

MINNESOTA EXTENSION SERVICE NEWS

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RESPONSE FAVORABLE TO NEW COUNTY EXTENSION ACT

"The value of the county co-operative extension act passed by the 1923 legislature is already proven," says F. E. Balmer, state leader of county agents. "The purpose of the act is to secure better understanding and a better basis of co-operation between county commissioners and other agencies in support of the county extension service. The action taken by counties throughout the state to date has indicated that the new arrangement will result in improved administration of and co-operation in the service."

In Ottertail county the co-operative extension committee was organized, the budget agreed upon, and an appropriation of \$3,000 made for the support of two agents the coming year.

In Faribault county a joint meeting of the county board and the farm bureau board was held at Blue Earth, May 19. Provisions of the new act were discussed and approved. The county extension committee organized, formulated a budget and by resolution recommended that \$2,000 of county funds be set aside for the support of the work the coming year.

New Agent in Hubbard

The county extension committee in Hubbard county likely has the honor of being the first committee in the state to employ a county agent, this being one of the duties of this new board. This action was taken at a meeting of the extension committee May 19. At former meetings of the county commissioners and the farm bureau board, additional representatives to serve on the extension committee were appointed. The members of this committee formulated a budget, recommended an appropriation of \$2,200 for both the county agent work and the joint home demonstration service, and, following this action, considered candidates for the county agent position, resulting in the election of Fred Idtse, who will begin work June 15.

In Houston county the farm bureau board met May 8, and elected its fourth member of the extension committee, which met with the county commissioners in the afternoon, perfected the necessary organization and went over the budget. The county commissioners appropriated \$1,500 to carry on the work the coming year. A joint meeting is planned for June 1 for further business.

The county commissioners of Meeker county appointed O. H. Halvorson as a member of the county extension committee together with J. A. Simonson, county auditor, and J. H. Littell, chairman of the board ex-officio members.

Scott First to Consider Act

Scott county was likely the first in the state where consideration was given to the new act by the county commissioners

and the farm bureau board members. On April 20, the day following the adjournment of the legislature, the farm bureau board was in session and called into its meeting the chairman of the county commissioners and the county auditor at which time the provisions of the new act were discussed.

The county extension committee was organized in Winona county May 19. From Nobles county comes the report that "the personnel of the extension committee is completed and there will be a meeting soon which will be called by the county auditor."

Steps are under way for the organization of the county extension committee in Wabasha county. Commissioners in Wilkin county on May 4 elected Commissioner Stegge as a member of the county extension committee to serve with the chairman of the board and the county auditor. The farm bureau board of Stevens county on May 15 elected its required members on the extension committee and discussed plans for compliance with the new act. In Pennington county the farm bureau board held a meeting with the county commissioners May 18 and perfected the organization of the county extension committee. Similar action was taken on the same date in Roseau county.

In Goodhue county the county commissioners requested the farm bureau board to meet with them May 28 to organize the extension committee. The farm bureau board on May 4 elected T. O. Sundry as the fourth farm bureau member on the extension committee.

Dodge County Organized

In Dodge county the committee representing the farm bureau met with the commissioners April 26, outlining to them the leading features of the new law. The county auditor arranged for a joint meeting of the two bodies May 24 to organize the county extension committee.

The county board of Wadena will appoint the fourth member of the extension committee the first Tuesday of June when the committee will organize.

In Redwood county the farm bureau board is meeting Tuesday, June 5, for the purpose of making further plans and completing the organization of the extension committee. At that date they will go over the past year's expenditures and outline the budget for the coming year.

In Lincoln county the extension committee is organized and includes N. N. Wogensen, Tyler, farm bureau president, chairman; A. L. Swenson, county auditor, secretary; C. C. Spanton, farm bureau director, vice chairman; Gunder Bardal, farm bureau secretary; C. O. Nelson, chairman of the county commissioners; George Hausewedell, county commission-

er. The committee meets early in June to make the budget.

Lake of the Woods county has organized its county extension committee and formulated a budget. Assurance has been given that a county appropriation of \$1,500 will be made. In Cook county the farm bureau officials and members of the county board will get together early in June to perfect organization.

In Steele county the members of the county extension committee have been appointed and the county auditor will call a meeting of the committee in June. Steps are under way to perfect organization in Murray county. Hennepin county will organize at the June meeting. Preliminary steps were taken to organize in Renville county at the annual meeting of the farm bureau May 18. The extension committee in Kandiyohi county will be organized June 5.

St. Louis and Pipestone

In St. Louis county the budget is already organized for the year beginning January 1. Assurance is given that full co-operation will be extended by the county commissioners, the county auditor, and the St. Louis County Club in compliance with the law.

In Pipestone county the joint representatives of the farm bureau board and the county commissioners organized the county extension committee May 15. R. G. Larson, from Ihlen, serves on the county board in addition to the chairman and the county auditor. E. G. Wilson, also from Ihlen, was selected as the additional farm bureau member on the committee. The county board has already made its appropriation.

Steps are under way in Carver county for the organization of the extension committee. In Mahnomon county the extension committee will organize at the June meeting of the county board. The appropriation already has been made.

