria distributers. When a farmer is in doubt as to whether or not his land contains the proper bacteria he can successfully inoculate his fields by scattering on them soil from an old alfalfa field or where sweet clover has grown. For best results, two tons of earth per acre should be scattered immediately preceding the sowing of the alfalfa seed. For farmers who have not alfalfa or sweet clover near at hand from which to get infected soil in large amounts we advise the securing of a sack of one hundred pounds of alfalfa soil from the Experiment Station or elsewhere and scatter on about eight or ten squar rods of the field where it is desired to sow the alfalfa seed. The year following the seeding, soil can be taken from the portion of the alfalfa field where the infected soil was scattered and used for the inoculation of larger areas. Alfalfa responds readily to these methods of inoculation, and nearly all plants will be found to have the proper nodules on the roots the first season of growth."

..Mix Alfalfa Seed With Clover At Seeding Time...

"An excellent plant for supplying the soil with the proper germs is to use a mixture of one-fourth alfalfa seed and three-fourths clover seed for general seeding. The clover hay will be of a better grade where alfalfa is grown in connection therewith. The alfalfa plants that survive become bacteria producers and distributers for future crops of alfalfa."

Do not Use Commercial Cultures For Inoculation.

Some companies are putting on the market bottles of a liquid supposed to contain the alfalfa bacteria. They recommend this to be applied to the seed before sowing and thus inoculate the seed. Commercial cultures have in general proven a failure and data obtained from tests at the Experiment Station indicate that much more certain and economical results can be secured by using infected alfalfa or

sweet clover soil.

Benefits Of Inoculation.

The benefits of inoculation have been particularly noted in recent demonstration experiments on county farms. At New Richmond, the alfalfa on the inoculated field average six inches taller than on the uninoculated part. At Viroqua on a field of 20 acres the inoculated half produced in color and stand due to inoculation was visible for a mile. However in localities where the growth of sweet clover was abundant, inoculation did not seem to be so necessary.

Preparing the Soil.

Fall plowing is always advisable where the lay of the land will permit. It tends to keep down weeds conserves moisture, liberates plant food and make the tilth of soil easier. However, good results can be obtained with early spring plowing, which should always be done on soils where there is danger of soil washing. The soil should be harrowed and gotten in good tillable condition.

Methods of Securing a Stand.

In general there are two methods in vogue in establishing stands of alfalfa. It may be seeded alone or it may be sown with a nurse crop such as barley or oats, similarly to the way in which clover and timothy are generally seeded down. The best results have been secured by seeding alfalfa alone and usually one crop of alfalfa hay may be secured the first year with this method. Where it is seeded with a nurse crop no alfalfa hay will be secured the first year, but the nurse crop may be harvested and threshed or cut for hay. On soils that are inclined to be very weedy seeding with a nurse crop is often advisable. If the field is very sloping and soil washing is apt to occur the use of a nurse crop is again advisable. However, it may be stated that alfalfa should be seeded on soils practically free from weed growth and in general greater success has been obtained by seeding alfalfa alone.

Sowing Alfalfa Without a Nurse Crop. . .

Where alfalfa is seeded alone, one of the most important requirements is that the soil be clean-- absolutely free from weed growth. Weeds are the worst enemy of young alfalfa. Excessive weed growth has killed out more stands of young alfalfa than any one other factor. The young alfalfa plants is a very tender proposition until it gets established and it only requires a small amount of weed growth to smother the young alfalfa crop.

How to Rid the Soil of Weeds.

First of all, it is well to have alfalfa follow some cultivated crop such as corn, potatoes, tobacco, roots, etc., where a particular effort has been made to keep down the weeds. As soon as the ground is in a good workable condition in the spring begin harrowing at weekly intervals up to about June first, at which time most of the weed seeds will have been sprouted and killed. The soil is then ready for seedings.

Inoculating the Soil.

A few days prior to seeding of alfalfa, the soil should be inoculated as previously described, with a couple of loads of sweet clover or old alfalfa soil per acre. Care must be exercised not to introduce any foul weeds into our fields by making this soil transfer. The soil may be scattered with a shovel or by means of a manure spreader. After inoculation, seeding may be done and both seed and inoculation soil should be harrowed in.

Sowing Alfalfa Seed.

Sowing is commonly done with a drill or broadcaster, having a grass seeder attachment. A whirling grass seeder or wheel barrow seeder may also be used to advantage. If the area is Limited, sowing by hand may be resorted to, but seed should be scattered uniformly. The seed should be sown at the rate of no less than 20 pounds of good alfalfa seed per acre. Spring rains are frequent during the last week in May and the first week in June, and if the

seed is sown when the soil is in a good moist condition, sprouting will be immediate and the young crop will soon make its apperance. If the summer season is at all favorable a crop of alfalfa may be harvested by September 1, but in no case should alfalfa be cut any later than this date.

Seeding Alfalfa With a Nurse Crop.

Where the ground is very weedy or sloping and soil washing is apt to occur if no crop is planted until about June first, it is advisable to seed alfalfa at the rate of 20 pounds per acre with a nurse crop. Barley sown at the usual time of barley seeding at the rate of 3 pecks per acre gives the best results. Alfalfa is sown at the same time and at the regular rate with the barley. The barley crop may be cut when ripe. If oats are used, do not exceed one bushel of seed per acre. They are generally cut for hay when they begin heading out, as they ripen a week or so later than barley and are apt to crowd and stunt the growth of the alfalfa. Thin seeding of the nurse crop is important, as it gives the small alfalfa plants sufficient space to grow between the grain plants without crowding. Lodging, which will invariably kill the alfalfa plants, is also guarded against by thin sowing. No alfalfa crop can be expected until the second year under these conditions, at which time the regular three or four crops may be obtained.

Other Methods of Securing Stands of Alfalfa. . .

If alfalfa follows some highly cultivated crop, such as sugar beets or tobacco, and the soil is practically free from weeds, it is not necessary to go through the weed killing process by weekly harrowings up to June first under these conditions. The alfalfa seed may be planted immediately in the early spring, as soon as the ground is in good workable condition. Sometimes two good crops can be secured the first season and invariably no less than one large crop may be harvested the first year with this method of

seeding.

Good stands of alfalfa have been secured by sowing immediately after the harvest of early potatoes or canning peas, during the first two or three weeks in July. Sufficient growth of the alfalfa is generally secured before fall so that the young plants will not winter kill. We should bear in mind that this is summer seeding and not fall seeding. Fall seeding of alfalfa is an absolute failure in this state.

Cutting the Crop.

The first crop of alfalfa will usually be ready for cutting about the first week in June – a trying time to cure the crop. Cut when one-tenth the plants are in bloom. A better rule to follow is to examine the crown of the alfalfa plants at about the time when one-tenth of the field is in blossom. Little shoots will appear at the crown. These shoots are what form the second growth of the crop. Now it is particularly advantageous that the alfalfa is cut before these shoots will have grown high enough to be clipped with the mower. If this happens the second growth will be stunted and retarded one or two weeks. Examine the crowns of the plants and when the shoots just begin to appear the time of harvest is at hand. This usually occurs when the alfalfa just begins to blossom and so both methods are good indications of when to cut the crop.

Alfalfa should not be cut close to the ground. The cutter bar of the mower should be so adjusted as to leave at least one inch of stubble. This will prevent to some extent the clipping of the shoots above mentioned.

The mowing should be done on a day that promises to be fair and in the morning after the dew has disappeared.

Curing the Alfalfa.

Owing to the high feeding value of alfalfa extra care can be bestowed in curing the crop properly. In order to secure the best quality of hay, the fol-

lowing method should be adopted. Late in the afternoon of the day on which the alfalfa is cut, it should be raked up and put up in small cocks. At this time the hay is far from being dry, but is in a good wilted condition. If the hay is allowed to dry in the swath, the leaves will dry out much more rapidly than the stems and become brittle and break off. Consequently the best portion of the hay is lost. If on the other hand, the hay is cured in the cock before the leaves have become dry and crisp, they continue to transpire and draw the moisture out of the stem, each leaf acting like a pump, until the stem is dry and then the leaves themselves become dry and the hay is cured absolutely uniform.

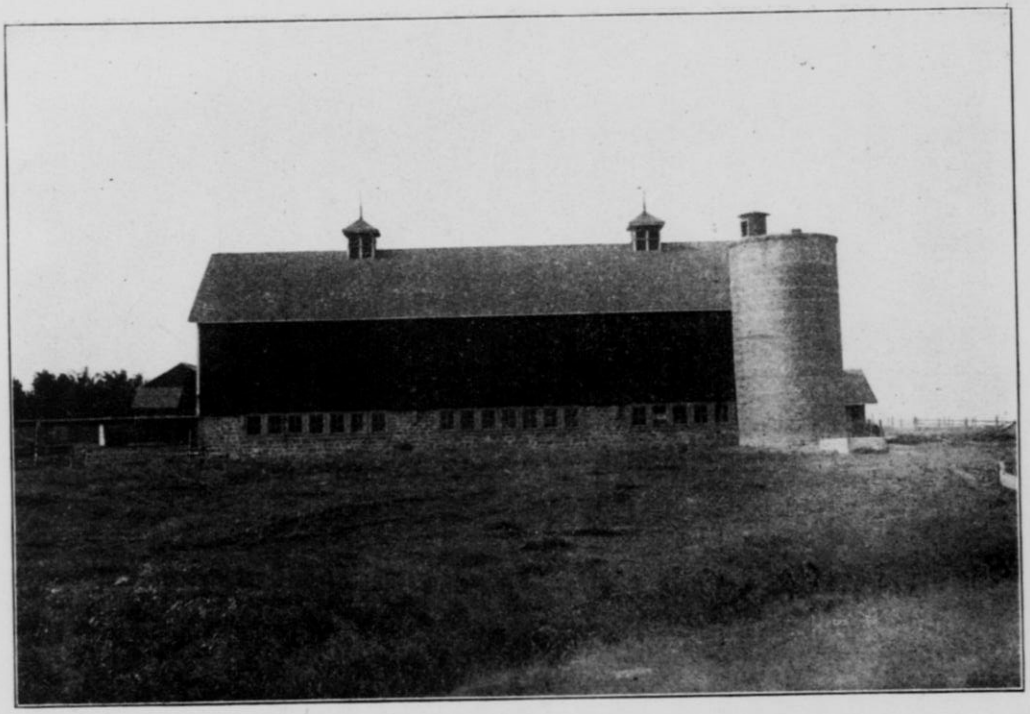
Feeding Value of the Stalks and Leaves of Alfalfa.

The stalks of alfalfa represent fifty-nine percent of the crop and the leaves forty-one percent. However, sixty-one per cent of all the protein in alfalfa hay will be found in the leaves with only thirty-nine percent remaining in the stalks. The leaves contain eighty-one per cent of the fat while the stalks contain only nineteen percent. This indicates the importance of so handling the crop as to preserve the leaves.

Use the hay Caps to Get the Best Quality of Hay.

To secure the best quality of hay, hay caps are used. A convenient size can be made out of duck canvass, 40 X40 inches, with weights attached to the four corners. Caps of this sort cost from 15 to 20 cents each and are a great protection against rain dew, especially during the first harvest of alfalfa, when rains are very frequent and the curing of alfalfa is made difficult.

If the weather is favorable, the hay may be hauled in after two days. When rains occur, it is necessary to move the cocks about from place to place, as the alfalfa plants beneath will be smothered where the cocks are allowed to remain in one spot for more than two days.



A Green County cattle barn.

Other Methods of Curing Alfalfa.

Where large areas of alfalfa are to be cut and labor is scarce, not so much care can be taken with the crop. When the hay is in a good wilted condition, about a day after cutting, it is raked with a side delivery rake in long windrows and allowed to cure. It is then loaded by means of a drum hay loader and if rain does not reach the crop, a good quality of hay can thus be harvested with much less labor and expense.

Storing Alfalfa.

Alfalfa is too valuable to be stacked outside under Wisconsin conditions. If this method of storing must be resorted to, the stack should be topped with slough grass or blue grass which will shed water and prevent it from soaking into the stack.

The best place to store alfalfa is in the barn where it can be fed with the least possible handling, and where it will be protected from rains and storms. In storing, it should be spread evenly in the bent and never be allowed to bunch up in the middle where the forks of hay are dropped. This is apt to cause heating and blackening of the hay.

There have been some reports where alfalfa which has been cured improperly has heated and spontaneous combustion has set in, causing total loss by fire. The greatest danger occurs with the first cutting when the alfalfa is apt to be stored when damp with dew or rain. When alfalfa is properly cured and stored, no danger from heating need be apprehended.

Putting Alfalfa in the Silo.

Owing to the difficulty of curing the first cutting of alfalfa, it is often hauled direct to the silo immediately after it is cut. In fact green alfalfa hay can be cut and hauled to the silo during a rain storm and no harm will result. It is necessary to pack the alfalfa silage well and wet it down with water. It keeps excellently if well packed and makes an excel-

dingly rich feed.

Manuring Alfalfa Fields.

No one crop responds more readily to applications of manure than does alfalfa. However, heavy applications of coarse "trashy" or straw manure will smother the plants. Frequent and light applications should be made in the fall or winter and excellent results will be obtained.

Weeds and Alfalfa.

Weeds crowd out young alfalfa readily, but thick stand of alfalfa becomes well established, it is capable of eradicating such weeds as Canada thistles. Recent reports from several farmers throughout the state show that Canada thistles have been eradicated in this manner. The dense growth and frequent cutting of the crop make it valuable as a weed eradicator.

Diseases of Alfalfa.

Leaf spot is the chief disease of alfalfa. The lower leaves turn yellow and become spotted with numerous brown spots and drop off. The remedy in serious cases is frequent clipping. The new growth will generally be free from the disease. No great losses have been experienced in Wisconsin due to leaf spot.

Alfalfa for the Dairy Cow.

Dean Henry in his new book on "Feeds and Feeding" says: "For the dairy cow there is no better feed, for alfalfa is rich not only in protein, but also in the mineral matter-- prime requisites in milk production." Protein is that of any feed which builds up the muscle, bone, and lean meat of the animal. It forms the cheese making material in the milk. It is the most expensive portion of the ration. Farmers in Wisconsin are paying other states thousands of dollars for concertrated high-protein feeds, such as oil meal, oil cake, cotton seed meal, bran, etc. with which to balance their rations when, if they could feed a home grown ration and their feed bill

could readily be cut down one-half. A ton and one-half of alfalfa hay has a greater feeding value than a ton of bran. A ton of alfalfa leaves has almost the same feeding value as 3000 pounds of bran. There is no greater economical milk producing feed than alfalfa. It is not only extremely palatable, but highly nutritious containing from 11 to 13 percent digestible protein.

Alfalfa for Swine.

The hogs internal anatomy is not so constructed as to utilize any great amount of coarse forage, yet alfalfa is an exception to this rule. Particularly so with brood sows. The danger of over fattening breeding animals is recognized by all breeders. The brood sows will consume a great deal of alfalfa hay, which is bulky enough to keep them in a good thrifty condition without an over production of fat. Large litters always result when alfalfa hay is fed to brood sows. It is said that alfalfa puts an extra Kink in the young pig's tail.

Alfalfa Good for all Live Stock.

No better hay can be found for sheep, either for breeding or for fattening stock. Sheep can be wintered with but little grain when alfalfa is fed.

When fed in small quanities, it makes an excellent horse feed and particularly for young growing animals.

For beef cattle-- well, it suffices to say that most of the prize winning fat steers at the International have been fed on a ration where alfalfa was the roughage.

Pasturing Alfalfa.

Alfalfa is not a pasture plant. It is easily killed out when large hoofed animals such as cattle and horses are allowed to graze on it for any long period of time. However, where we contemplate plowing up an alfalfa field, it is often advantageous to pasture the summer before. If cattle are turned on alfalfa with full stomaches and are only allowed to

graze for an hour or so at the start, until they have become accustomed to the new pasture, no danger from bloat need be anticipated. Alfalfa pastures produce large gains in form of meat in the beef animal and milk with the dairy cow.

Hogs do exceedingly well on alfalfa pasture and do not kill it by tramping as readily as the larger hoofed live stock .As much as 800 pounds of pork have been produced from one acre of alfalfa pasture and these gains are very cheap.

Plowing Alfalfa Fields.

A good strong team, a sharp walking plow, a file in the hip pocket, and a man of patience and good Christian character are things that are needed in plowing alfalfa smoothly. Plow when the soil is moist and in good working condition. A sharp piece of steel attached horizontally to the land side of the plow will steady the plow, cut the roots, and facilitate a complete turning over of the furrow.

Crops for Alfalfa Soils.

Great crops of corn can be produced on alfalfa soils. The immense amount of fertility that alfalfa is capable of storing up in the soil makes its presence felt in the succeeding crops. We might naturally expect this when we consider that alfalfa is the greatest soil renovating plant in existence.

Alfalfa Compared To Other Crops.

In some tests made at the Experiment Station, Madison, the amount of protein produced by an acre of alfalfa was compared with that produced by other hay crops. Alfalfa yielded three times as much protein per acre as clover, nine times as much as timothy, and twelve times as much as brome grass. This gives a still further conception of feed producing ability of alfalfa.

A Caution.

In conclusion, a word of caution to farmers who have never grown alfalfa may be appropriate. Owing to the large amount of vaulable forage that may

be secured from a limited acreage of alfalfa, many farmers have been led to believe that the greater portion of their farm should be sown to this important crop regardles of conditions. A much wiser method for the beginner in alfalfa culture is to try only a few acres at first, so as to become acquainted with the crop, and have opportunity to study the adaption of the plant to his soil conditions. There can be no doubt but what in future alfalfa will become as common on the farms as clover and it is hoped that the suggestions in this article will be the means of starting many Wisconsin farmers in the right direction relative to alfalfa growing.

The Milking Machine a Necessity to the Busy Farmer

Chas. Sanders, Chicago, Ill.

It is more particularly about this Machine I have here this afternoon, that I speak, of the experiments and developments leading to the production of a Mechanical Milking Machine we know to be absolutely successful in every way.

It has been fifty years since D H. Burrell & Co. of Little Falls, N. Y. first experimented with a Mechanical Milker; in 1860 patents were granted to L. O. Colvin, covering a machine of this kind, which was a device consisting of a hand suction pump directly connected to teat cups. Mr. D. H. Burrell tested this machine. Other attempts were made to produce machines, including a large number of the squeezing type, but all of them were finally discarded as unpractical and unsuccessful.

In 1895 a machine was produced in Scotland by Alex Shiels which was the first machine to admit air to produce Vacuum pulsations in the teat cups, imitating in a certain measure the action of sucking by a calf. This machine was also used by D. H. Burrell & Co. in one of their dairies, and although it proved a big advance over former machines, it did not prove to be practical and was finally discarded. In 1902 a series of experiments were started with the Lawrence & Kennedy machines, but while the results were still far from satisfactory, they tended to show that a successful machine could be produced; so experiments on a more extensive scale than ever before were carried out, and by Jan-

uary 1904 a Milking Machine had been developed that milked successfully any cow in their herd. These experiments were continued for 18 months longer, before a machine was placed on the market for sale. The present machine is therefore the result of the experimentation, study and experience.

Why was it that some of these previous machines were not successful? Because they would extract milk from the cows. Indeed it is quiet an easy matter to make a machine that will take the milk from a cow; but this does not prove that it can be called a Milking Machine.

During the experiments carried on by D. H. Burrell & Co., they tried varing amount of Vacuum, different methods of applying relief to the cows teats, different kinds of teat cups, particularly those of the collapsable or squeezing variety, believing that a distinct "squeeze" on the cows teat was really very necessary. After a time they determined that 15 to 16" of vacuum maintained unvaryingly was right and that relief through the connector and at the base of the pulsator was correct: and also that the collapsable or squeezing kind of teat cups was n o t practical for several reasons, the excessive cost in connection with them and the unsanitary features were some reasons for discarding this kind of teat cups. Finally they adopted an all metal conical shaped cup, having a bell shaped end and fitted with a rubber mouthpiece. Seven sizes of these cups were made and five sizes of mouthpieces; these proved entirely successful but rather cumbersome and did allow of mistakes being made, so that further experiments along this most important line developed what we call our Universal Teat Cup, with which all our machines are now fitted, and which have rendered the machines a great deal more simple and easy to handle and do better work than the old style. In the improved machine we have also done away with the relief at the base of the pulsator and now

only admit air for relief at the connector, this means that there is a positive relief or let up that is, when the suction is not applied the cows teat can and does resume its normal natural condition. And the effect when the Vacuum is applied is exactly the same as that produced by hand. We know that other machines have milked cows; sucked the milk from them, and yet they were not successful. So what constitutes a successful milking Machine?

A Milking Machine to be successful must be simple, easy to operate and keep in order, sanitary, and easy to clean. It must also get all the milk, all the time, and develope the milk giving abilities of the cow or heifer exactly the same as is done by hand milking. Will the Machine do this? Yes, certainly it will; but before I try to show you, I am going to admit that all those people who have used a Milking Machine have not operated them successfully, and consequently some of them have been discarded, and these people declare them a failure. There are many reasons why these people have failed to get as good results as their neighbors could get; for there are some places where an outfit has been discarded which has been purchased by a neighbor and then run continuously successful. I could talk on this one subject alone for half an hour, but to give one or two examples. I will mention one case when I visited a farm where the machines were in use, and arriving at the barn found the 2 machines attached to 4 cows, but no one present to look after them; cans for holding the milk were standing outside. So as I was smoking I sat on the cans to wait the arrival of the farmer. I had just lit a cigar when I got there and and while I sat I saw the cows were through milking, so I went and removed the machines, and then went back and finished my cigar, after which I hunted up the farmer and found he was pitching hay down for his horse, (his hired man was still in the field) and he was trying to clean out a horse stable, feed his

horses and milk his cows at the same time. He really had no idea of the length of time he had been away from his machines, but it must have been considerably over half an hour; was this the right way to treat a thing that is only mechanical after all? Suppose anything had gone wrong, do you suppose he would have assumed the blame himself. Oh no, it would have been the machines.

I was told of another (who we considered a good user) that had discarded his machines and upon visiting him and making inquiry as to the cause, could not discover where he had been wrong or why his machines had not continued to do good work for him. But upon further talk, it developed that he had found out what we really knew, i.e. that by increasing the speed he could milk out the cows a little faster, but we also knew that this increase in speed would not continue indefinitely to milk those cows. We had determined the machines were to be run within certain limits - 50 to 60 pulsations per minute, and this man had been instructed, but went ahead and tried a little experiment for himself. All the machines are capable of speed adjustment, and can be regulated at will by the operator, and although we have established the fact that the speed should be from 50 to 60, this does not apply to all cows and with short teated heifers, the speed can be increased a little. We instruct a man in this and point out the way to obtain best results, and yet in spite of our instruction books and personal inspection, I have found users runing their machines at speeds ranging from 28 to 109 pulsations per minute, carelessness, pure and simple. I have also found them deliberately going wrong, and doing this by adding weights to the saftey valve, and so producing more Vacuum than was necessary, and consequently making the cow unconfortable. This was deliberate, because 16 inches we had to add to the safety valve additional weight: and the gauges in the system

would register this increase which they could have actually found among our users and which will account for some failures to make Machine Milking a success. It does not take expert or more than ordinary intelligence to run the machines; really all that is necessary is compliance with our instruction book. These instructions are very simple, and really all they are in substance is, see that the Vacuum is maintained at 15", further Experience teaches us that 15" of Vacuum is correct and should not be Exceeded and see that the rubber mouthpiece on the teat cup is comfortable and fits the cow.

Now then are they necessary to the farmer, and will they do the work and save him money? We have sufficient machines out working today and have had them in use among dairymen for the past five or six years. To prove them an absolute success, many of these dairymen are milking pure bred cows, and could not afford to take chances with a machine still in its experimental stage. Many of them weigh each cow's milk at each milking, record the weight; and did this previous to installing machises and these people are in a position to know by reference to former records, if their cows are doing as well as under hand milking. Then there is the developement of the young stock, which is most important. In this connection I could give you isolated cows as example that are really remarkable. Only a short time since I had a cow (Holstein Grade) pointed out who had freshened three times since she was first milked by machine and she was then 109 days fresh, and making an average of 82 pounds per day. As the young stock have freshened and been added to herds they have continued to develope their milk giving qualities producing more as each year went by. Very many of our users can point to young stock never milked by hand who have come up to the same expectations that in previous years their hand milked cows reached, and many people have told me they

honestly thought that under machine milking they wer better than good hand milking, but we can very confidently say from experience that they are equal at all times to the grade of milking we find in the ordinary dairy Barn, and that under careful operation they are a good deal better, and we have every reason to believe that in the near future they will be recognized as tne greater single factor in the economical production of milk and that their use will become universal, Yes, even if dairymen could obtain all the hired help they need or this most important work, one of the reasons we have for our view of this question in the fact that other countries have accepted and made more advance in Milking by Machine than has this country. In New Zealand and Australia the machines are credited with already fulfiling the prediction I made a few moments back. But I will read the Consular report on this subject, as I have it here with me. This is the Daily Consular report. The particular part I am going to read is entitled "Dairying Industry in New Zealand" and is dated Washington Thursday Sept. 7, 1911.

"The one serious drawback to the dairying industry-scarcity of labor- is being overcome to a great extent by the milking machines; in fact, milking machines have revolutionized the business. More than any other one thing, they are contributing to make it tne most successful occupation that can be pursued by a small landowner, and they account in large measures for the rapid appreciation in value of good grazing lands, which now sell up to $200 an acre." And right here let me say that an earlier report places some of these lands at form as low as $1.60 per acre and up and this only as recently as 10 years back. "Before Milking machines were in vogue, dairying was not a promising undertaking for any settler, unless he had a large family who could milk cows. If the owner of a herd of, say, 80 dairy cows was obliged to depend on labor outside his own

family, he would probably have to hire at least three hands, who would be given about $7 per week, and board, the cash wages amounting to over $1,000 a year. A milking machine outfit that can be worked by the owner of the cows himself, assisted, perhaps, by one small boy, saves the trouble and expense of hiring outside labor, and as such an outfit, including a motor for running it, costs probably about $1.500, the expense is covered within two years."

"Sixteen different types of milking machines, all made either in New Zealand or in Australia, are on the local market. The type having the best sale is based on a **Scotch patent**, with improvements following the suggestions of a local practical dairyman." Most of the machines work on the natural principles of both suction and compression, but some aply only suction or compression. All machines at present in use carry the milk from the cows' teats to the pail in rubber tubes, which contain small glass windows, so that the milk flow may be watched."

The Scotch patent referred to in the above article, is identically the same machine we have here before us, and you can depend upon it that if this is the most popular out of 16 other makes, that it has advantages other makes lack, and which are necessary to make a machine that is perfect and successful. It is possible to make two cream separators that look very much alike, but one may do far better work than the others, proving that one has some escential that the other lacks; this can be the same in a milking machine, and there is just this difference between the two. One is good but the other is better and it is the best you want, because it means dollars and cents either in your pocket or out of it.

Now then, with two machines one man can milk 20 good average cows per hour, 30 in one and one-half hours. Suppose you have two men milking it means that to milk 20 it will take them an hour and a half and to milk 30 it means two hours for each man.

Suppose we keep to the 20 cow basis, two men will spend 1½ hours each or for the total milking 3 hours. That means 6 hours each day actually spent in milking, 7 days each week, means 42 hours of time spent in milking. With two machines one man can do this work, and cut down on the total time, he can milk 20 cows each hour, that means only two hours each day spent at the actual milking; 7 two's are 14, so with machines only 14 hours are spent in this work, instead of 42. I do not need to point out the saving, you can very readily see that. We believe one man can do better and quicker work with two machines than he can with three and so we only recommend two for one man to take care of, and this work is being done on very many dairy farms today. It is not theoryizing, but I am giving actual results which you can see for yourselves by visiting any of our numerous users.

Cows, as you all know vary greatly and some are more responsive to hand milking or the machines than others, and also will do better for one man they will for another. This applies to the machines also, and a man who is careful and getting good results by hand, can usually do so by machines, for there is nothing about the machine to hurt a cow or frighten her. The same milker is milking her that did it by hand; the cow knows he is near, and often in starting up a new outfit I have seen cows stand contendedly chewing ad apparantly not knowing or caring that they were being milked by any other method than that which they were always used to.

I have not mentioned the Sanitary features in connection with this method of milkig, but providing the machines are kept clean (a very easy matter and should not occupy more than five minutes for two machines after each milking- under any barn conditions the milk, produced by the machine is far and away cleaner than can be produced by hand. We have machines producing the very highest grade of

milk for the Chicago trade "Certified Milk", and only a short time back the user wrote to say that during the month they had received a lower bacteria count than had been given any other milk of the same kind going into Chicago and added he hoped they would not get "Swelled heads" over it. We know the Machines are here to stay. They are a proved success, and we believe when we placed the milking machines on the market: we added to the dairy interests of the country a great economical factor in the production of milk. A member: I would like to ask if you give a guarantee with your machines. Answer. Yes and No. We give aguarantee covering the mechanical part of the machines and will replace free of charge any portion that should break from defective workmanship, or show of undue wear within one year from date of sale, yes or two years. We are pretty safe as I have not had to go and see a machine for mechanical trouble for a year. But we do not quarantee operation, Machines that have been in use for 6 years continuously are our best quarantee that they will do all we claim for them. Mr. Marty: I would like to ask Mr. Saunders how these machines are kept clean, as you know it is sometimes a hard matter to make a man keep his pails and cans clean.

We advise the cleaning of machines immediately after milking not leaving them till after breakfast, or later in the day. But if the operator will take the trouble to draw thro the machines some cold water and thoroughly rinse them he may leave them till later for proper cleaning. But we dont advise this. It takes but a few minutes for proper cleaning, which I try to impress and personally show our users, how to do and which is as follows: for the ordinary barn,- as soon as milking is finished and while the rubber tubes are still wet with the milk, take a couple of pails of cold or tepid water and draw this through the machines, follow this with

some hot (boiling preferably) in which some wyondotte washing powder or Sal Soda has been disolved; then draw through some more cold, to thoroughly rinse it out. Take out the pulsator and wash the piston then turn up the head and wash the underside and at the same time the suction filter, and your machine is clean for all ordinary purposes. Once a week the whole thing should be taken apart and the brushes we provide for the purpose should be run through the tubes and all other parts. Of course, to the machine for producing Certified Milk, requires steam, altho at our overlook dairy we have produced milk with a bacteria count, considerably less than is required for Certified Milk and that without the use of Steam. We also advise that all rubber parts be kept when not in use in a solution made up of the following.

To 36 quarts of water add 4½ quarts of Salt, ¼ lb. of Cloride of Lime, 30 per cent Clorine, which should be changed as often as is necessary.

Charles Saunders.

Influence of Silo Feed on Cheese-making

Prof. J. L. Tormey, Madison, Wis.

The Silo.

We are told that Wisconsin is now the banner dairy state in the Union and she is only at the dawn of her greatness in the dairy industry. Her milk cows outnumber those of any other state and the value of her dairy products exceeds that of any other state. About 50 per cent of all the cheese factories in America are located in Wisconsin, and we are told that one-third of the cheese output of the cheese factories is Foreign cheese.

Green County, Wisconsin, is recognized as one of the greatest cheese producing counties in the United States and stands out prominently as one of the greatest dairy centers of the world. Natural climatic and soil conditions, coupled with the natural aptitude, thrift, and frugality of her Swiss and German population have in a large measure contributed to make her such. Green County citizens are progressive, but not beyond the point of conservatism. They are among the foremost in the production of improved live stock, and have some of the best equipped farms and the largest alfalfa fields in the state. This is due to their progressive spirit.

Against this it is stated that less than 10 per cent and probably not more than 1 per cent of the farms have silos. This is due to conservatism on the part of the rural population. The manufacture of Swiss cheese and the condensing of milk are the leading lines of dairy products manufacture in Green County and both of these industries have heretofore dis-

Silo and barn, Dallas Davis Farm Monroe, Wis.

criminated and do now discriminate (in a measure) against the use of silage milk for the production of these articles. This objection is not due entirely to prejudice on the part of the manufacturer, but is a result of poor sanitation and unclean practices on the part of the feeder of the silage. The manufacturer of condensed milk has placed the ban on the milk as a precautionary measure against the abuse of this remarkable feed. The prestige community carried as a dairy center is often measured by the traveller by the number of silos visible. The time is not far distant, I think, when this standard will show Green County in its true sense to the casual observer as the greatest practical dairy center in the world.