The following appropriations have already been granted for the coming year:

Bigstone	\$1,500	Kanabec	\$1,500
Brown	2,000	Mahnomen	1,500
Carlton	2,300	Ottertail	3,000
Chisago	2,000	Pipestone	1,500
Hennepin	5,000	Ramsey	2,500
Houston	1,500	St. Louis	14,000
Itasca	3,000	Watonwan	3,000
Koochiching	2,000		

The commissioners of Dodge and Wabasha counties at recent meetings increased their appropriations for the past year's work by \$500.

Spraying Rings Organized

Orchardists of Waseca county have organized seven spray rings and have ordered equipment and spraying material sufficient to spray 1,030 trees. Two rings have been organized in Wabasha county.

MISS SHEPPERD TO LEAVE "U" ON JULY 1

Home Economics Teacher of Early Formative Period and Extension Worker in Later Days Resigns.

Actively identified for 27 consecutive years in the work of the home economics and extension divisions at University Farm, Miss Juniata L. Shepperd recently tendered her resignation and will retire from the university July 1.

Miss Shepperd's first years were spent on a farm in southern Iowa. Her early education was obtained in district school, academy, normal school, and she received the college degree of B.A. in 1881. After three years of teaching and study in California, Oregon, and Idaho, she returned to Iowa and took post graduate work in Drake University where she received the degree of Master of Arts.

Her first work in Minnesota was in connection with the farmers' institute in the winter of 1890-91, when she went about the state with the institute corps and gave lectures and demonstrations at the institute meetings.

The following summer she took a course in cookery at Chautauqua; was for two years head of the culinary department of the Jackson sanatorium at Dansville, N. Y., then took a course in domestic science in Pratt Institute, Brooklyn.

To University Farm in 1894

In the spring of 1894 the faculty of the Minnesota School of Agriculture decided to offer a four weeks summer course in domestic science to women. For some years there had been something of a demand for a course for farm girls in the school. This summer course was suggested as a sort of experiment to determine whether or not there was a real demand for instruction of this kind. The course was well attended, and was continued the following three summers, or until the course for girls was offered in the regular school year. Miss Shepperd was employed to teach the cooking the first summer, but the following two summers she was attending summer sessions at Pratt Institute, and the cooking at University Farm summer school was taught by Miss Mary Thompson, afterward Mrs. T. A. Hoverstad.

Miss Shepperd returned to Minnesota in the fall of 1896 and was given the management of the school dining hall. She again taught in the summer school of 1897, and at the opening of the school year, in addition to the dining hall management, was given charge of the domestic science work for the girls who were then admitted to the school for the first time. The instruction given the girls by Miss Shepperd and her assistant, Miss Mary L. Bull, included selection of food materials, preserving of foods, planning of meals, cooking and serving foods of all kinds, home sanitation, laundering, dry cleaning, etc.

Helps to Start College Course

After the work was well started with the girls in the school course, there began to be heard whisperings of a need for a college course in home economics. Such a course was outlined by Miss Shepperd and other members of the faculty, and in the fall of 1900 two young women who had finished the school course were registered as the first students in the university course in home economics. In



JUNIATA L. SHEPPERD

1914, at the time Miss Shepperd resigned her work in the school and college to take up extension work, the number of home economics students had increased to 211, and there had been 26 who had taken their B.S. degree in that course.

During this time initial steps were taken in several plans which afterward had far reaching results. Among these may be mentioned the formation of a home economics society which developed into the Phi Upsilon Omicron sorority, now a national organization; the renting of a house by a group of college girls for the purpose of practice in home management, which resulted in this kind of work being established as a part of the regular course; the planning of a building for the home economics division which resulted in the appropriation by the legislature of money for the first part of the present home economics building.

Since 1914 Miss Shepperd has been with the agricultural extension division, devoting her time and energy to helping farm women with their problems of house planning and management. She has given especial attention to the matter of water supply including sewage systems for farm homes, and has tried to show how practical, low cost water systems may be installed in the farm homes and thus do away with the drudgery of carrying water for household purposes.

Miss Shepperd is the author of a book on laundry work and one on household science and joint author with Prof. E. A. Stewart of a bulletin on low cost water systems for farm homes. The books were the outgrowth of her work in the school and college of agriculture. At that time there were almost no good books on these subjects, and the pioneer teachers were obliged to write their own texts.

Miss Shepperd will continue to make her home near the campus which so long has been the scene of her faithful and conscientious service for the girls and farm women of the state. Here among the friends of old and later days she will rest and do some things often planned but deferred for lack of time. Hundreds of friends over the state and in the university regret her retirement and wish her many happy years.

CAVERT REPORTS ON CHICAGO CONFERENCE

Objectives of Farm Management Extension Work Studied and Discussed by Northwest Specialists.

W. L. Cavert reports that the conference of farm management extension workers at Chicago on May 16, 17, and 18 was a great success, as it resulted in a clear statement of the objectives of the work and in the exchange of many good ideas as to more effective carrying out of the work. Among the objectives outlined were the following:

1. To teach farmers to study their individual farm business more closely so as to increase their net income over a period of years.

2. To acquaint farmers with the facts bearing on economic changes at home and abroad so that they may more nearly adjust production to demand.

3. To assist in correlating the work of all extension forces and developing economically sound extension programs.

Director F. W. Peck and others presented the view that results in farm management extension work cannot be measured as accurately as such projects as poultry culling, fertilizing, lime tests and other work that gives immediate concrete results. However, this does not mean but that highly gratifying results are being obtained by the farming public over a period of years in the way of a better understanding of economic factors bearing upon agriculture.