Silage is forage material stored before the life processes of the plant ceased and allowed o undergo certain changes in a receptacle or under other conditions so that air is practically entirely excluded. The value of material thus preserved was known centuries ago. History states that our Roman friends placed green forage in pits and covered it with dirt thus excluding air and preserving the material in a juicy, succulent condition to be used as a palatable and valuable feed for stock during the colder or dryer seasons. Our Scotch and English friends, who have taught us so much of good and profitable feedings, practiced similar methods, and carried the practice further by compressing green material in stacks. The outside layer of the stack decayed and by excluding the air from the inner portions preserved it and made typical silage. Our modern silage methods are an outgrowth of the more practical and scientific of the principles involved in the older customs.

The silo in America is not an exceptionally new thing. The first one was built in 1876 by a Mr. Morris of Maryland. In 1881 Professor I. P. Roberts of Cornell College and Dean W. A. Henry (the pioneer in Agricultural College work in the Middle

West) of the Wisconsin College built the first silos for experimental work in America. Since that time, although the growth of silo popularity has been marvelous, its growth is no more marvelous than the sluggishness of that growth when the value of the silo to the farmer and the country in general is considered.

Two years ago it was estimated by Dean Henry that there were over 100,000 silos in use in America that 95 per cent of the material stored was Indian corn and that 95 per cent of the silage was fed to dairy cows. Since that time the silo has made wonderful strides throughout the corn belt. Illinois, Indiana, Iowa, Kansas, and Missouri Agricultural Experiment Stations have been directing practically all their valuable educational guns toward silo campaigns. The result is that throughout the corn belt the past two years have been the erection of numerous silos in those states.

There must be reasons of a practical nature for this growth. The common ones are:-

1. The silo saves the corn crop;
2. There is less waste in curing the crop;
3. The silo economizes space;
4. Silage is cheaply stored; and
5. The great value of silage as a feed for live stock.

An ordinary corn crop has about 60 per cent of its food materials in the ears, and about 40 per cent in the stalks. Under the usual corn belt practice of husking the ears and allowing the stalks to remain in the field, nearly 40 per cent of the crop is not utilized or is wasted as far as feeding value is concerned. The silo saves the extra 40 per cent in a succulent, palatable condition, and in place where it can be fed easily. The most of the corn crop in our state is not husked, as it is in the corn belt, but is cut with a binder and either put into the silo, cured in shocks in the field, placed in stacks, or shredded into a barn or stack after having been sufficiently

cured in the shock. Although the cutting and curing of the crop for a dry forage is more economical than the corn belt practice of allowing the stalks to stand in the field, there is considerable waste, due to losses in curing.

It was found at the Wisconsin Station that shock corn standing in the field from two to four months lost, in some instances, upward of 24 per cent, due to bleaching, leaching, or dissolving by rains and snows, and to the breaking off of leaves by the wind. The minimum loss to be expected under ideal conditions is 15 to 20 per cent. It is also a peculiar fact that these losses occur to the most valuable feeding parts of the crop, namely: - the sugars, starches, and proteins, and the amount of crude fiber or coarse and woody material is proportionately increased.

In a properly constructed and filled silo the losses ought not to exceed 10 per cent for corn or 18 per cent for clover or other leguminous (alfalfa, pea vine, etc.) crops.

The following table shows the results obtained during four years observations taken at the Wisconsin Station.

Relative Losses in Curing Corn Forage and Corn Silage.

Corn Silage		Corn Forage	
Dry matter	Portein	Dry matter	Portein
15.6	16.8	23.8	24.3

The table shows us that there is a saving of at least 8 per cent in curing in the silo.

Storage space is an item worthy of consideration in these days of high cost of materials and construction. The economy of the silo is shown in the following. One ton of silage in a 30 foot silo occupies about 50 cu. ft., while a ton of hay occupies ten times the space or about 500 cu. ft.

In the cost of storing it has been estimated that a ton of silage can be stored for about 63 cents per ton, while is costs about $1.50 to store a ton of hay. For

the storage of a pound of dry matter the cost of the two is about on a par.

The great reason for the popularity of the silo is the wonderful increase it gives to the corn crop in its feeding value. Comparing the amounts of milk produced per 100 lbs. of dry matter consumed in silage and corn fodder (corn and stalks cured), we find that there is an increase of 25 per cent in favor of the silage as a feed for production. There is not a great deal of difference in the curing losses of these two methods of handling the corn crop, nor is there much difference in their digestibility. The great value of the silo comes from the fact that the cows consume the silage without waste and that they consume much larger quantities of the material.

A comparison of silage and root crops reveals the fact that the corn crop ought to average a yield of 6000 to 8000 lb of dry matter per acre, while roots yield only 1500 to 5000 lbs. per acre, or not half as much as the corn crop. 100 lbs. dry matter in silage returns from 60 to 120lbs. of milk, while 100 lbs. of dry matter in sugar beets (the best root crop we have for milk production) has been found to yield 59 to 112 lbs. of milk. The silage is equal, if not slightly superior, to sugar beets for production purposes. At the Pennsylvania Station, it was found that it cost five times as much to produce 100 lbs. of dry matter in roots as to produce the same amount of dry matter in silage.

Professor Haecker of the Nebraska Station makes the following feeding value comparisons.

1 ton of silage - 1 ton of sugar beets
3 tons of silage - 1 ton of clover hay
3½ tons of silage - 1 ton of alfalfa hay
2¼ tons of silage - 1 ton of marsh hay
3½ tons of silage - 1 ton of prairie hay
½ ton of silage - 1 ton of pumpkins.

In the above it should be remembered that the quality of silage is much more uniform than is the

quality and feeding value of hay.

At the Ohio Experiment Station, ten cows, representing five different breeds, were divided into two lots of five each, and fed rations containing equal amounts of dry matter. One lot was fed a ration high in silage, the other lot no silage. The following table shows the result.

Cows fed	pc D.M. in grain	pc D.M. in silage	Production per 100 lb. D. M.		Net profit per cow
			Milk	B't'r F't	
Lot I, 5 cows	18 p'r c't	50 p'r c't	96.7 lb	5.08 lb.	$5.86
Lot II, 5 cows	57 p'r c't	None	81.3 lb	3.9 lb.	$2.40

The above table shows that the cows in the silage lot consumed only about one-third as much grain as those receiving no silage; they produced about 20 per cent more milk and 30 per cent more butter at (these cows undoubtedly gave milk of a different quality) per 100 lbs. of dry matter; and they produce a net profit exceeding that of the no silage lot by about 145 per cent.

At the Missouri Station corn silage produced beef $1.07 per 100 lbs. cheaper than did hay in the ration. The Illinois Station found silage 31 per cent more valuable than corn fodder all costs considered. The Ohio Station produced butter fat 9 cents per lb. cheaper using silage in place of hay. The Indiana Station found silage worth $5.50 to $6.00 per ton for beef and mutton production. The Mississippi Station found it the most economical feed they could produce for milk and butter production. The Pennsylvania Station found it worth $6.20 per ton for feeding steers. The Antario Station found that $63.00 could be saved on every $200.00 invested in feeding stuffs by introducing silage. The Kansas Station reported that they produced better and cheaper beef when feeding silage. Since 1881 the Michigan Station found it the cheapest method of handling the corn plant.

Silage is a winter roughage which corresponds most closely of all our roughages to natural pasture grass and carries the conditions of summer throughout the entire year by supplying a succulent, palatable feed in the winter. The periods of drought in the summer may be bridged over by silage kept for summer feeding. This is known as summer silage, and the custom of saving silage to feed in summer is practiced by many of our most successful dairymen and steer feeders.

There are on the market today a number of materials of which silos may be built. The most common ones are staves, concrete blocks, solid concrete, and brick. All of these materials have their advantages and disadvantages, and they will not be discussed here. It is sufficient to say here that any one of the materials built into a silo is a much better equipment on the farm than no silo at all.

One of the peculiar advantages of the silo is the comparatively large range of forage crops that can economically be put into it. The one great silage crop in this country is corn, and no doubt no crop will ever be found to take the place of corn as a silage crop. This is because corn can be cut into regular lengths which can be very compactly stored in the silo; the stem is so solid that a large amount of air is not introduced into the silo when the crop is stored; and the food materials are arranged in such proportions that the changes going on in the silo are of such a nature that a palatable feeding stuff is the result.

Alfalfa and clover hay may also be ensiled, but they have never given the satisfaction that would be expected considering their great value as hay feeds for live stock. The vines of the common pea, that is so extensively grown for canning purposes when placed in the silo make one of the best silages that is possible to obtain. The usual method employed in caring for this material is to stack it out,

allowing the outside to spoil. This excludes the air from the inside material which makes very typical silage, and is considered by some better than corn silage for milk production. Some of the canning companies have silos in connection with their factories and put the material right into the silo as soon as it comes from the vines.

In filling the silo, great care should be exercised to do it properly because in a large measure the quality of the feed depends upon the manner in which the work of filling is performed. The silage should be kept well tramped, especially around the edges of the silo, which should be kept higher than the middle. A good rule is to put the two best men on the job into the silo and see that they keep busy. Fill the silo as tightly as possible while you are at it, and seal it by sowing some oats on the top of straw or other material with which the silage has been covered. Some milk companies object very seriously against the practice of allowing the silage to settle for a week or so and then refilling to the top of the silo. They claim that they can detect the place where the refilling began by the presence of mold that has started to develop on the silage at this point.

The proper size of the silo should be regulated both by the number of animals to be fed and by the length of the feeding period. The width of the silo should be determined by the number of animals fed, and the height by the length of the feeding period. The surface of the silage should not be exposed to the air for a long period of time or the silage will start to mold. To avoid this molding, it is advised to feed down at least two inches of the silage daily. Now a cubic foot of silage weighs about 40 lbs., so that a block of silage two inches thick and a foot square would weigh about 7 pounds. If a cow eats about 40 lbs. of silage daily, it would take about six square feet to supply her the requisite amount of feed. To

supply enough material for 25 cows, the silo would need to be large enough in diameter to give about 150 square feet of surface. A silo about 7 feet in radius, or 14 feet in diameter would be large enough to supply this. If we get our silo large enough in diameter to supply the herd by feeding two inches daily, a foot of silage will last for six days and we can get enough material in a 30-ft. silo to last for a period of 180 days or six months.

To figure out the tonnage of a silo, a simple rule can be quite closely adhered to. If we let H represent the height of our silo in feet and let R represent one-half the diameter in feet, we can find the volume in cubic feet according to the following formula: -

H x R sq. x 3.1416. There are about 50 cubic feet in a ton of silage. To get the tonnage then divide the number of cubic feet by 50.

Practically all siloes are round. The reasons for this are:

1. Uniform pressure throughout.
2. Uniform friction on the sides of the walls.
3. There are no corners to allow air to collect.
4. It saves material.

In building a silo it should be remembered that the capacity increases as the square of the diameter, so that a silo 20 feet in diameter will hold four times as much as one that is 10 feet in diameter but costs only twice as much. It should also be borne in mind that one that is 36 feet deep will hold five times as much as one that is only 12 feet deep. Not only that, but the increased pressure will make a better grade of silage. When building the silo, however, it should be remembered that the deeper the silo the greater the pressure near the bottom of the silo and it must be much stronger than would a low silo. A 90 ton silo 30 feet high built round requires about 2700 feet of lumber if the lumber is 2 in. thick. A square silo of the same height and capacity would re-

quire over 3000 feet more lumber.

There has in times past been much discussion about silage as a feeding stuff, and its effects upon animals and animal sickness, decay of teeth, rotting of the intestines, etc., have been pretty well swept away. There is still considerable that needs to be said concerning the effect of the material upon milk used for specific purposes. Creameries and city milk supply men do not object to the use of silage as a feed for milk production. Professor Fraser of the Illinois College fed one lot of cows 40 per cent of silage and another lot no silage. He then had the milk tasted by 372 persons, and over 60 per cent of them liked this silage milk best. Experts can generally detect a flavor, but this is no more pronounced than that from fresh pasture grass.

Condensing factories have always placed a ban upon milk that came from farms that fed silage, but this was due to the fact that they objected to the unsaniary methods practiced when feeding, rather than to any definite effect the silage had upon the milk. The Borden Company still retains the privilege of rejecting silage milk, and this is definitely stated in the contract of the company. This does not mean, however, that they do not accept silage milk. They do accept it, but they want the silage fed properly.

The manufacturers of Swiss cheese object to silage milk, claiming that they cannot get the proper texture to their product if silage has been fed because it produces gas. Mr. A. C. Baer of the College of Agriculture at Madison has made tests upon silage milk and is unable to find any production of gas. It is true that there may be an undesirable odor about the stables if silage is allowed to remain in the barn, and the milk may even take up organisms that will cause a gassy fermentation to occur in the milk. There are men who haul silage milk to Swiss cheese factories, and the cheese maker is succeeding in making a grade of cheese equal to that made by others

in his district.

The thing needed more than anything else is proper sanitary methods of feeding the silage. Silage is a very succulent feed. That is, it has a high content of water. Feeds of such a nature will spoil somewhat more quickly than will feeds that have a lower water content. Silage also has a strong, characteristic aroma Milk readily absorbs odors on account of its high fat content. If silage odors are allowed in a barn, the milk will readily take up the odor and an undesirable product will result. If silage is fed before milking, the milk will sometimes be tainted.

The silo should be placed far enough from the barn so that none of the aroma pervades the stable. The silage should be fed immediately after milking, and none of it allowed to stand in the silage cart in he the barn. The silage cart should have a place to be left outside the barn. The barn should be properly lighted and ventilated and the milk should never be allowed to remain in the barn after it is drawn from the cow. If these measures are firmly adhered to, there should be no trouble from feeding silage milk because silage produces normal milk, and normal milk should produce normal products.

The Manufacture of Whey Butter to Comply with the Law

Professor C. F. Doane, Washington D. C.

The United States Department of Agriculture is always interested in any line of work which means greater returns for the products in agricultural interests of the county. Because of this the conservation movement found its beginning in this Department. By conservation we not only mean the saving of the resources of soil and timber but the turning to practical use many things which have heretofore been classified as waste products. Nothing is too great or too small to escape our interest if it is only brought to our attention. The saving of the whey fat may be considered to be of minor importance when compared with the value of many of our farm products, but to small communities and to a fairly large number of individuals it is worth the greatest consideration.

You have perhaps, in this part of the State about six-hundred factories, making foreign varieties of cheese and handling in the neighborhood of three hundred million pounds of milk yearly. This means two hundred fifty million pounds of whey testing in butter fat about .7 of one percent. If you will do a little figuring on this you will at once perceive that the value of this fat, providing that it is all secured from the milk and the best use is made that it should amount to close to one million dollars annually.

It is because you have not been securing anywhere near the maximum value for this whey fat that I am here to talk to you today. The Swiss cheese mak-

er is perhaps the best trained artist of our industrial professions. I know of no work requiring a higher degree of skill than is attained by the great number of Swiss cheese makers in this community. It takes years of preparation and the very best judgment to make a good product and I am forced to congratulate you because of the skill which you have attained in this line of work.

It seems, however, that while you have been preparing yourselves so thoroughly for the making of the cheese you have neglected the preparation for the making of whey butter, which, I understand from the Swiss cheese makers, represents a very large proportion of the profit secured in this line of work. There is no reason why as good butter should not be made from the whey cream from Swiss cheese factories as is made in any Creamery in the State of Wisconsin. This means, of course, that it is possible to make the very best butter in your Swiss cheese factories. That you have fallen short of this possibility is demonstrated by the price which you have received for the butter as you make it in the factories at the present time. I believe that you are getting a very little more than half the price paid for good creamery butter. When the Elgin butter market is quoted at twenty five cents you get about fourteen or fifteen cents. When the Elgin market is quoted at thirty-five and thirtysix cents as it has been much of he time this winter, you received about eighteen or twenty cents for your product. But this is not the only place you lose, as I said whey from Swiss cheese tests in the neighborhood of .7 per cent of fat. I believe that you are recovering only about half of the total amount of fat in the whey. The other half is partically lost. It does return to the farmer for pigs feed but its value for this compared with its value for butter is so small as to be almost worthy of no consideration.

Now, I think we are in a position to arrive fairly

definitely at what you are receiving for this whey fat as compared to what you should receive. You are recovering about half of the total amount of fat. You are receiving for the fat recovered a little more than half of what you should receive. On the whole you are securing for this whey fat about one–third of what you should receive.

You are naturally interested in the question of how you are to increase your returns for this product The first step is to secure all of the fat from the whey. There is only one way to do this, that is, to put in a Separator with some sort of power for running it. The outlay of money for this machine naturally makes you hesitate. You can purchase a good, new Separator for $400.00. A gas engine will run this, however, I believe you would be better satisfied in every way if you put in a boiler and steam engine. Two-hundred dollars should furnish the power for running the Separator. This makes a total outlay of $600.00. The average Swiss factory handles 800,-000 pounds of milk in a year. With your present way of doing business you secure from the butter fat about $500.00, annually. By putting in a Separator you will about multiply these receipts by three or, instead of receiving $500.00 for the whey fat you will receive about $1500.00 for it. The work of separating the whey is not greater than the work you are now expending in securing the whey fat. The outfit, engine and Separator should last, at least five years even with poor care. It may cost you $50. a year for repairs and another $50.50 for interest and $100.00 for depreciation and you are still $800.00 a year ahead.

The question naturally arises as to the best disposition to make of the whey cream, I believe it is entirely possible for the larger of your Swiss cheese factories to make the necessary preparation for doing the churning in the factory. This requires an ice supply, which need not necessarily be charged up

against the butter making work because this ice can be used for many other purposes. A number of the Cheddar factories in Sheboygan County have ice houses attached. The farmers put up this ice for the factory and have the privilege of getting a small quanity of ice as often as is needed for making ice cream. They consider this ample pay for their work.

I had thought when I first came to make this talk of trying to induce some one to build central churningplants near enough to a large number of factories to insure the minimum amount of labor in delivering the whey cream. A number of reasons have made it seem undesirable to go ahead with this plan. I find that Creameries are paying you Elgin prices for this butter fat. I do not believe that any one could afford or could make any profit by putting up a Creamery and paying you more for this fat., and I do not believe it possible to induce any one acquainted with the Creamery business to put up such a churning plant when he would necessarily have to meet the competition for butter fat which is already beginning in the Swiss cheese territories. I realize the desirability of turning everything as far as practicable onward home industries and it is very possible that if a large number of the cheese factories could get into the spirit of cooperation and build a cooperative churning plant that it would be practicable and warranted by the increasing income from your whey fat. Such a plant would not be very expensive; any Swiss cheese factory would be sufficiently large for this, an ice house would be needed, power, cream vats and churns.

I have been asked in connection with this talk to tell how the whey butter can be made to conform with the Revenue Law fixing a ten cent, per pound tax on adulterated butter. Let me say in the beginning that if you will put in the Separator and send your cream to some central churning place you at once relieve yourself of any responsibility in con-

nection with the Revenue restructions. It is difficult to make whey butter with your present methods that will go below the sixteen percent moisture standard, but it is not impossible to do so as a fairly large proportion of the butter which you make at the present time goes below this standard. This is entirely a question of temperature and the thickness of your cream. At the present time your cream contains such a small percent of fat that you are forced to churn at too warm a temperature. If you can get your cream with twenty-five to thirty percent fat and would churn at a temperature that requires half an hour or more to bring the butter and would then wash your butter with water as cold as you can secure it from the well, it is probable that you would have butter containing below the sixteen percent limit of moisture. So much of your butter at the present time contains above the sixteen percent limit because you have been too sparing in your use of cold water and have churned too thin cream.

In closing I want to appeal strongly to you farmers, who at the present time control the Swiss cheese factories to consider the idea of putting in a Separator as I have outlined it. This is not theory, a number of the factories are already doing exactly what I have said that you can do and what they have been able to do you certainly should be able to imitate. Factories have trebled their income by the use of Separators. They have paid for their outfit and have had money to spare at the end of a single year. You cannot afford to go on in the old way of doing business. This means only a thousand dollars a year to the average factory. It means a half a million dollars a year to the Swiss cheese community. This is what we mean by conservation, to save the half a million dollars a year, which is annual waste, is worth much more than the whole Dairy Division of

the United States Department of Agriculture costs the country annually.

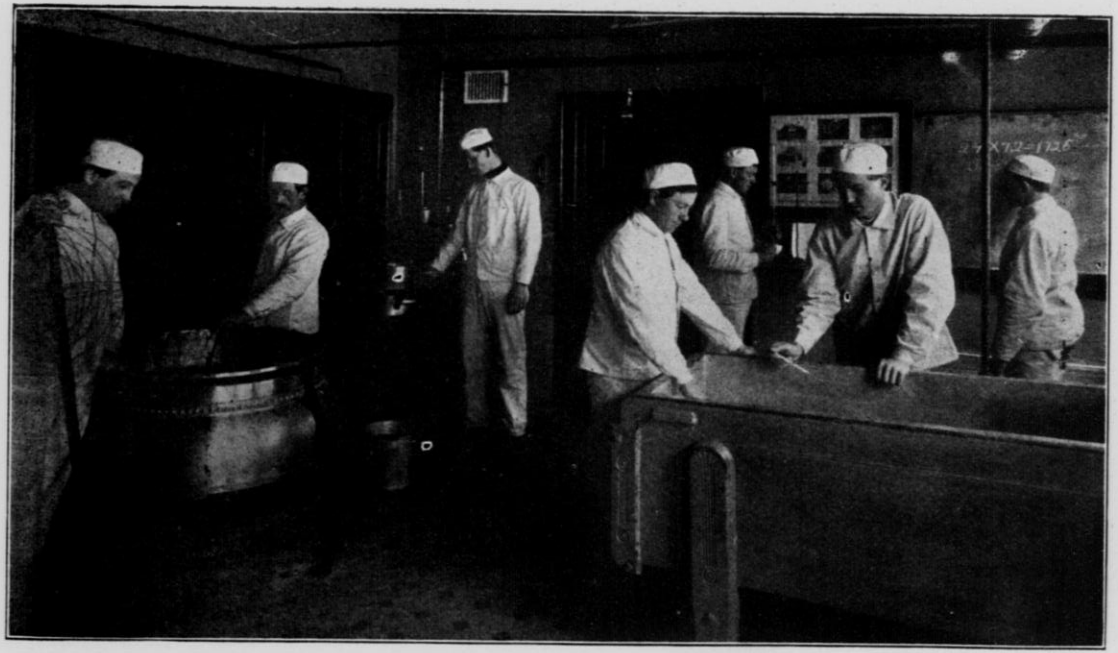
The Real Benefit of a Dairy and Agricultural School

FRANK E. BALMER, Principal La Crosse County Agricultural School

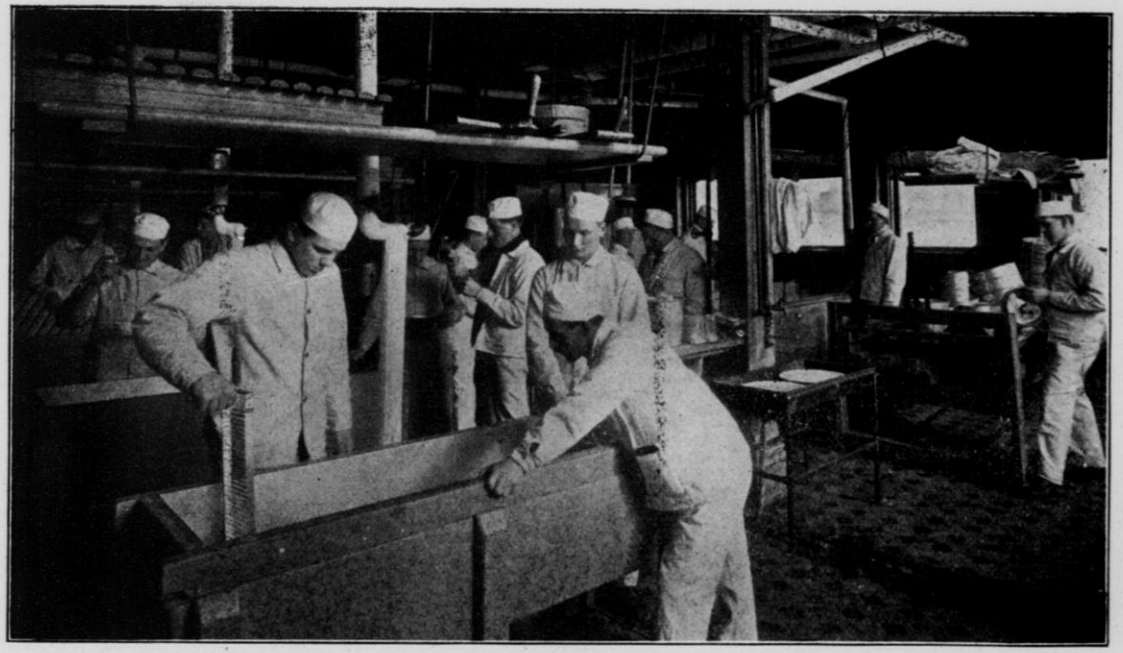
The Real Benefit of an Agricultural School to a Community.

One of the great industrial leaders in this country states that, "The farm is the basis of all industry, but for many years this country has made the mistake of unduly assisting manufacture, commerce, and other activities that center in cities, at the expense of the farm." I like the word farm. It seems to express something that lies closer to us than the word agriculture, and I sometimes wish that we would more often speak of our Schools teaching agriculture as farm schools rather than agricultural Schools, for I cannot believe but what the farm and the people who live upon it are the things that are to be uplifted in this campaign for agricultural education and better farming.

When we have spoken of an agricultural education we have usually referred to training such as has been offered in colleges of agriculture. Today this training which is fraught with so much good for the future is being brought close to the lives of the people, for in many states special agricultural schools are being erected, in other states industrial training is being offered in the high schools, largely with aid from the States, and in nearly every state attempts are being made to introduce agriculture



Instruction in cheese making Dairy School, Madison Wis.



Instruction in cheese making Dairy School, Madison, Wis.

into the rural schools.

We have reached the time in our public educational system when the trend is preparation for the professions only. The problem is to reach the masses of people and to do so with information in and training for the things with which they are to deal.

In introducing some of the things of which I shall speak later I wish to quote from an issue of one of our standard magazines which deals with some of the fundamental principles of industrial education.

"The popular distinction between industrial education has no real efflistence. There is no higher education than that furnished by the professional schools - law, medical, theological. But training for law, medicine, and the ministry is industrial education as truly as training for carpentering, blacksmithing, or farming. The first three are industries no less than the second three.

And carpentering, blacksmithing, and farming are just as "high" as law, medicine or the ministry. It is as important to live under a good food as to live under good laws. Good bread is just as good as theology; bad cooking is as provocative of wickedness as bad preaching.

Life is for service; education is for life. That is the best education which best fits the pupil for the best service he can render. Which is better to be a blacksmith or a preacher? That depends it is better to pound an anvil and make a good horseshoe than to pound a pulpit and make a poor sermon.

There is a real distinction between education for self support and education for self development; between culture and what the Germans call the bread-and butter sciences.

In order, if not in importance, the bread-and-butter sciences come first. The first duty every man owes to society is to support himself; therefore the first office of education is to enable the pupil to support

himself.

But manual training is not merely industrial training. It is not merely training of self-support. It is also training for self-culture. The hand has other uses than to hold a book; the eye other uses than to read a printed page. Education is the training of the whole man--body, soul, and spirit. To teach a boy the mechanics of home-keeping, to teach a girl the chemistry of house-keeping is as much self culture as to teach either what rind of homes the ancient Greeks and Romans possessed. Our present self development is too narrow. We need to broaden it. Manual training is necessary to make the "all round" man.

Manual training is moral training. The boy will learn he is under law more quickly in a workshop than in a school-room. Industry, order, carefulness, accuracy, obedience, conscientiousness are taught at the forge and the work-bench more easily than at the desk. Moral lessons are better taught by doing than by reading, by tools than by text books."

But this work for better farming and better living in the farm is not stopping with the Schools. It is going to the farm and the farmer himself. You are all familiar with the work of Farmers' Institutes, Farmers' Courses, Short Courses, and Farmers Schools such as are being conducted in this and other states. You have also learned of the demonstration farm work being done in someparts of the State, the purpose of which is to bring to the attention of the farmers the improved scientific farm practices, most described in bulletins and presented at farmers meetings, in a more striking way than is possible through lectures or bulletins alone. The demonstration farm work has had its greatest spread in the Southern States where Dr. Knapp has worked wonderful changes for improved farming in that backward section of the country. There is another line of work just being organized in this country

which will bring improved practices to the farm. I can best describe it by mentioning a particular case. There has recently been organized in North Dakota what is known as the Better Farming Association, which at present is being supported by leading business men, bankers, railraods and other interests of the state that realize that the agricultural development of the state means the stability of all business. This Association is placing about 10 agricultural experts in different counties of the state who are to co-operate with farmers and advise them in all phases of work that will up-build the agriculture of that State.

The Farm School offers a center in the county, community or section of the state from which all work of such character as just mentioned may grow.

Before discussing the work being done by such schools I wish to mention some of the various organized in different parts of the country.

One of the first was the School of Agr. located at the College of Agriculture in Minnesota which articulates with the College. This has been followed by the establishment of two other such schools in that State since.

California has tried a plan something similar to the early attempts in Minnesota.

Alabama and Georgia are working out the plan of organizing an Agricultural School in each Congressional district.

Oklahoma has a similar system by which a state school of Agriculture has been located in each judicial district of the State.

California, and especially Minnesota have recently made great strides in the introduction of agricultural and industrial subjects into, the high schools with state aid.

Many localities of the country have consolidated their rural schools and are effectively teaching agriculture and home making subjects to the strictly ru-

ral pupils.

The Wisconsin idea represents somewhat of a departure from these that have been enumerated in that the unit has been the county. A controlling idea in the organization of these schools is to give a practical education to young men and young women who do not care to or cannot take an extensive course, and to give them training that they can make immediate use of upon returning to the farm, the shop, and the home.

The Wisconsin Schools are very much alike in many respects. They are all open to both young men and young women. A course of study covering received aid from the State to the extent of $6,000 per year $7,000 if the average daily attendance is 112 and $8,000 per year if the average daily attendance is 137. Entrance requirements are the equivalent of having finished the eighth grade and all schools admit students from outside counties.

I feel that I can best describe the scope of work offered students at these Wisconsin Schools by outlining briefly the work offered at the La Crosse County School of Agriculture. As before stated the course of study covers two years of work, each year being divided into three terms of eleven weeks each, a fall, a winter and a spring term.

A list of subjects taught the Junior boys is Study of Farm Animals, Farm Arithmetic, Physics, Mechanical Drawing, English, Wood Shop, Blacksmithing, Military Drill, Civis, Farm Botany, Dairying, Physical Training, Forge Work including pipe fitting Belt Lacing, and Rope Splicing.

The boys of the Senior class according to the present course have Animal Breeding, Botany, Chemistry, Study of Soils, English, Military Drill and Physical Training, Feeding Farm Animals, Horticulture, Farm Management, Farm Crops, Farm Machinery including Steam and Gasoline Engineering.

The Junior Girls receive instruction in Cooking,

Study of Foods, Sewing and Garment Making, Study of Textiles, Chemistry of the Home, English, Arithmetic, Physical Culture, Laundrying, Civis, Gegetable Gardening and Physical Training.

The Senior Girls work includes Advanced Cooking, Dressmaking, Household Management, Art Needlework, Cooking and Serving, Dietetics, Household Art, Home Nursing, Invalid Cookery, Millinery, Physical Culture, English, Botany Floriculture, and Carpentry.

Some of the Wisconsin Schools maintain Short Courses during the winter months for more mature students who can attend only during the winter months. That line of work we have not attempted because we have not as yet felt that there is a demand for it and, on the other hand, feel that it would tend to reduce our regular attendance.

There has been maintained each year at this School a Farmers' Course and Home Makers Conference of four days length which was attended throughout the Course by from 1200 to 1500 different persons.

Some of the Schools are also offering Farmers' Schools of one week in which one or two special lines of work are being offered such as Corn and Soils or Poultry and Dairying. These one week Schools are conducted by the University and accomodate a limited number of farmers from 50 to 100 who will attend regularly throughout the week, not merely to listen to lectures but to actually do some important things that will help them to improve their farm practices, such as testing seed corn, testing soil for acidity, learn how to keep milk records, how to plan buildings, lay out farms for rotation and other important phrases of farm work.