A profitable part of the program was a discussion of farm management tours by Dr. C. E. Ladd, in charge of farm management extension work in New York state, who said in substance:

"We are holding 25 to 30 tours a year and they are rapidly becoming one of the most popular phases of our work. At these tours we see good cows, but we are not interested in good cows alone. Likewise we see good fields of crops, but we are not interested in good crops alone; but rather in putting these things together so as to make a profitable farm. These tours enable those in attendance to see just how this has been done under local conditions."

Dr. Ladd emphasized the importance of selecting farms that are known to be financial successes over a period of years. It also helps greatly if the farmers visited are able to give good statements as to why they follow the practices that have been successful in their individual cases.

COUNTY AGENT WORK RENEWED IN BIGSTONE

County commissioners of Bigstone county at their May meeting voted an appropriation for agricultural extension work. This made possible the renewal of county agent work on June 1 after a lapse of a little over one year. The office will be located at Graceville. R. Buchanan, who was graduated from the Ohio State Agricultural College in 1914, has been secured as county agent. He is well known to the people of the county, having served as agricultural instructor in the Browns Valley high school and having been county agent in Roberts county, South Dakota, just across the line from Bigstone county, for five years.

Team Demonstrations by Members Boys' and Girls' Clubs; Suggestions by the State Leader

(By T. A. Erickson)

Public demonstrations of good farm and home practices by teams of boys' and girls' club members is one of the most effective means of getting these better methods used. Every standard club should have at least one demonstration team. Every county is entitled to send two or more demonstration teams to the State Fair. These teams should be used for demonstrations at farmers and other community clubs, at the county fair, school programs, and at other public meetings. Demonstration by teams may be given in any project.

A club team is made up of two or three members who have been selected because of their ability to demonstrate the practices their club is carrying on. The team selected should be strong on the subject matter of their project and at the same time be able to present it in a good way. They should also be good workers. A demonstration team should be dressed appropriately for the work to be done, all members alike, if possible. Overalls would be proper in a demonstration dealing with livestock, while for a baking demonstration white is the best color.

Principles of a Demonstration

Demonstrating is showing how a thing is done by actually doing it and telling how. A talk or lecture is not a demonstration. Present one subject in each presentation or one or more phases of a subject. The cold pack method of canning may be presented in one demonstration, but the subject of poultry growing would be too large, so select one or two phases, as marketing eggs.

The team members should know the subject to be presented thoroughly, but it is preferable not to memorize explanations.

Important Parts

A demonstration generally has three parts:

1. The introduction, which may include presentation of the team, a statement of work to be presented, and brief reference to club activities and the special subject given.
2. The demonstration proper, which includes the main part of the demonstration, one team member talking to the audience explaining what is being done, while the other member or members actually perform some part of a certain operation, like baking bread. The members change off, working and speaking.
3. The conclusion, showing results, summing up main points of the entire demonstration, questions by the audience, together with any little variation of an entertaining nature, as a club song.

Suggestions for a Demonstration on the Proper Grading, Marketing and Storing of Eggs.

Marketing is one of the important subjects of extension programs at present, therefore a suggestive outline is submitted for preparing a club demonstration team in giving a public presentation of how poultry club members are learning to prepare and grade eggs properly for market, including the preserving of eggs.

POULTRY TEAM DEMONSTRATION; TEAM DEMONSTRATION ASSIGNMENTS

Team Brings One or Two Baskets of Mixed Eggs Presumably as Brought from Nests of Poultry Houses

Introduction

Part I. Grading Eggs

Demonstrator A.

Discusses:

The "seven steps" in marketing high quality eggs. Explains the three general grades, "small," "dirties" and large clean marketable eggs while he assists B in grading eggs.

Demonstrator B.

Grades eggs from mixture in basket placing "dirties" in one basket, the small ones in another, the large clean brown in a third and the large clean white in a fourth.

(Each basket properly labeled).

Part II. Grading Market Eggs

Demonstrator B.

Tells of different grades of market eggs, showing weight of each grade by use of grader; gives reasons for "candling" eggs, explains methods of packing and marketing. While speaking, he packs in case eggs "candled" by Demonstrator A.

(A chart on wall showing standard market grades will help to emphasize this point.)

Demonstrator A.

Candles all eggs in basket holding market eggs. When through, assists Demonstrator B in packing.

Part III. Preserving Small Eggs for Winter Use

Demonstrator A.

Explains methods of preserving eggs:

- (a) In water glass
- (b) In lime water
- (c) Packing in salt, oats, etc., of infertile eggs.

Emphasizes water glass method.

Helps Demonstrator B in using this method.

Demonstrator B.

Prepares water glass solution, "candles" small eggs separated in Part I, packs in jar and pours on water glass solution.

Part IV. Demonstrating Use of Dirty Eggs

Demonstrator B.

Explains proper handling of this class of eggs, and method of cleaning by use of cloth moistened in vinegar. Assists Demonstrator A in cleaning eggs of this class.

Tells how to prevent having this kind of eggs.

Demonstrator A.

Using a cloth moistened in vinegar, cleans dirty eggs separated in Part I.

Part V. Demonstrating Containers and Other Equipment Used for Marketing and Preserving Eggs

Demonstrator A.

Explains different kinds of egg crates, parcel-post packages, egg grader, etc.

Demonstrator B.

Assists Demonstrator A by showing use of those not already used in demonstration.