We have been working out a plan in La Croose County this year which is meeting with favor and that is holding meeting for the farmers in the country school houses and small towns in the after-

noons and evenings. We go prepared with lantern and lantern slides and try to give each community something in the way of instruction which is connected with its needs.

Another phrase of our work of great value is the use of the land in conducting demonstrations that local application. I know of many schools that have undertaken work in corn breeding, testing of varieties of grain, determining the value of different fertilizers, demonstrating the value of crop rotation, and many other practical problems.

(Refer to work at Lewiston.)

So far as the farmer is concerned there is no way that schools can render better service than working with the individual farmer, and helping him with his particular problems and difficulties and I wish to speak of a number of forms of work of this nature that are being done by many of these schools.

I am more familiar with the work of the La Crosse County School than others and shall refer mostly to work being done from it.

As a result of efforts of the School there have been organized Cow Testing Associations in the County, one of which makes its head quarters at the School. The official tester has thirty head in his circuit and is able to make one test of each herd each month. There are 550 cows under test. Animals are not only tested for butter fat production but the tester is always glad to help each man in working out rations for the dairy animals meeting the needs of requirement, advising them as to herd management, keeping milk records and in every way possible helping them to realize greater returns from the herd.

There has also been organized in La Crosse County an Association of Farmers known as the La Crosse Co. Order of the State Experiment Association, a branch of the State Association. This Organization has the especial object of the production and disse-

mination of improved strains and varieties of crops and breeds of Live Stock. Many of you remember exhibits of some of the County Orders at some of the Fairs last year so you know something of the character of the work attempted. The Order of La Crosse Co. is to offer a Corn and Soils School at Onalaska this month covering six days of work of instruction on the subjects of corn production and the Management of Soils. In Connection with this School a Corn and Grain Contest is to be held which offers attractive premiums, the entire premium list containing prices. amounting to over $200.

Only two weeks ago during our Farmers' Courses a County Horse Breeders Association was organized which has for its object the improvement of that branch of live Stock.

One of the instructors in our School having charge of the Agricultural Engineering work of the School, including blacksmithing and carpentering and who is a very practical workman has been frequently called out by farmers to plan buildings and remodel others where improvements were being made.

Our School also owns a number of silo forms for building concrete silos which are loaned to the farmers for $5.00 per silo and during last summer they were constantly in use up to the time of silo filling and we had many calls for the use of them that we were unable to comply with.

Last summer while meeting a farmer at haying time when he was cutting his crop from some marsh land he stated that he would give $25 per acre to have his land drained. I stated to him that he could get it done for considerably less than that and soon after arranged with the expert drainage man, Prof. Jones of Madison to come out to survey his farm in connection with about 1,500 acres adjoining his farm so that a general system improving all of the land could be worked out. As a result the first man interested has ordered tile and is arranging to tile drain part of his land.

We are glad also at our School to advise farmers as to the use of fertilizers for their land, to test soil for acidity and advise as to the necessity of applying lime to acid soil. Last year the School shipped into Onalaska a number of carloads of ground limestone and it was sold to the farmers at cost.

One of the County Agricultural Schools in Marathon Co. has taken the lead in demonstrating the use of dynamite in clearing cut over lands from stumps so as to get the land in condition for cultivation.

We are glad to make germination tests of seed corn and other grains or grasss for the farmers, to analyze samples of seeds both for purity and also for power of germination, also to identify weed seeds in samples of grain or grasses to determine for the farmer as to whether they are serious farm pests or not.

Almost every week there are brought to our school samples of cream and milk to be tested for butter fat content.

Farmers often come to us in person or send inquiries by letter wanting us to help them with some difficulty or to advise them as to better management of their farms.

Very recently a farmer wrote making inquiry as to what to do with a concrete block silo which he had erected last summer, that was not keeping the ensilage well.

Last week a farmer came to my office with a sample of hay which he said had caused the death by poison of six of his horses. The hay consisted mainly of June grass, but upon examination we found it to contain a large amount of what is commonly known as 'horse-tail", a troublesome weed. We were not able to answer at once as to whether this weed was the cause of the death of the horses as we had never known of the weed to exist in such qualities in hay. But within three days we learned from the State Station of experiments conducted some time

ago at the Nebraska Station which proved this weed to cause the death of horses when fed to them and were able to advise the farmer of the use of the hay containing this weed.

I have not given you a complete list of the various forms of work done for the farmer but I have indicated to you some of the ways that these schools are working for the community in which they are located.

And truly these schools are community schools. They should emphasize the phrase of agriculture that is dominant in the county or section of the State in which they are located. If a particular school is located in a dairy region the dairy instruction in work done from that school should be with the view to the needs of the locality.

If a school is located in a horticultural region that line of work should have a leading part in the efforts of the school, just as one should expect to find a type of school in the city for teaching the mechanical industries where the mechanical trades are the dominant industrial interests of that community.

When we have schools everywhere throughout our rural population practically teaching agriculture to country boys and country girls you need not expect great industrial leaders of our country warning against the mistake of centering the activities of our country in the cities and you will not find a country losing its taste the "cultivation of the earth is the most important labor of man" and knowing that "national strength lies very near the soil".

CALF PATHS

J. Q. Emery, Dairy and Food Commissioner

Mr. President and Members of the Southern Wisconsin Cheese Makers and Dairymen Association, Ladies and Gentlemen:

History records that the direction of the main thoroughfare of the original city of Boston was determined by the path which the cows made in going to and returning from their forest pasture. Mr. Samuel Foss has told this story and pointed a moral to the same in a little epic poem which I will read:

One day through the primeval wood
A calf walked home, as good calves should;
But made a trail, all bent askew,
A crooked trail, as all calves do.
Since then two hundred years have fled,
And, I infer, the calf is dead;
But still he left behind his trail,
And thereby hangs my moral tale.
The trail was taken up next day
By a lone dog that passed that way;
And then a wise bell-wether sheep
Pursued the trail o'er vale and steep,
And drew the flock behind him, too,
As good bell-wethers always do.
And from that day, o'er hill and glade,
Through those old woods a path was made,
And many men wound in and out,
And dodged and turned and bent about,
And uttered words of righteous wrath,
Because 'twas such a crooked path;
But still they followed - do not laugh -
The first migrations of that calf.

And through this winding wood-way stalked
Because he wabbled when he walked.
This forest path became a lane,
That bent and turned and turned again;
This crooked lane became a road,
Where many a poor horse, with his load,
Toiled on beneath the burning sun,
And traveled some three miles in one.
And thus a century and half
They trod the footsteps of that calf.
The years passed on in swiftness fleet,
The road became a village street,
And this, before men were aware,
A city's crowded thoroughfare;
And soon the central street was this
Of a renowned metroplis.
And men two centuries and a half
Trod in the footsteps of that calf.
Each day a hundred thousand rout
Followed the sigzag calf about;
And o'er his crooked journey went
The traffic of a continent.
A hundred thousand then were led
By one calf near three centuries dead.
They followed still his crooked way.
And lost one hundred year a day;
For thus such reverence is lent
To well-established precedent.
A moral lesson this might teach,
Were I ordained and called to preach.
For men are prone to go it blind
Along the calf-paths of the mind,
And work away from sun to sun
To do what other men have done.
They follow in the beaten track,
And out and in, and forth and back,
And still their devious course pursue,
To keep the path that others do.

In an address given by Mr. Thomas Luchsinger at

Monroe in 1908 before the Wisconsin Dairymen's Association, he told among other things of the strugglers of the Swiss settlers at New Glarus and adjacent country from about 1844 to 1878. I doubt not from his description of that period that many of them

"Uttered words of righteous wrath
Because 'twas such a crooked path,"

in which they found themselves.

But about the year 1878 there came a panic, and the men who had been buying milk from Swiss farmers at 55 and 65 cents a hundred to manufacture into Swiss cheese, went to the wall. The Swiss settlers had found out by that time that when there was a gain, the milk buyer did not divide up with them; 'He didn't go down into his pocket and say: ,Here, gentlemen, I have made a dollar out of this milk, and it is nothing but fair that I should give you your share;" but when the loss came, the farmer had to bear it. And so these early Swiss farmers then and there decided to cut loose from that old path, that trail "all bent askew" and strike out for themselves a new path, a new way, the way of cooperation. Their experience taught them that cooperation was a better way to the production of wealth and they allowed themselves to be taught by and to profit by that experience. That new path of cooperation, thus struck out by the early Swiss settlers, grew into a great broad highway of prosperity in which a large part of the farmers of Green and surrounding counties have been traveling. In that way, they share not only the losses but the profits as well.

I have taken the time to make a somewhat careful investigation of the present magnitude of the foreign type of cheese industry in the counties represented by the membership of this association, namely, Green, LaFayette, Iowa, Dane and Rock. The story of the development of this industry from its small beginnings in 1845 to the present time roads like the

story of the Arabian Knights.

The report of the dairy and food commissioner for the year 1909 contained statistics of the cheese industry of the state, that was more carefully and accurately compiled than any record heretofore made of that industry. That report indicates the type of cheese manufactured by the various cheese factories of the state. Referring to the number of factories manufacturing the foreign type of cheese, that is, Swiss, Brick and Limburger, the number of pounds manufactured in the year 1909 and the amount received from the same I find the following:

	No. of Ch. Fcts.	Pounds Cheese	Dollars Received.
Green	213	12,633,491	1,794,878
LaFayette	98	6,353,658	909,538
Iowa	55	3,184,940	447,260
Dane	86	4,526,094	700,720
Rock	18	606,173	87,883
Totals	470	27,304,356	3,940,279

The corresponding statistics for Dodge and Washington counties where Brick cheese is manufactured are as follows.

	No. of Ch. Fcts.	lbs. Cheese	Dollars Received
Dodge	134	13,920,590	1,934,156
Washington	28	1,574,320	392,856
Totals	162	15,494,910	2,327,012

If to the totals for Green, LaFayette, Iowa, Dane, and Rock counties we add the totals for Dodge and Washington counties, we obtain the grand totals as follows: 632 cheese factories, 42,799,266 pounds of cheese, and $6,267,291. This represents 30 percent for the total amount of cheese of all kinds manufactured in the state of Wisconsin for the year 1909. It is, of course, to be understood that owing to the recognized annual increase in the production of

cheese in Wisconsin, that the amount for the year 1911 must be considerably in excess of the figures that I have quoted.

In the absence of a picture sufficiently large to to your view, allow me to present a word picture of a barn and accompanying conditions altogether too frequent among patrons of the cheese factories of this state: A building contains not a single window and consequently is without light; the ceiling is festooned with dusty cob webs; the floor is the earth with no covering is not cleanable and contains sags in which liquid manure stands continually; or, it may be a saturated, leaky plank floor, hiding a big mass of filth underneath, or literally floating in liquid manure which spirts up as one walks across. There are accumulations of manure over the floor and in the stalls and the latter are so arranged that cows are compelled to lie in dung, thick coats of which they carry all the winter. There are no provisions for ventilation and hence the air is so charged with impurities and strong odors as to be stifling. Cows are compelled to breath this air and milk on its ways from the udder to the pail travels through this vile air which adheres to the streams of milk and is carried beneath the surface of the milk in the pail and rises in minute bubbles. The milker sits between two cows, with dung beneath him, behind him, in front of him and manipulates a filthy surface above an uncovered milk pail.

The dairyman that tolerates conditions as above pictured has not obliterated the "calf paths of his mind"; but is following in a "beaten track", and still "a devious course pursues."

Let us contrast that sketch of conditions with the following: On two or more sides of the barn, a sufficient number of large windows to admit light have been inserted; the ceiling and walls are whitewashed; here is a good floor of cement or other suitable material containing gutters for manure; the

stalls have been so constructed that they furnish clean beds for the cows; the cows are groomed and look sleek and clean; the manure is all removed from the barn at least once daily; suitable ventilators carry out the impure air, replacing it with fresh air. There are no disagreeable odors. The barn has a pleasing, healthful appearance. It is in every way suitable not only for shelter but for a "food factory", as the dairy barn today may properly be designated.

The patron of a cheese factory or other dairyman who thus constructs his barn and keeps it in these conditions has abandoned the 'maze of calf paths" in his thinking and practice, and has struck out for himself newer and better ways to good health for his herd and to cleanliness and good sanitary quality in dairy products.

The cheese factory owners and operators are following

"A trail all bent askew",

who continue to operate factories where there is a defective way of whey or sowage disposal prolific of unsanitary conditions; where there are whey barrels so embedded into the ground that they cannot be daily cleaned; who allow the whey barrels to become foul, infested with maggots and flies and become prolific source of the propogation and spread of germs that injure the quality and even destroy the manufactured products of the factory; who allow waste products to be dumped on the soil until it is made putrid and a constant source of vile stench; who permit doors and windows and intakes to be unprotected by screens, thus permitting the entrance and presence of flies to blacken the ceiling and walls and befoul the products of the cheese factory; who tolerate dirty floors or unclean utensils; and in general, who continue to allow cheese to be made in factories other than those that are free from sanitary defects and possessed of well constructed and

readily cleaned rooms, pure water, good drainage, clean utensils and surroundings.

But the cheese factory owners and operaters, who like very many in the territory occupied by the membership of this association, have constructed permanent factories with sanitary provisions that meet the requirements of the present; with floors and walls so constructed as to be readily cleaned; with a drainage system that effectively fulfills its purpose; with ample supply of pure water; who so screen the doors, windows and intakes as to shut out the flies from the factory; who provide means for obtaining the fat from the whey and manufacturing it into a product nearly or quite equal to creamery butter; who demand clean milk from the patrons; who enforce scrupulous cleanliness as to all utensils and surroundings; who encourage competent and skillful cheese makers by paying them liberal wages; have obliterated many zigzag paths and have struck out and followed more direct and rational ways to high success.

The cheesemaker is pursuing a "wabbling rail" who fails to master the intricacies of Swiss cheese making before he assumes responsibility for its manufacture; who fails to appreciate the necessity of constant and unpromoting use of his best skill in every step, every process of cheese production; who is tolerant of bad sovage, unclean milk, filth of any kind in factory or upon utensils, flies, unclean whey barrels, or anything else that tends to deteriorate the quality of his cheese.

It is evidence that dairymen are not out of the "maze of calf-paths" in their thinking and practice who do not recognize the necessity of laying the foundation of profits in dairying by conserving the fertility of the soil and by using modern scientific methods of tillage, thereby producing the largest possible crops of the most suitable character to meet the needs of their dairy herds; who fail to provide

C. M. I. DARI

their herds with warm, comfortable, well lighted, well ventilated and sanitary barns; who do not recognize that the foundation of large success in dairying is a herd of cows of distinctive dairy type, bred and developed through long periods of time to the one distinctive purpose of producing dairy products; who do not recognize that this herd must by unremitting attention and perserverance be improved each year through the use of a dairy sire of the best obtainable breeding and individuality; who do not recognize that the individuality of each cow must be learned diligent observation and study, and her needs of a balanced and palatable and liberal and wholesome ration supplied; who do not recognize as a means of realizing high profits, the necessity of reducing the cost of production of milk or cream to the lowest possible degree by intelligent, persistent, offords; who do not recognize that there is a great consuming public that demands and has abundant means to pay for clean, choice dairy products, obtained from milk delivered in clean cans, that was drawn by clean men from clean, healthy cows. kept in clean and sanitary barns.

In the biblical account of creation, we are told that when God had created man in his own image, he gave to him his great commission, to have dominion over the fish of the sea and over the fowls of the air and over the cattle and over every living thing that moveth upon the earth.

If man is to fulfil this great mission on the earth, it must be through a careful study and mastery of the natural laws by which the Mighty One upholds and directs the work of His hand. The great pioneer force in gaining this dominion over the earth is Mind.

Science is classified knowledge or knowledge so arranged as to be easily taught, conveniontly learned and readily applied.

Man has, by a careful observation and study of the plants and trees and vegetation of different kinds,

learned their characteristics and laws of growth and development and the necessary envirement for such growth and development, and thereby has constructed the science of botany.

He has made a careful observation and study of the animals of various kinds, their characteristics, the laws determining their growth and development, including heredity and environment, and has constructed the science of soology.

He has studied the phenomena of nature, their causes and effects, such as the properties of matter, gravitation, light, heat, rain, electricity, and other forces of nature, and has constructed the science of natural philosophy or physics.

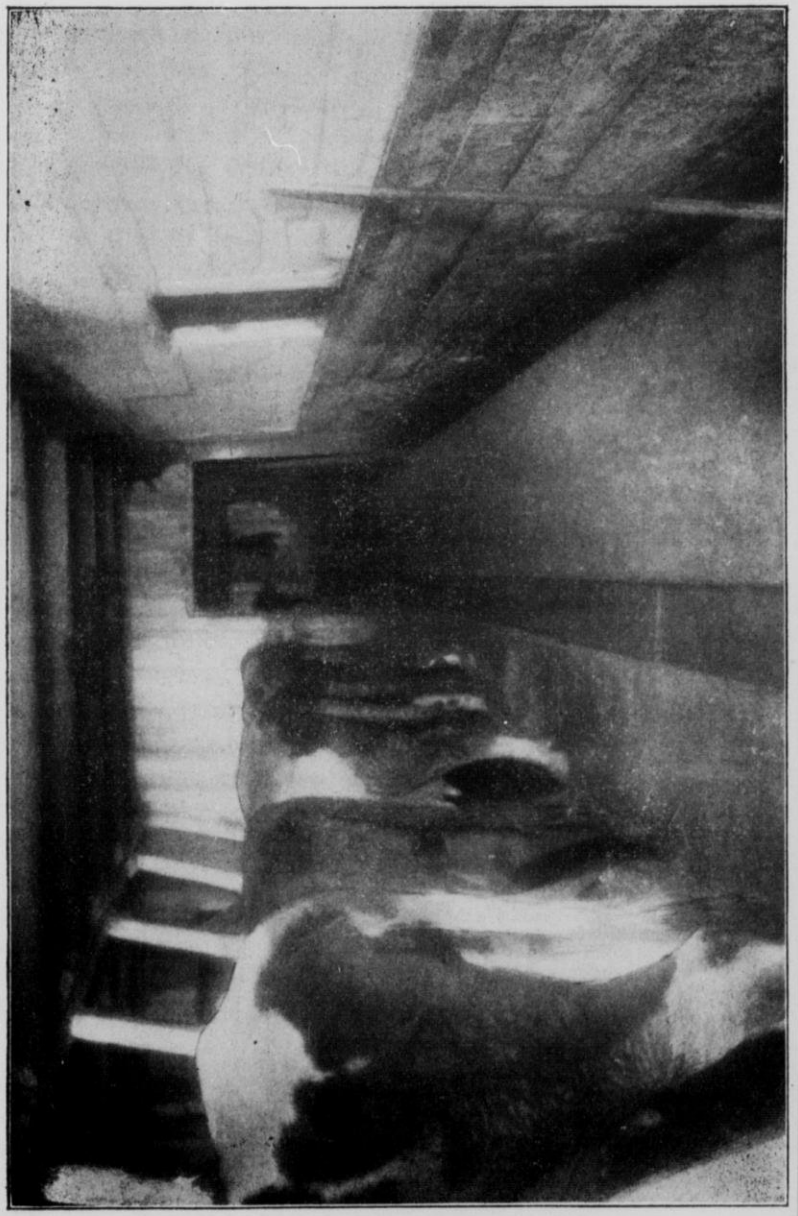
He has, by the use of his God-given faculties, studied the composition of matter and how various atoms under the law of chemical affinity combine and has constructed the science of chemistry.

He has made observations where the earth's crust has been rent so as to produce outcroppings of the interior strata, phenomena along the sea shore and in deep excavations, the phenomea known as glacial drift, the life that has existed for various periods in the history of the formation of the earth's crust as recorded in the rocks, and has constructed the science of geology.

These are few of the science which are the outgrowth of man's use of his God-given faculies, and from a constituent part of agriculture.

Agriculture has been described, and very truly, as the science of sciences; the one science that comprehends within itself the various other sciences. True, farming is an art; but this art must rest upon and be conducted upon the great foundation of science. Agriculture embraces an acquaintance, either theoretical or practical or both, of the sciences of botany, of physics, of chemimstry, of zoology, and of geology.

It has been said that he who by the plow would



DIRTY BARN

thrive, himself must either hold or drive. It is just as true today that, he who by agriculture would thrive, must acquaint himself with the teachings of modern science and guide his practices in accordance with the laws which those sciences teach. The farmer who thinks that he can successfully conduct his business out of harmony with or in opposition to the laws of nature, which the Almighty has established, will sooner or later find that he is "following the zigzag calf about."

I have referred in terms of contrast to the time when a few Swiss people settled in New Glarus in 1845 as the nucleus from which this great Swiss cheese industry of the present day has grown, and to the present when it has grown to such vast proportions. I have referred to the fact that those Swiss farmers after a number of years struggle in making their industry profitable, resolved upon a change of method and adopted the cooperative plan which they have since followed. That beginning was 70 years ago. What is to be the future of this great industry on which hang the hopes and the quality of finished products and consequent business fortunes of those who are now carrying on this industry? Is there to be in the next 70 years an improvement in all the elements in this industry which go to make success commensurate with the improvements of the past 70 years? Remember this we can never stand still in any industry or undertaking. It is inevitalbe that we either make progress or recede.

Forty years ago the men who were producing the raw material for the manufacturing of Swiss cheese learned that they must become self-reliant; that they must form and execute plans for their own benefit and their own advancement. Such a course of procedure was no less imperative in those days than at the present. They thought out what was the great hindrance to their prosperity and success and they

overcome the obstacle when they adopted the plan of cooperation. So today the producers of Swiss cheese need to study the situation to ascertain the obstacles which are in the way of heir highest prosperity and remove or overcome those obstacles. My understanding of conditions is that the farmers are the owners of the cheese factories and that therefore they practically control the whole matter of the production of milk and cheese. But what about the market of the product?

A few evenings ago, while at a banquet with Judge Siebecker, he said to me that when about two years ago he spent a summer in Europe, including Germany Switzerland, Italy, etc. he ate freely of the cheese two or three times a day and found that it agreed with him. He remarked that the Europeans were great cheese eaters. He furthur stated that when on his return to his country, thinking that he could with impunity continue the practice, he found that he was in error and that the eating of cheese did not all agree with him.

If we are to have a market for our cheese, we must make it of such quality that the consumer not only relishes it but that it is a highly digestible article of food; in other words, we must give more attention to the quality of the product. Is not this the question that confronts the members of this association today? Judge Siebecker stated that he found the cheese in Europe well aged and he attributed that as one reason for its digestibility.

My understanding is that the great competitor of Swiss cheese in this country today is the inported Swiss cheese. My understanding is that the Swiss cheese manufactured in the old country is sold not in promiscuous job lots from the factory, but that the cheese there manufactured is graded and is sold at a price corresponding with its quality, and that cheese is not placed upon the market for consumption before it is properly aged. Is there not a lesson

here from the Father-land to the members of this association?

Have you foud that the change in the method of selling your cheese, when it was graded and sold according to quality, to the present, when it is sold in job lots without grading, has had a tendency to improve the quality of your cheese and to enlarge the industry, or has it had the opposite effect?

These are questions that today confront you producers of Swiss cheese, as the problems in the earlier days confronted those pioneers. Will you settle these problems with the same entrprise and courage that the early settled their their problems?

I repeat what I said before, we cannot stand still. We must either go forward or backward.

I am saying to you people this afternoon substantially what I have been for years saying to the cheese makers and buttermakers and dairymen of the entire state, that the question that is first and of greatest importance in this dairy industry is that the quality of the product upon the market should be the very best that it is possible to produce. Every possible encouragement should be given to the securing of such result. Good cheese, like good eggs, is in demand. Poor cheese, like bad eggs, is not wanted.

In this connection, I feel like saying, that the wholesale dealers in cheese have a great opportunity for promotiong or retarding the onward movement of the production of Swiss and other foreign types of cheese. I cannot look at it otherwise than that that wholesale dealer in cheese is in a "maze of calf-paths" who fails to recognize differences in the quality of cheese that he purchases and fails to pay the producers thereof strictly according to quality; who fails to express in that practical way an appreciation of the efforts of the cheese factory owners and operators and cheese makers and patrons who

insist upon the production of their products under clean and sanitary conditions and who practice high skill in their mechanical work and who consequently seek to produce cheese of highest excellence.

In conclusion, let me say that that person must indeed be in a maze of calf-paths in his thinking who fails to realize that the business of modern dairying calls into activity the head, the heart and the hand; calls forth in multitudinous ways those intellectual activities in the tillage of the soil, the selection, breeding, feeding and rearing of the dairy herd, the manufacturing and marketing of the dairy products, that develop a strong, intellectual manhood; and that any large success in the very nature of the case calls into constant activity those kind, considerate, attentive, unselfish acts that cultivate and strengthen the moral nature; and that the successful doing of all these things brings into activity man's will powers and thus tends to the evolution of a high type of manhood which should be he ultimate end of human effort.

Secretary's Report.

HENERY ELMER, MONROE, WIS.

Mr. President and Members of the Association.

Another year is gone by and again I have the honor to submit the twelfth anual Report as Secretary of the Southern Wisconsin Cheesemaker's and Dairymen's Association.

The Business and purpose of our Association was also in the past year to educate the Cheesemaker and the Dairyman for better work in there respective line.

The Directors with the Officers held differnt Meetings for the benefit of the Associations.

We sent a Petition to Washington D. C. to free the Whey Butter from the 16 percent Moisture Ruling, but our Petition war not granted, for the reason, that Whey Butter can be made not to contain over 16 percent Moisture.

We also again petioned the State to increase our Appropriation from $1000: to $2000:, but so far no Result.

Petitions were also sent to our Representatives Honorable H. A. Cooper, Robert M. La Folette and Isaac Stephenson, to use their influence against the framed Law prohibiting Butter, Eggs and Cheese to be held in Cold Storages for longer then 90 days said Law was never passed.

Mr. Chris. Skenk of Lancaster, Wis. was again elected as traveling Instructor and by his Report which he will give later on, we will learn that he was a busy man indeel, and that he has done some splendid work.

To Mr. John Theiler, of New Glarus, Wis. being the lowest Bidder was awarded the Printing of the 1911 Preceedings.

The Comittee in another Meeting made preparations for our 12th. Annual Convention, agrees on Mon-

roe, Wis. to be the Place to hold the Convention. A splendid Program was prepared. We will have the best and most able Speakers to talk on the most important every-day Questions for the Cheese-Maker and the Dairyman, and we hope, that You will ask Questions and take part in the discussions.

Let us all be proud of our great Dairy State "Wisconsin", standing at the head of the whole World in the Dairy Industry. Join our Association, which has done so much for the dairy Industry in Southern Wisconsin and which will do more in the future. We want and need the help of everybody.

I would again advocate, that each of the Patrons of each Cheese Factory with the Cheese Maker, in Green- Iowa- La Fayette- Dane- and Rock Counties would at the end of every Season leave with the Treasurer of the Factory 50 cents and the Factory Treasurer could forward said Amount to the Secretary or Treasurer of our Association, with the Names of all the Patrons's and the Cheesemaker. Green County alone has 182 Cheese Factories with 2182 Patrons in all the above named 5 Counties we have about 540 Cheese Factories, figured at 7 Patrons to the Factory, and with the Cheese makers would make 4320 Members or $2160:

This would give us ample funds, to employ another Instructor and to run our Conventions, therefore we would not need to bother the Business men every year. I wonder how many Cheese Factories are represented here to-day, that would be willing to adopt such a Plan? All we would need is a start, and I am sure after thisPlan is started it would work like a charm. We will esteem it a favor, if during Nineteen Hundred and Twelve, we may count on your close corperation in forthering the best Interest of our Association.

Our Treasurer, Mr. Dallas E. Davis, will give us inside Information regarding our financial Standing.

In conclusion I wish to thank every member for

their donation and every Speaker for his help to make this Convention the best of all.

Treasurers Report.

Dallas E. Davis, Treasurer.

Treasurer's Report from May 8. 1911.

Cash on hand August 22. 1912: —

Check fund	$81.16
Certificate of deposit Feb. 1, 1912,	500.00
„ „ „ Feb. 28, „	533.02
„ „ „ Apr. 19, „	73.00
„ „ „ Jan. 26, „	84.00
„ „ „ Jan. 20, „	102.00
„ „ „ Feb. 3, „	30.65
One dollar in cash	1.00
Total	1404.83

Receipts during year begining May 8, 1911.

Received from Henry Elmer for memberships.	$203.00
„ „ Carl Frehner „ „	7.00
„ „ Emil Richard „ „	4.00
„ „ Edward Wittwer & Bros. „	15.00
„ „ John Waelti „	37.00
„ „ Mike Thony „	4.00
„ „ Christ Schenk „	38.00
„ „ Gottfried Waelti „	5.00
„ „ Brodhead Cheese & Coldstorage Co.	9.00
„ „ Aug. Regez	2.00
„ „ John Theiler	4.00
„ „ Membership tickets at Hall	81.00
„ „ Concert tickets at Hall	29.40
„ „ Int. Feb. 20, 1912	18.02
„ „ Int. Aug. 19, 1912	10.00
„ „ Int. Oct. 14. 1912	12.50
„ „ State, Jan. 18. 1912	1,000.00

„	„	State, Jan. 18, 1912					1,000.00
						Total	$3196.46

Expenditures beginning May 8, 1911...

Order.	79.	Christ Schenk to balance May salary						125.00
„	80	„	„	„	„	June	„	140.00
„	81							
„	82	„	„	„	„	July	„	145.00
„	83	„	„	„	„	Aug.	„	145.00
„	86							
„	87	„	„	„	„	Sept.	„	145.00
„	88							
„	90							
„	91	„	„	„	„	Oct.	„	130.00
„	100	„	„	„	„	Nov., Jan.	„	145.00
„	111	„	„	„	„	May	„	135.00
„	112							
„	113	„	„	„	„	June	„	130.00
„	115							
„	116	„	„	„	„	July	„	140.00
„	117							

Order	84	J. Theiler printing 1911 proceedings	110.00
„	85	Henry Elmer Express on „ „	1.41
„	89	Henry Elmer postage on „ „	10.00
„	92	Henry Elmer 1911 badges	86.25
„	98	Henry Elmer „ salary	25.00
„	93	Glenn T. Stauffacher distributing Prog.	.25
„	94	Roy J. Heeren „ „	.25
„	95	Times printing Co.	15.00
„	96	Miss Anna Beller Typewriting	3.50
„	97	1000 Envelopes with return cards	3.00
„	99	Sam J. Staffaucher salary and postage	26.75
„	101	Mrs Nettie Wegg service during con.	30.00
„	102	Nick Durst Hall rent	30.00
„	103	Miss Mina Etter services during Con.	5.00
„	104	Badger Cheese Co. for exibitions „ „	2.00
„	105	Gottfried Wittwer premium	1.00
„	106	Charles Meythaler services during Con.	7.70

„	107 Gottfried Steinman second premium	3.00
„	108 Miss Anna Beller work during Conv.	3.00
„	109 Kohli Jewelery Co. Medals	16.02
„	100 Emil Gloege Photograph work	1.50
Order	114 Will Trunkenbrod photographic work	1.25
Receipts of	I. Q. Emery	5.75
„	„ Mr. Graber	6.00
„	„ Mr. Torney	5.00
„	„ F. E. Balmer	13.00

Total expenditures	$1791.63
Total receipts	$3196.46
„ expenritures	$1791.63
Cash on hand	$1404.83

Yours very truly,

Instructors Report

Christ Schenk, Lancaster, Wis.

Mr. President, Ladies and Gentleman:

Again we are assembled here at the end of a season which many of us consider an unusual one in one way, or an other as in general a satisfactory Harvest can not be reported by all of us. We all know that climatic conditions were not favorable and done more or less harm to all of those engaged in the great Industry of Dairing.

First to be considered is the production of raw material which is reported way below the figures of the year previous. Another important factor is the yeald which was so low that in many instances it was leading to all kinds of suspicious calls were coming in from all directions to come and test the Milk at once and a general result of these tests was that the

farmer and his cow were doing their best to produce a better quality of Milk. Next is to be considered the Milk nessessary to make No. 1 cheese which was ever so much of a question last season, for the best of our cheesemakers found it no easy matter to manufacture a first class article. A very enourmous amount of low grade cheese was made by incompetent makers, to many of our cheesemakers are not familiar with the test nessessary to detect bad Milk however it is to be considered a part and a very important one in the profession of cheesemaking. I have found and know such makers personly that rejected Milk of Patrons without making a test of any kind but just simply on the grounds of having had some bad milk the year before or some other similar suspicions, this particular farmer delivered his milk to another factory near by where it was tested and excepted as first class. This is just one view of some of our cheesemakers of today. He often comes in a great disturbance in the closing down of such factory where the application of a simple curdtest would remedy nearly all such cases.