Conclusion

Summary, questions by the audience, etc.

Note—The material for the subject matter of this demonstration may be had by writing N. E. Chapman, University Farm, St. Paul, Minn.

Rations Deficient in Minerals

Five farmers in a single community in Dodge county report cases of depraved appetites in the dairy herds. The affected cattle have been fed a liberal grain ration and silage and hay, but in most cases have had no clover or legumes of any kind. The county agent says a finely ground steamed bonemeal is being used to supply the mineral deficiency in the ration.

"Promising Work in Sight"

Good progress is being made with bull association work in Mille Lacs county, says the county agent. Three Holstein blocks and two Guernsey blocks had been organized prior to April. "Interest among the farmers in regard to better stock, especially purebred sires, was clearly shown by the readiness to organize," says the agent. "Some real promising work is in sight," he adds.

DAIRY RETURNS LEAD ON OWATONNA ROUTE

Records Show that Farmers Increased the Production of Butterfat to 195 Pounds Per Cow in Year.

(By G. A. Pond)

Dairying was the principal enterprise in 1922 on the farms constituting the Owatonna statistical route, the cost records of which were supervised by the farm management division of the University of Minnesota. Nearly 56 per cent of the total receipts were from the sales of cattle and of dairy products. Economical dairy production was an important factor in building up the net income of these farms. In the following statement is found a summary of the average costs of keeping a dairy cow for a year and also the average cost of producing a pound of butterfat and the wage returned by these cows for their care and feed:

Average cost of butterfat production in 1922 (per cow basis). (Average of 21 farms, 371 cows)—

Feed:	
Ear corn, 584 lbs. @ .62c per cwt.	\$3.62
Small grain, 956 lbs. @ \$1.00 per cwt.	9.56
Mill feeds, 117 lbs. @ \$1.30 per cwt.	1.52
Hay, mostly tame, 2,160 lbs. @ \$14 per ton.....	15.12
Silage, 7,150 lbs. @ \$3.25 per ton	11.67
Pasture, 188 days.....	5.64
Total feed	\$47.13
Labor:	
Man hours, 162 @ 17½c.....	\$28.35
Horse hours, 6½ @ 10c.....	.65
Other costs*	\$29.00
Interest @ 6 per cent.....	\$6.57
Depreciation	8.76
Miscellaneous cash costs.....	.46
Total cost per cow.....	\$91.92
Skim milk credit.....	\$12.93
Net cost of butterfat.....	\$78.99
Average number of pounds per cow..	195
Average cost per lb.....	40½c
Average selling price per lb.....	45½c
Return per farm for 2,859 hours of man labor	\$671.87
Return per hour of man labor.....	23½c

* Manure and calf credits have been assumed to offset the equipment, shelter and bull charges.

The cows included in the herds reported on were largely grade Holsteins. A few purebred Holsteins were included and also a few Ayrshires, Guernseys and grade Shorthorns. Except for a small quantity of mill feeds the feeds fed were largely home grown and such as are available on most Minnesota farms. In general the feed and care was fairly typical of that given dairy cattle in the better dairy sections of the state. The results are quite indicative of what might be expected with ordinary farm feeds in almost any section of the state.

Good Gains in Production

It is interesting to note the improvement in these herds since these farmers have been keeping records. In 1920 the average production of butterfat per cow was 167 pounds, the average cost per pound 82 cents and the average selling price 71 cents. In 1921 the production per cow was 170 pounds and the cost and selling price 57 cents and 48 cents respectively. Last year the production rose to 195 pounds per cow, an increase of 25 pounds in one year. This increased production amounts to 443 pounds per herd,

Valuing this at the average price received, 45½ cents, we find that this increase alone added more than \$200 to the farmer's income. Instead of the return of 10 1/3 cents per hour that he received for the time he spent on his cows in 1921, he received 23½ cents per hour in 1922 and the cost of producing a pound of butterfat was 5 cents under the selling price.

Undoubtedly the annual reports on the dairy enterprise received by these farmers calling their attention to the low production of their herds and the resulting high cost per unit of product was a large factor in the improvement noted. This is indicated in the fact that for the last two years an average of one cow in every five has been sold out of these herds and replaced by the purchase of higher producers or by heifers from the better cows. The result of this weeding out process is quite apparent. More economical feeding has also resulted. The use of alfalfa hay has increased and a saving of grain effected. The 195 pounds of fat in 1922 was actually produced with over 200 pounds less grain than the 170 pounds of the previous year, due not only to the higher efficiency of the cows but also to the better balanced rations and the increased use of alfalfa.

Importance of High Production

The importance of high yield of butterfat in reducing the cost of production per pound is well demonstrated in case of individual herds. The highest producing herd in the group averaged 238 pounds of butterfat per cow and the cost of production per pound was 26 cents. The lowest producing herd had an average of 149 pounds per cow produced at a cost of 55 cents per pound or more than twice as much. The higher production of the former herd was largely due to the higher productive efficiency of the cows and the greater skill in caring for and feeding them, since there was little difference in the amount of feed per cow in the two herds. When one recalls the fact that the average cow in the state, according to the 1920 census, produced only 3,000 pounds of milk per year, whereas these cows averaged nearly 6,000 pounds annually, it is apparent that there must be a large number of cows which are falling far short of paying for their feed and care.