We have on the other hand a great many cheesemakers in our territory that are up to date and to be highly respected, they have either taken a course of Dairying in Switzerland or here at Madison Wis. which they learn to value more and more every day as conditions of Dairying are changing every year. It is a pleasure to visit their factory everything is working systematicaly and cleanliness is practiced to the outmost, we also find these men progressive and eager to learn, they have also been members of this Ass. for many years. It is needless to say that also the farmer is equaly responsible for a great many of failures in the operation of manufacture No. 1 cheese very often I was forced to make very insulting remarks about milk vessels wherein the milk was delivered to the factory. There seems to be something

peculiar about some people, cheesemakers have told me that a constand attention has to be paid to some patrons cans in order to keep them fit for such a purpose. Why shouldn't his milkcans be as clean as he expects the finished product to be in return. Another important masure to observe at the Dairy as well as at the factory is the quality of Water used in cleaning milkvessels of all kinds, this should by all means be the very purest. A very expensive experiance showed this at one particular factory last season. Several thousand Dollars were lost at this one factory through the connection of water with milk which was heavily invested with Germs. However I do not wish to go in details about this afair for the case belongs to Mr. Marty with whom I had the honor to infestigate the trouble although one thing I must mention that the work Mr. Marty done at that factory was highly appreciated by the maker but not so on the other side. The water which the cows drink will not infect the milk so much as that which is used in washing the milk vessels. It should be boiled thoroughly before using, which will eliminate the creation of dangerous Germs. Farther I wish to say that milk shouldn't be exposed to such air as generaly exists around the barns any longer than nessessary. It should be taken away immediately after milking and properly attended to, it is farther important that the milking should be carried on as quiet as possible, a noted Dairyman told me at one time that there should be no talking allowed while milking, he had discharged a man because he would interrupt the milking by talking and in three days the increase of milk was equal to the mans weekly wages.

These aren't but the words of a repetition put before you on more than one former occassion but the sharpness of their truth need remending to close this I wish to state that I have inspected 210 Cheesefac-

torys in 6 months and 2 weeks, a great many of these had to be visited 2 to 3 times during the season. 52 of these factories were equipped with cream seperators and only 16 were using the old gravity system in securing the butterfat out of the whey. I firmly believe and hope that in the course of a very short time the old whey tank will be History and the modern centrifical machine will take its place.

Christ Schenk, nIstructor,
Lancaster, Wis.

Officers for 1912.

OFFICERS FOR 1912.

PRESIDENT: — S. J. Stauffacher, Monroe, Wis.
VICE PRESIDENT: — Fred Langacher, Route No. 9 Monroe, Wis.
SECRETARY: — Henry Elmer, Monroe, Wis.
TREASURER: — Dallas E. Davis, Monroe, Wis.

DIRECTORS.

Albert C. Trachsel, Monroe, Wis., — for 3 years.
John Waelti, Monroe, Wis. — for 2 years.
Fred E. Benkert, Monroe, Wis. — for 1 year.

DAIRY INSTRUCTION.

Christ Schenk, Lancaster, Wis.

JUDGES ON CHEESE.

Fred Marty, Monroe, Wis.
Fred W. Galle, Monroe, Wis.
Ernest Regez Sr., Blanchardville, Wis.

COMMITTEE ON RESOLUTIONS.

Thomas Luchsinger, Monroe, Wis.
George Legler, Argyle, Wis.
Mike Thseni, Hollandale, Wis.

AUDITING COMMITTEE.

Gottlieb ZumBrunnen, Monroe, Wis.

Joseph Trumpy, Monroe, Wis.
Jacob Regez Jr., Monroe, Wis.

CHEESE SCORES.

LIMEURGER CHEESE.

Franz Ehringer, Mt. Horeb, Wis. 97 Points, received gold medal.

Gottfried Steinmann, Monroe, Wis., 96 Points received cash $3.00.

Gottfried Wittwer, Monroe, Wis. 95 Points, received cash $1.00

BRICK CHEESE.

Mike Thoeni, Hollandale, Wis. 95 Points, complimentry Score.

Christ Koenig, Clarno, Wis. 94½ Points, received gold medal.

John Wuethrich, Monroe, Wis. 92 Points, received silver medal.

SWISS CHEESE.

Adolf Scheidegger, Woodford, Wis. 96 Points, received gold medal.

Resolutions.

1.RESOLVED: That the agitation for an agricultural a Dairy School within the County of Green be strongly urged and imediate steps taken to accomplish something along that line.

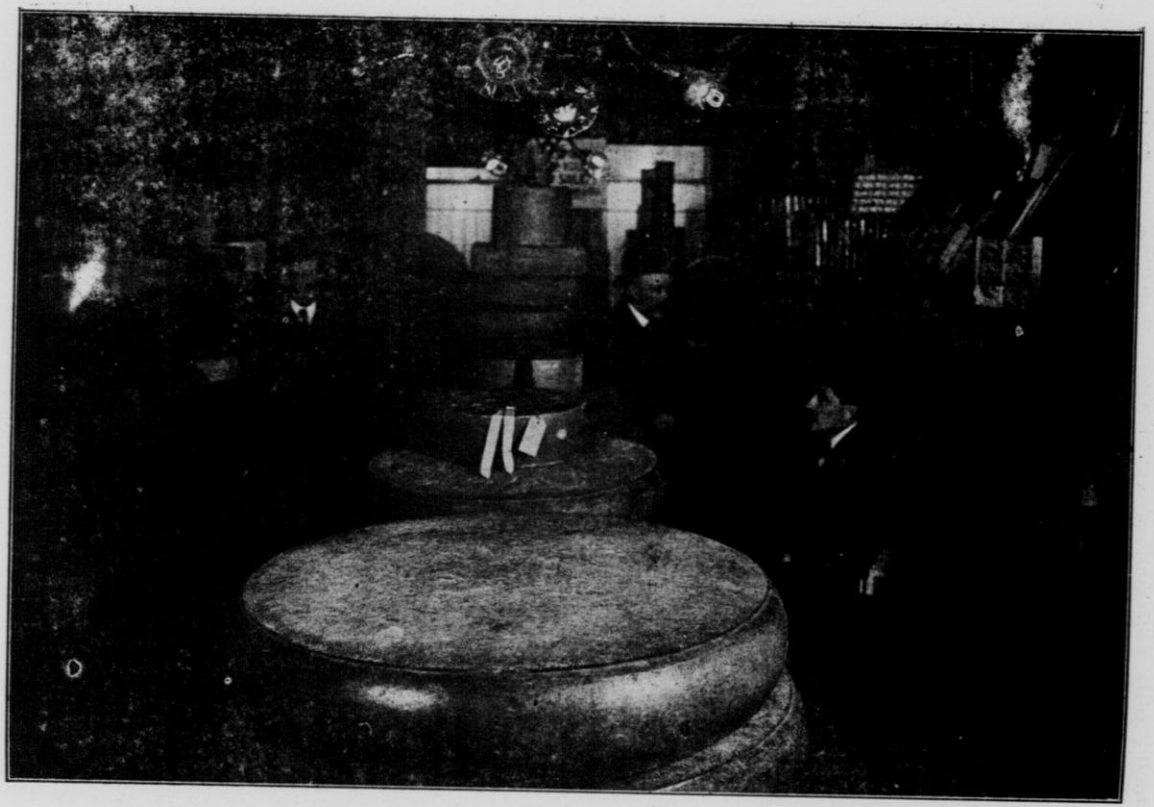
2. RESOLVED: That the cheesefactory association owning the Cheesefactory should also own all the tools and implements for cheesemaking. There by avoiding the great trouble of moving them, and saving a lot of money and expenses in the unavoidable damage done to the tools in moving them.

3. RESOLVED: That all cheesefactories still deficient, in that regard be furnished without delay with good dry and well ventilated cellars and cheese rooms so that they can be srubbed and washed with a view to greater cleanliness and comfort.

4. RESOLVED: That the Secretary treasurer or financial cheese factory manager of each and any any cheese factory or association within the district embraced by this association be requested to collect the sum of five dollars from each such factory or association or the sum of fifty cents from each member or patron thereof to be paid over to the Treasurer of this Association to defray Expenses, the said Sums to be deducted from the last dividend or Payment, Annual Members of this Association to be excempt from this Assessment.

5. RESOLVED: That before any cheesemaker be permtitd to take a cheese factory as chief operator he should have at least 3 years experience as a practical Cheese Maker or hold a Diploma as such from some competent Dairy Schools and that the Legislature of the State of Wisconsin be requested to pass a Law to that effect.

6. RESOLVED: That some officer or office within this Association be designated as an information Bureau in regard to Cheesemakers looking fore posi-



Cheese exhibition Dairymen Convention Milwaukee.

tion or factories looking for an operator. Each party giving to the said officer such information as he should require in the case of the cheesemaker as to his competency and recommendations and wages claimed and as to factories the number of cows, amount of milk, the kind of cheese to be manufactured and the price they are willing to pay to enable the parties to come together and contract for the season.

7. RESOLVED: That the German and other News papers of this district be requested to open a Columm of their resp. Paper for Questions and answers similar to all the Agricultural Papers to enable cheese makers or farmers when they find themselves in difficulty to get quick information, the questions to be answered by the Factory Inspector employed by the Association or any other person competent so to do.

8. RESOLVED: That the thanks of this Association be and they are hereby tendered to the Officers of the Association for their able and efficient services during the past year, to the Speakers who have so ably instructed us in their discourses on various objects, to the Musicians, Singers and other entertainers who have made our session such a pleasant and enjoyable occasion and to one and all who by word, deed or financial aid assisted us in our Work.

All of which is respectfully Thos. Luchsinger
Submitted and recommended for Geo. Legler.
Adoption Mich. Thorny

Committee on Resolutions.

Meine Erfahrungen.

— von —

Käsereiinspektor Christ Schenk.

Wieder sind wir hier versammelt um unsere Erfahrungen und Resultate einander zum besten zu geben. Wieder haben wir ein Jahr voller Mühe und Arbeit hinter uns, doch sind wir jedenfalls nicht alle gleich zufrieden mit unserer Ernte.

Die Quantität wie auch Qualitat unseres Productes steht dem vorigen Jahre weit zurück. Climatische Verhältnisse spielten eine große Rolle, erstens in der Production der Milch und zweitens im Käsemachen. Die besten unsrer Käser hatten große Mühe und gebrauchten alle ihre Kentnisse guten Käse herzustellen. Hier ist wieder zu sehen daß wenn die Milch gesund ist jeder Käser einen gesunden Käse machen kann, ist aber das Gegenteil der Fall dann natürlich brauchts ein Käser der weis was Milch ist, um eingermassen gute Ware herzustellen.

(Wir haben aber auch Käser die sich ganz und gar nicht zu helfen wissen und möchte ich solchen raten noch ein paar Jahre zweite Hand zugehen.) Besonders fühlbar machte sich die Abwesenheit des Curtesters letzten Sommer auf den Käsereien in unserem Distrikt. Erstens findet man die Tester selten auf einer Käserei und zweitens weis der Käser gar nicht wie er gebraucht wird. Es wird ja wohl allgemein gesagt daß der Instructer da sei um diese Arbeit zu verrichten doch kann ein Instructer nicht überall sein auf einmal und währt es manchmal eine Woche bis einer Order folge geleistet werden kann und während dieser Zeit macht der Käser alle Tag minderwertigen schlechten Käse. Nun muß auch in Betracht gezogen werden daß die Mitglieder unsrer Association zuerst behandelt werden. Es ist jedem Käser genügend Gelegenheit geboten sich als Mitglied anzuschliessen und würde jedem nur zur Ehre gereichen. Oefters wurde ich gerade ausgelacht wennn ich die Frage an den Käser stellte, ob er wisse wie ein Curdtest gemacht wird. No, geben sie zur Antwort und fühlen sich noch groß dabei. Doch muß hier bemerken daß ein

Curdteſter ſowie ein Lactometer auf jede Käſerei gehört und iſt einer kein praktiſcher Käſer ſo lange er dieſe zwei nicht zugebrauchen weis. Es iſt der Tag gewiß nicht ferne wenn der Käſer die Milch beſſer kennen muß. Jahr für Jahr haben wir mit neuen Hinderniſſen zu kämpfen, wodurch tauſende von Dollars eingebüßt werden und tauſende von Dollars könnten gerettet werden wenn ſich der Käſer auf höcherer Stufen der Profeſſion befinden würde.

Es iſt jedoch ebenſoviel am Farmer gelegen der das Rohmaterial produziert. Genügend, ja leider nur zu oft mußte ich ſehr drohende Bemerkungen machen wegen unſauberem Milchgeſchirr, es iſt nun ſchon mehr als ein halbes Jahrhundert, daß in dieſer Gegend Milch nach der Käſerei gefahren wird und heute noch findet man Milchgeſchirr, das in Reinlichkeit viel zu wünſchen übrig läßt. Von Fliegentüren und Fenſter an der Käſerei wurde nicht geträumt bis der Staat ein Geſetz machen mußte dieſe Notwendigkeiten anzuſchaffen. Die Milchgefäße in welche die Milch gefaßt wird, müſſen abſolut rein ſein. Vor dem Gebrauche derſelben ſollten ſie mit heißem Waſſer gründlich gereinigt und dann mit kaltem ausgeſpühlt werden. Auch die Waſſerzufuhr in Milchwirtſchaften iſt von ſehr großer Bedeutung, denn es iſt ſchon ſehr oft vorgekommen daß lokale Typhus oder Scharlachepidemien durch den genuß von Milch entſtanden ſind. Die Krankheitskeime welche dieſe Epidemien erzeugten ſtammten in erſter Linie aus Waſſer das durch ſpecifiſche Bacterien verunreinigt und in zweiter Linie aus Milch die in Gefäße gefüllt wurde, welche mit ſolchem Waſſer gereinigt oder viel mehr verunreigt wurden. Das Waſſer das die Kühe trinken verunreinigt die Milch weniger als dasjenige, beſonders kaltes, mit dem die Milchgefäße gereinigt werden. Der Eintritt von Bacterien in die Milch kann auch beim melken bedeutend reduziert werden indem ein Milchgefäß in das gemolken wird eine möglichſt keine Oeffnung hat, ſo daß nur ein kleiner Teil der Oberfläche der Milch der Luft ausgeſetzt iſt. Ueber dieſe Oeffnung kann ferner ein Stück ſterilisiertes Käſetuch, oder „Cheesecloth," das bei jedem Melken erneuert werden ſollte, geſpannt werden. Die Blechſiebe, durch welche die Milch ge-

filtert wird, sind leichter zu reinigen, aber sie sind selten fehlerfrei gemacht. Daß die Euter sauber gewaschen werden sollten, versteht sich von selbst. Das abwaschen mit frisch aus den Strichen gezogener Milch gehört hoffentlich ganz der Vergangenheit an und findet dieses nur noch ausnahmsweise bei Leuten statt, die sich selbst jede Woche einmal waschen, ob es notwendig ist oder nicht. Die Behandlung der Milch nach dem melken ist von der allergrößten Bedeutung. Gleich nach dem melken soll die Milch vom Stalle entfernt werden, sowie auch abgekühlt; je länger die Milch dem Einfluß der Luft ausgesetzt ist, desto mehr Bakterien werden sich in derselben entwikeln. Zum Schluß möchte ich noch anbringen, daß wir einen großen und guten Fortschrift zu verzeichnen haben in der Fabrikation von Molkenbutter. Meine Inspektionen belaufen sich auf 210 Käsereien; 52 hatten Seperatoren, 16 machten noch Taukbutter. Es ist ein Zeichen eines tüchtigen Schrittes zur Verbesserung unserer Industrie und wird es nicht mehr lange dauern bis der abscheuliche Schottentank ausgerottet und mit Centrifugen ersetzt ist.

Fabrikation von Brickkäse.

— von —

John Wütherich

Herr Präsident! Werte Anwesende.

Dem Wunsche unseres Sekretärs, Herrn Henry Elmer nachkommend, erlaube ich mir etwas über Brickkäsefabrikation mitzuteilen, betreffs meiner eigenen Fabrikationsmethode.

Es ist nicht meine Absicht über die verschiedenen Verhältnisse eine lange Rede zu halten, doch die zur Käsefabrikation unerläßlichen Bedingungen verdienen wohl erwähnt zu werden, denn es gibt keine Regel ohne Ausnahme und keine vollkommene Theorie ohne Praxis. Folglich lehrt uns schon die Notwendigkeit uns nach den verschiedenen Verhältnissen zu richten. Als solche gelten Beschaffenheit des Bodens, Witterung und das dem Vieh zu verabreichende, Futter, namentlich in trokenen Zeiten. Wenn es anfängt ein weng schief zu gehen und das Fabrikat nicht glänzend ausfällt, so wird meistens dem Käser die größte Schuld beigemessen. Daß man der Käsefabrikation in solchen Zeiten besondere Sorgfalt zu wiedmen hat, dürfte wohl jedem Käser und Farmer bekannt sein, und doch ist ein großer Teil des Mißlingens diesem Umstande zuzuschreiben. Bekanntlich braucht man um einen guten schmackhaften Käse herzustellen gesunde, unverfälschte reine Milch. Um solche zu erzielen, sollte in erster Linie die richtige Nahrung (nicht Unkraut) sowie reines Trinkwasser den Kühen verabfolgt; Reinlichkeit der Milchgeschirre und beim melken selbst beobachtet werden. Sodann sollte das melken so viel wie möglich zu derselben Zeit und von denselben Personen besorgt und die Milch sogleich nach der Käserei geschaft werden. In der Käserei selbst ist ebenfalls größte Reinlichkeit und Pünktlichkeit zu beobachten.

Kommen wir nun zur Verarbeitung der Milch. Als Lab bediene ich mich gewöhnlich mit „Rennet Extrakt." In Zeiten da der Brickkäse Anlagen zeigt zum blähen, benutze ich ausgekochte saure Molke und zwar je nach Beschaffenheit der

Milch, rühre ich dieselbe vor dem Laben mit Wasser ein, damit der richtige Säuregrad erreicht wird. Labe bei einer Temparatur von 28 Grad Reaumur. Nach der Gerinnzeit von 20 Minuten, das heißt sobald der Quark glatt bricht, verschneide ich und schaffe den Teig zuerst langsam mit der Kelle 10 Minuten, dann mit dem Brecher 5—10 Minuten, so daß der Bruch ungefähr die Größe von mittleren Erbsen erhält, lasse 5 Minuten sitzen, rühre wieder auf und wärme auf 34 — 36 Grad Reaumur innerhalb 20 Minuten. Das Ausrühren geschieht innert 10 — 20 Minuten, je nach Erforderlichkeit, lasse wieder sitzen, schöpfe die Molke ab und bringe den Käs nach noch einmaligem Aufrühren in die Formen, kehre dieselbe nach einer halben Stunde, wiederhole dasselbe 4—6 Mal innert 24 Stunden und bringe den Käse ins Salzwasser, halte dasselbe so stark, daß nach zwei Tagen genügend Salz eingetrungen ist. Die Nebenseite wird dann mit einem Feilenartigen Instrument abgerieben und glatt verstrichen. Auf den Bänken wasche ich die Käse wenn möglich die ersten sechs Tage alle Tage, und nachher alle zwei Tage, bis der Käse marktfähig ist.

Schöpfung eines größeren Bedarfs für Käse.

— von —

John Theiler, New Glarus, Wis.

Das mir heute zugedachte Thema ist ein sehr schwieriges. Schöpfung eines größeren Bedarfs für Käse. Wenn ich das wirklich könnte, so würde ich wahrscheinlich heute nicht auf dem dornigen Pfad eines Zeitungsherausgebers wandeln.

Man hat in den letzten Jahren die Erfahrung gemacht, daß der Verbrauch von Amerikanischem Käse ganz bedeutend zugenommen hat, während die sogenannten Spezial Sorten, Schweizer und Limburger eher zurückgegangen, oder wenigstens zum Stillstand gekommen sind. Was Limburger anbetrifft so mag es viel darauf zurückzuführen sein, daß der Brickkäse teilweise seinen Platz eingenommen hat, weil er von dem verpönten Geruch, der dem Limburger anhaftet, ziemlich frei ist. Der Rückgang, oder wenigstens Stillstand des Bedarfs für einheimischen Schweizerkäse, glaube ich, daß verschiedene Ursachen zusammen gewirkt haben. Eine Ursache mag die sein, daß der Käse im allgemeinen zu jung, zu unreif auf den Markt gebracht wurde und infolge dessen dem importirten Schweizerkäse den Vorzug geben wurde. Die importirte Ware wird niemals zu jung auf den Markt gebracht.

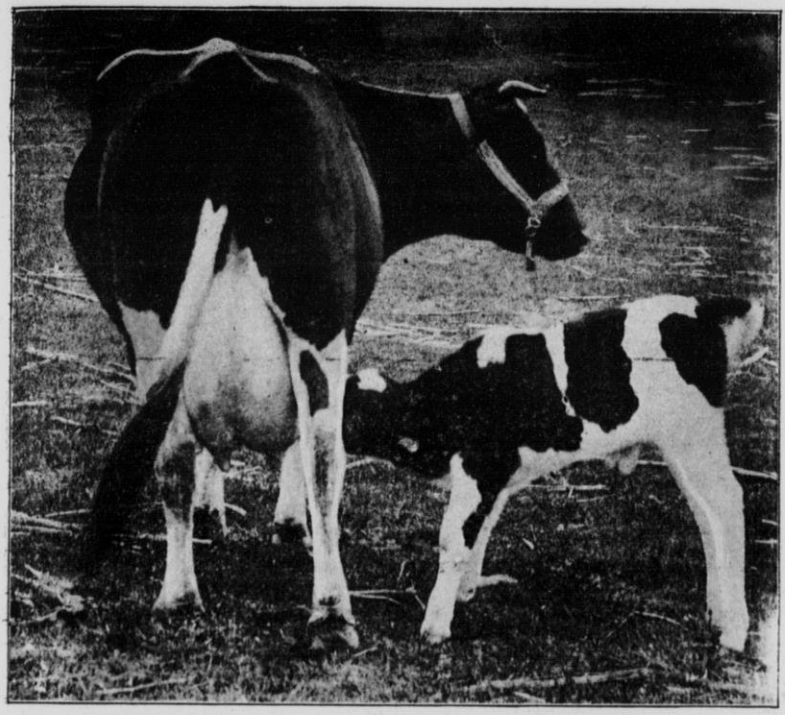
Es wird behauptet daß es unmöglich sei, hier so schöne und gute Ware herzustellen als in der Schweiz. Das mag zu gewissen Zeiten zutreffend sein, Wenn zum Beispiel, wie die letzten zwei Jahre fast den ganzen Sommer kein Gras ist, die Kühe nur Unkraut und Laub zu fressen haben, folglich auch eine bittere, minderwertige Milch geben, da ist es gewiß für den besten Käser eine schwierige Sache ein anständiges Produkt fertig zu bringen. Es gibt aber auch andere Jahre, wo den ganzen Sommer genügend gutes Futter vorhanden ist, und eine gute Milch in die Käserei abgeliefert wird; der

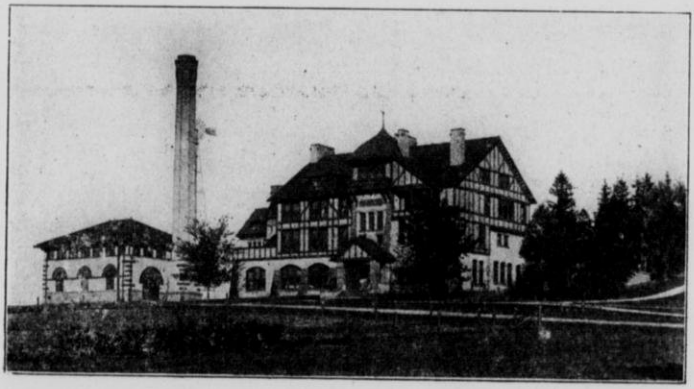
Käser seine Sache ganz in Ordnung macht und denoch wird sein Produkt dem importirten nicht ebenbürtig. Vielleicht mag er im Geschmack gerade so gute sein, aber hat nicht die die verlangten großen Löcher und ist gelb im Teig.

Als ich im Sommer 1910 in der Schweiz war, habe ich etliche größere Käsereien im Berner Mittelland besucht und mit den Käsern über die Verhältnisse gesprochen. Da wurde mir von Käsern mitgeteilt, daß die „Amerikaner" Käse die für den Export nach Amerika bestimmt sind, wenig mehr als halbfette Käse seien. „Es ist nicht genug daß wir die Abendmilch am Morgen nideln, wir müssen sogar Morgenmilch ausstellen und nächsten Morgen abzurahmen, sonst bringen wir die großen Löcher, wie sie in Amerika verlangt werden nicht fertig." Das sind die Worte wie sie mir von einem Käser eines „einfachen Mulchens" mitgeteilt wurde. Nach der Aussage dieses Käsers ist also eine starke Fettenziehung notwendig, um dem Käse das Aussehen zu geben wie er in Amerika verlangt wird. Man könnte aus vorgehendem den Schluß ziehen, daß die Milch in der Schweiz viel fettreicher wäre als die hiesige Milch. Das scheint aber nicht der Fall zu sein. Statistische Angaben aus Experimenten, die auf der Landwirtschaftlichen Schule „Rütti" gesammelt wurden, geben den Durchschnittsfettgehalt auf 3,3 Prozent an oder genauer für Schweizer Braunvieh 3,24 Prozent und Fleckvieh, Simmentaler und Frutiger Rasse auf 3,66. Das stimmt ziemlich genau mit den hiesigen Verhältnissen.

Die hiesigen Gesetze verlangen daß Käse, welche unter dem Namen „Full Cream" in den Handel kommen, dürfen nur aus Milch hergestellt werden, die wenigstens 3 Prozent Fettgehalt aufweisen, Sie erlauben aber daß für Millionen Dollar Käse aus der Schweiz und Oberitalien von dem Beinahe die Hälfte Fett entzogen ist, importirt werden.

Wenn das Ausland ein dem hiesigen Markt und Verlangen besser entsprechendes Produkt herstellen kann, wenn der Milch ein Drittel bis die Hälfte Fett entzogen wird, warum dürfen es die hiesigen nicht tun. Meine Ansicht ist, es sollte bei jeder Schweizerkäserei ein Milchkeller und Eishaus er-





ſtellt werden, damit der Käſer auch Gelegenheit hat Milch auszuſtellen, wenn nicht gerade zur Zwecke der Fettentziehung ſo doch um die Milch zur Reife zu bringen. Da in vielen Fällen reife Milch ſehr günſtig auf die Bildung der Löcher und Gährung der Käſe einwirkt. Wenn es dadurch möglich ſein ſollte der importirten Ware ein ebenbürtiges Produkt herzuſtellen, ſo würde auch der Bedarf für das hieſige Produkt vorhanden ſein und nicht vom ausländiſchen verdrängt werden.

Das bisher geſagte hatte noch wenig mit dem eigentlichen Thema zu tun, wie ein größerer Bedarf für Käſe geſchaffen werden könnte. Meine Anſicht iſt, daß der Bedarf wirklich vorhanden iſt. Aber es ſind noch Millionen Menſchen im Lande die keine Ahnung haben wo der Käſe gemacht wird; und von wo er preiswürdig gekauft werden kann. Wenn der Käſe den ganzen Weg durchmachen muß wie es bisher gebräuchlich war, von der Käſerei zum hieſigen Händler, vom hieſigen Händler zum Großhändler in der Großſtadt, vom Großhändler zum Wohlſale Grocer vom Wholeſale Grocer zum Retailer und jeder hat ſeinen Profit oder Profitchen genommen, drei-vier-fünffache Frachtraten und Lagergebühren darauf bezahlt, dann iſt der Preis ſo hoch, daß Käſe nur als ein Luxus Artikel gelten kann und nicht als ein allgemeines Volksnahrungsmittel. Es iſt gar nichts Außergewöhnliches daß von Groceriſten im Weſten für Green County Schweizerkäſe 50—75 Cent per Pfund verlangt wird. Wenn etwa ein Aemterjäger ins Green County herein kommt und um die Stimmen fiſchen will, ſo ſagt er Green County ſei in der ganzen Welt als Käſe County bekannt, er habe in Florida und Porto Rico Käſe gegeſſen und der Landlord habe ihm geſagt er habe ihn direkt von Green County bezogen. Solches ſind ſchöne Redensarten um bei den Stimmgebern in guten Credit zu kommen. Aber in Wirklichkeit verhält ſich die Sache ganz anders. Wohl ſind viele Tauſende im Lande die wiſſen ganz gut daß Südwiskonſin das Haupt Centrum der Käſeinduſtrie iſt. Es ſind aber viele Millionen die haben keine Ahnung davon. Man braucht nur 100 Meilen von hier weg zu gehen, ſo ſind 95 Prozent der Bevölkerung die kein

Wort davon wissen daß im Green County so viel Käse fabrizirt wird. Es wäre deßhalb anzuraten daß von dieser Industrie eine größere Publizität gemacht würde. Es sollten passende Artikel verfaßt und in die Presse lanzirt werden die die hiesige Industrie illustrirten und die Händler sollten hauptsächlich in den Farmerzeitungen inserieren. Man kann wohl von fast irgend einem Geschäft Anzeigen finden, aber nie von einem Käsegeschäft. Es sind tausende von Farmern im Lande die ein Stück Schweizerkäse, einen Blockkäse, einige Stücke Brick oder Limburgerkäse bestellen würden, wenn sie nur wüßten wo sie ihn preiswürdig erhalten könnten, die es sonst bleiben lassen, wenn sie die hohen Preise, welche die Retailer verlangen bezahlen müssen und oft nur veraltete, verschimmelte Ware erhalten, während sie aus erster Quelle schöne, gute Ware kriegen können.

Wie im Vorhergehenden gesagt ist, daß es zu wenig allgemein bekannt ist wo Käse fabrizirt wird und aus erster oder zweiter Hand preiswürdig gekauft werden kann, so möchte ich in diesem Artikel darauf hinweisen, daß ein großer Teil des Publikums gar nicht weis wie man Käse ißt. Ein großer Teil ist der Ansicht, daß er nur aufgeschnitten als Zuspeise genossen wird und es sonst keinen Weg gebe wo Käse als Nahrungsmittel benutzt wird. Deutsche, französische und schweizerische Kochbücher wissen von hunderten von Gerichten zu sagen, zu deren Zubereitung Käse notwendig ist und in den allermeisten Fällen Schweizerkäse. Hier in Amerika sind die Speisekarten der besten Restauranten noch nicht über Käse-Sandwich und Käseomeletten hinausgekommen. Meine Ansicht ist, daß Rezepte der verschiedenen Gerichte wie sie unter verschiedenen Nationen üblich sind gesammelt und in einem kleinen Büchlein herausgegeben werden. Ein solches Büchlein von vielleicht 20 Seiten würde genügen, um die besten Rezepte aufzunehmen und diese sollten in Millionen Exemplaren gedruckt und im ganzen Lande in jede Familie gebracht werden. Wenn es sich bezahlt für die Fabrikanten der sogenannten „Breakfastfoods" solche Büchlein herauszugeben und in jedes Packet und jede Kiste solche zu legen, warum sollte es sich für das Käsegeschäft nicht bezahlen? Gerade die Fabrikannten von solchen Nahrungsmitteln wie Quaker Oats, Kornflakes, Grabnuts,

Cream of Wheat u, d. gl. machten die größte Reklame und waren die erfolgreichsten Geschäftleute und fast jeder einzelne ist mit einem Kochbuch im Felde, in dem die verschiedenen Gerichte, die aus seinen Produkten hergestellt werden genau beschrieben sind. Im Staate Missouri, einem der besten Cornstaaten, ist vonStaatswegen ein Kochbuch herausgegeben worden, das die Zubereitungsmethode aller möglichen Gerichte aus Corn bekannt gibt. Käse ist für Wiskonsin gerade so wichtig wie Corn für Missouri. Warum wird denn nicht auch die notwendige Reklame davon gemacht? Der Bedarf für Käse ist im Volk wirklich vorhanden, aber er muß aufgeweckt werden. Es sollte über den Nährwert des Käses als tägliches Nahrungsmittel aufgeklärt und ihm bewiesen werden, daß selbst wenn der Preis nichtsehr billig ist, er immer noch einer ganzen Masse anderer Artikel vorzuziehen ist.

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