WOMEN ORGANIZING TO SAFEGUARD HEALTH

North and south St. Louis county have organized for nutrition work. Representative women, 38 in number, from the farms, the villages, and the mining locations have enrolled in the training classes for local leaders arranged by Miss Anna Tikkanen, county home demonstration agent, and conducted by Miss Lucy Cor diner, extension specialist in nutrition. These St. Louis county women understand the food problems peculiar to St. Louis county. Furthermore, they understand the special problems of the different national groups on the range. They are homemakers and mothers and are determined that their county shall lead in health as well as in iron ore. It will be interesting to watch the progress of these groups.

THREE DISTRICTS BUILD UP CREAM MARKETS

Cream Shipping Problem Met and Solved in Several Communities in Western Minnesota.

Can a community without enough cream to support a co-operative creamery do anything to better its market for cream? That problem has troubled a great many communities; it has been solved partly at least in Echo, Cottonwood and Boyd.

Farmers near Echo met with County Agent J. W. Lawton in November, 1921, to organize a co-operative creamery. A total of the amount of cream that could be counted on was obtained and found to be far too small to assure a successful creamery. A co-operative cream shipping association was proposed and organized. A local man was hired on a commission basis, a building and apparatus secured and arrangements made to ship cream to the Fairfax creamery. The association handled 3,500 pounds of butterfat in November, 6,666 pounds in December, and 7,076 pounds in January. The returns of patrons for January was \$500 more than they would have received without the association. The business has continued to grow; in March, 1923, 319 cans of cream were shipped as compared to 30 cans the first month of operation.

Associations have been organized in Boyd and Cottonwood. A report from Charles Aamodt, manager of the Cottonwood association, shows a good healthy growth. Seven thousand pounds of butterfat were handled in April as compared to 1,900 pounds in August, the first month; a total of 22,000 pounds of butterfat were handled the first nine and one-half months of business. The association started with 50 patrons and now has 125.

PUREBRED CAMPAIGN STARTED IN OLMSTED

Olmsted is the latest Minnesota county to be invaded by the workers in the purebred sire campaign started by the Minnesota Holstein Breeders association and backed by the farm bureau, the agricultural extension service of the university, county agents, bankers, newspaper men, and other individuals and interests.

Secretary Robert Geiger of the association reports that 65 purebred bulls were sold in Nicollet county and that the work there has been completed. Some of the finest registered Holsteins from the Holstein center at Northfield were sold to dairymen of Nicollet county. Holsteins and milking Shorthorns were most in demand.

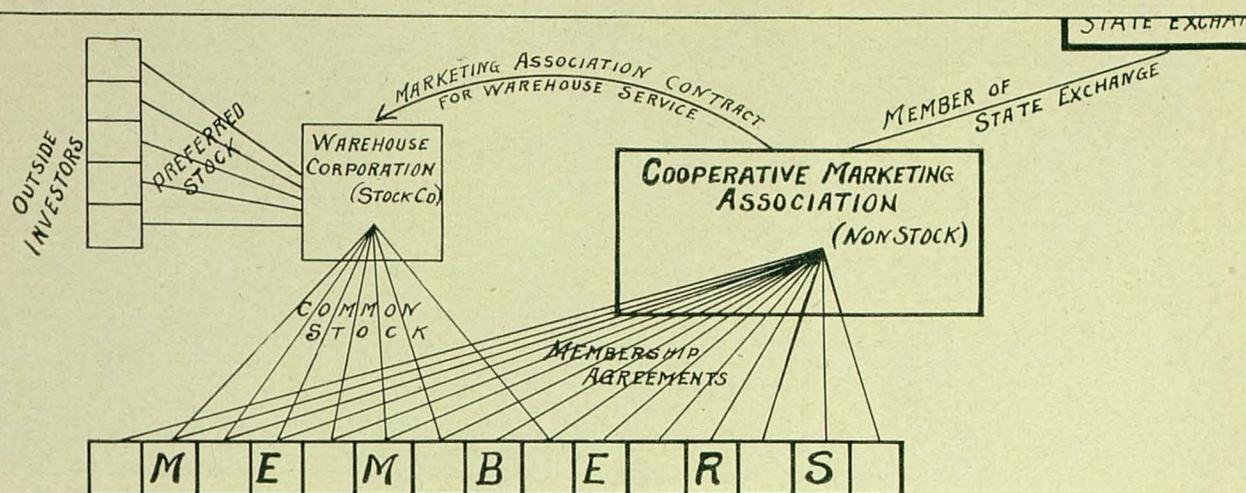
Secretary Geiger says that 53 bulls have been sold in Washington county, with the canvass not yet completed. Thirty-two have been placed in Hennepin, and the campaign is still on. Much more work is yet to be done in Mower county.

According to the secretary there is a shortage of Shorthorn bulls and help in meeting the demand will be appreciated. The campaign for purebred sires was started last February and will be pushed steadily through the year.

Diagram of Organization Possible Under the New Standard Co-operative Marketing Act

(Applicable to Any Agricultural Commodity)

By W. J. Corwin



The producer becomes a member of a co-operative marketing association, district or otherwise, depending upon the nature of the commodity to be handled and other local conditions, but covering a sufficient area to secure an economical volume.

These co-operative marketing associations may unite to form a central agency (usually state exchange) to which all the powers of selling, grading, storing, standardizing, etc., may be delegated—all as specified in the membership agreement between the individual association and the central agency.

The producer's contract or membership agreement with his marketing association may make it mandatory upon the association to join the central agency. In case of the egg and potato contracts, it is mandatory when a minimum number of associations have been formed.

The marketing association may rent warehouse service or the members may agree among themselves to form a separate warehouse corporation and then the marketing association can contract with the warehouse corporation for service. The reason for this is to give legal standing and backing to the warehouse receipts.

If necessary in building or buying warehouses, additional capital from outside investors may be used as preferred stock to be paid back in five years.

The marketing association charges its producer members a little more than the actual storage and handling cost and this excess is used to pay off the preferred stock. Each producer is credited with such deductions and as the preferred stock is paid for it is automatically redistributed as common stock to the producers on the basis of their business transacted.

The producer delivers his products to his own marketing association, which may sell them at once or store them with the warehouse corporation and use the storage receipts issued to the marketing association as collateral for loans under the new intermediate credit act or otherwise for making advances to members until the products are all sold.

The marketing association office may or may not occupy a part of the warehouse, and one marketing association may have more than one warehouse within its area.

New Agent for Sherburne

Merrill Brobst, born, reared and experienced on a sand farm at Mondovi in western Wisconsin, graduate of the Wisconsin College of Agriculture, where he specialized in animal husbandry, was elected county agent of Sherburne county May 9 and began work immediately. Mr. Brobst has had a life training on a modern dairy farm and has spent practically all his years on the farm except when in service and for a brief time when employed with the Minnesota Loan and Trust company.

More Soybeans Planted

Some 150 farmers of Houston county are growing soybeans this year for hogging off and silage.

Many Inquiries; Material Lacking

The agent in Chisago county reports many inquiries concerning the copper carbonate treatment for seed grain. The work has been handicapped, he says, by the great difficulty found in securing the material for this treatment.

287 Mille Lacs Juniors Enroll

Final enrollment in Mille Lacs county shows that 287 boys and girls are working on club projects.

Chicken Thieves Beware

The Ashland township farm bureau unit in Dodge county is organizing to repel chicken thieves. Other units will be asked to co-operate by forming vigilance committees.

More Alfalfa in Mille Lacs

Hammargren of Mille Lacs county says an average of ten acres of alfalfa for every township is assured in his bailiwick.

Several Becker county farmers will try out their soil for growing sugar beets this year. About 200 acres will be grown, says the agent.

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IMPORTANT ANNOUNCEMENT

Beginning the new year, July first, the reduced appropriations will make necessary a change in the size of the Extension Service News, which has always had eight pages and occasionally twelve pages to meet a special demand for information. July first, it will be necessary to adopt a four-page size as standard for the year, but it will be continued monthly as in the past. This means that we must hereafter boil down our material to the minimum and attempt to stress only the most important features and special news valuable to county agents. We shall appreciate hearing directly from those receiving the News both in criticism and in contributions for publication. We hope to develop the most intimate contact between the extension workers by means of this house organ and we want the agents particularly to feel that it is their own publication and that they are free to express themselves through its columns.

THE CHICAGO CONFERENCE

Some very valuable and very definite ideas for the development of farm management plans of work and home projects in extension resulted from the meeting of these extension forces from the middle western states at Chicago May 16 to 18.

It is becoming apparent to agricultural leaders that there are certain fundamental problems and principles involved in the relation of agriculture and of all lines of industry to the type of farm homes and the financial success of farm business at the present time. There is no question but that there are far reaching effects, not only in farming but in other lines of business from the present financial situation that confronts farmers, but that fundamentally the farm home situation may reach even farther in its effect upon the nation as a whole. Thus we find that the development of the farm home is not only a farm problem or a local community problem, but it has state and national aspects that are of fundamental importance.

Profits in farming constitute the basis for a large part of extension work and many problems in farm organization and in farm economics revolve about the fac-

tors that make for profitable farming. These should be considered as means to an end rather than as an end in themselves, for the spending of the income and the development of a desirable standard of living which center in the farm home are the important factors that should be kept in mind.

The specific recommendations of the two conferences will be given in a summarized way in the July issue.

THE NEW POTATO EXCHANGE

Elsewhere in this issue is mentioned the progress being made in the preliminary organization work of the new Minnesota Potato Growers' Exchange. The principles upon which this organization are based are new to Minnesota and it would be well for everyone to consider carefully the plan of organization. It is the first large co-operative movement of the centralized type to be undertaken in the middle west, with the possible exception of the Twin City Milk Producers' association, which is comparatively local in scope.

The great co-operative development of Minnesota has been built around the local co-operative association. The co-operative creameries, elevators, and livestock shipping associations are all local in character. When a statewide marketing movement developed in any one of these departments, it grew up simply as a federation of these locals. The Minnesota Co-operative Creameries association and the Central Co-operative Commission company are federations of locals. They are the natural outgrowth of the situation. They are performing valuable services and have the enthusiastic support of their members.

The new Potato Growers' Exchange will be an entirely different sort of co-operative association. It will be highly centralized, the various district associations of which it is composed being relatively unimportant. The members will be under a five-year binding contract to sell all their potatoes through the exchange. The exchange will have absolute control over the grading, packing and shipping of the potatoes of all members. It will control the time of selling, so as to distribute the year's crop gradually over the market. By the terms of its organization contract, it must have more than 50 per cent of the commercial potato acreage of Minnesota under contract before it commences to function.

The greatest advances in co-operative marketing in recent years have been along the lines of the centralized organization. In the west, south, and east great co-operative movements have sprung up, mostly based on this type. Only in the north central states has there been until this no large commodity marketing association of the centralized type, to afford an opportunity for us to study its operation at close range. The Potato Growers' Exchange gives such an opportunity, and we should avail ourselves of it.

Pig Losses Heavy

The early spring pig crop was hard hit in Jackson county, reports W. C. Dunlop, county agent, who says the March part of the crop sustained losses of fully 50 per cent.

HOW FEDERATIONS MARKET MINNESOTA FARM PRODUCTS

(By Dr. H. B. Price)

Several of the problems of co-operative marketing at the central market which local associations are not handling satisfactorily can obviously be handled equally well by the federated and the commodity type of organization. These are: standardizing production, adjusting production to consumption, stabilizing production, inspecting products en route or at destination, handling claims, improving accounting and business practice, research in marketing methods, and the elimination of wasteful competitive methods.

There are some problems, however, which the two types of organization are not handling equally well or which they appear not to be handling equally well. These are:

1. **Control of quality:** the commodity type has been developed in marketing fruits, milk and other perishable products which are poorly standardized: control of quality is therefore given greater emphasis. The few federated organizations marketing similar products also give much attention to this problem and have made equally important progress.

2. **Making consumption fit production:** advertising and sales campaigns can be conducted equally well by federations and commodity organizations marketing similar products if each has a standardized product and a large volume of business. The emphasis on a large volume of business by the commodity type is largely due to the fact that they have been marketing products that lend themselves to demand creation. Minnesota's chief products, grain, livestock, wool, and potatoes, are not suited to advertising.

3. **Regulating the flow of products to market:** the commodity type, with its subsidiary warehousing corporations, has an advantage over a federation when products are stored. For wool, cheese and some other products, this advantage is of some consequence. For wheat, it is of little or no importance.

4. **Distributing the products:** a centralized commodity organization which owns the product as soon as the farmer delivers it can direct it to where it is most needed to greater advantage than a federation when the markets are many and widely scattered. This is important in marketing potatoes, wool, and cheese. Federations can probably satisfactorily distribute grain, livestock, and butter which are marketed in highly developed, centralized markets.

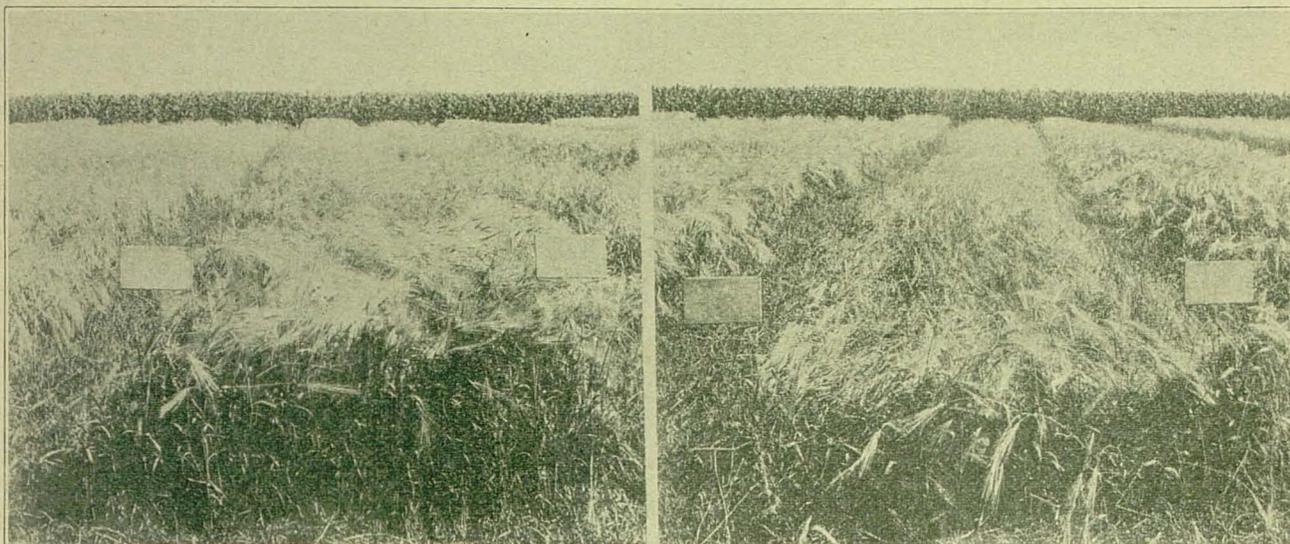
5. **Selling:** Most of the Minnesota federations are handling farm products on a scale that enables them to realize any gains from bargaining due to large-scale marketing and to make connections with the actual purchasers.

Minnesota federations by pooling products on a community basis have avoided many inequities in paying farmers which a regional pool encounters when pooling wheat, livestock, potatoes and other products whose quality cannot be controlled and for which standards of grading have not been developed to measure all of the valuable characteristics.

Washington County Enrolls 300

About 300 boys and girls have enrolled for club work in Washington county.

Minsturdi Barley (on the Left) Stands Up Well When Manchuria (on the Right) Lodges



WOMEN TAKE COURSE REFINISHING FURNITURE

Eighty-three women of Duluth have finished a three-lesson course of instruction in refinishing furniture during which several pieces of furniture were renewed.

The instruction was given by volunteer workers acting as local leaders to small groups of women in their communities. These local leaders had attended local leader training classes carried on in Duluth during the winter through the co-operation of the home bureau of the city and Mr. Young of Dunwoody Institute, Minneapolis.

This is one of the phases of the home management project now being carried on through local leaders in the twin cities. The same work will be done in different counties of the state by women from local leader training classes in home management now being conducted by the state specialist, Mary L. Bull.

Some very interesting results have been reported by the local leaders. One showed a saving of \$30. This woman had refinished a set of wicker porch furniture. Another reported refinishing a bedroom set at a saving of \$40, and still another saved \$10 by refinishing two taborettes and three picture frames. In this way pieces which have long been banished to the garret are made useful and beautiful.

Peas Good Feeding Crop

Experimental work directed by R. F. Crim and county extension men is being carried on in Wabasha county for the purpose of gathering definite information concerning the use of peas for hog forage and hay and seed. Yields as high as 40 to 60 bushels an acre have been reported in past years. Progressive hog feeders of the county believe that peas grown with rape make an especially good feeding crop.

Minsturdi (Minn. No. 439), a barley which has stamina and backbone to stand up under the buffeting of rain and wind while other varieties faint and fall, was produced at the Minnesota Experiment Station, University Farm, in co-operation with the federal bureau of cereal investigation, from a cross between South African, which has a very stiff straw but which is not a big yielder, and Manchuria which yields well but often lodges, especially on heavy soil.

Minsturdi yields about as well as Manchuria and, having a very stiff straw, stands up well. R. E. Hodgson, superintendent of the Waseca station, considers it an important contribution to the cereal agriculture of southern Minnesota and it is being increased and distributed from his station.

The university's plant breeding work in farm crops is in charge of Dr. H. K. Hayes who says that Minsturdi is one of the stiffest strawed barleys known.

AUSEN LEADS CLUB WORK IN OLMSTED

Development of club work in Olmsted county necessitating additional leadership, Julius Ausen, former county agent of Todd county, resigned that position and on May 1 became a special agent in Olmsted to have charge of work among the juniors. Mr. Ausen made a fine record in Todd county and it is felt he is just the man for the Olmsted county position. The farm bureau, schools and business interests of Olmsted county are supporting club work with right good will and have planned a year of increased activity.

CHICAGO CONFERENCE APPOINTS COMMITTEE

A farm home conference of extension workers of 13 of the middle-west states with representatives of the United States Department of Agriculture was held in Chicago May 16, 17 and 18. The main points of discussion were: Development of extension work with the farm home in counties without women agents, development of extension work with the farm home in counties with women agents, local leadership, the junior club in the home program and rural engineering projects suitable for work with the farm home. A committee was appointed to crystallize the sentiment of the meeting and make definite recommendations for future development of the work. This committee consisted of the extension directors from Ohio and Indiana, the boys' and girls' club leader from Iowa, and the home demonstration leaders from Missouri, Illinois, and Minnesota. The committee report will be given in a later issue. The conference was attended by Julia O. Newton, the Minnesota state leader, Mary L. Bull, Lucy Cordiner, and Nora Hott.

For Pocket Gopher Control

C. E. Mickel, entomologist with the extension division, has finished his first series of demonstrations for the control of pocket gophers. He gave one demonstration at Faribault, two in Crow Wing county, two in Kittson county, three in west Ottertail county, and others in Kanabec, Ramsey, and Hennepin counties. The pests were found to be numerous in northwestern districts of the state and, indicating the interest taken, 50 farmers turned out to one of the demonstrations in Kittson county. At all the meetings Mr. Mickel explained the formula for making and using poison bait. Instruction was also given in follow-up work for the extermination of the gophers.

The Country Book Shelf

Some books are to be tasted, others to be swallowed, and some few to be chewed and digested; that is, some books are to be read only in part, others to be read but not curiously, and some few to be read wholly and with diligence and attention.—Bacon.

(By F. E. Balmer)

The first installment under The Country Book Shelf appeared in the March, 1923, issue of the Minnesota Extension Service News. The lists which follow complete the contributions made by the several divisions at University Farm, pursuant to the request of the last annual extension conference. Both county and state extension workers are appreciative, for these lists will be valuable for both immediate and future reference.

Readings in Home Economics

The various members of the staff of the division of home economics have contributed an excellent and complete list of readings in this important field, as follows:

Food and cookery—

- Bread Making Project, Minnesota Boys and Girls' clubs, University Farm, St. Paul
- Chemistry of Food and Nutrition, Sherman, Macmillan Co., New York
- Feeding the Family, Rose, Macmillan Co., New York
- Food Industries, Vult, Chemical Publishing Co., Easton, Pa.
- Food Products, Sherman, Macmillan Co., New York
- Journal of Home Economics, Baltimore, Md.
- Manual of Home Making, VanRensselaer, Rose and Cannon, Macmillan Co., New York
- Marketing and Housework Manual, Donham, Quantity Cookery, Treat and Richards, Little, Brown & Co., Boston
- Spending the Family Income, Donham (Chapter 5, Standards for Food.) Little, Brown & Co., Boston
- Wilson's Meat Cookery, Small book distributed by Wilson & Co., packers and provisioners, Chicago. Contains illustrations and descriptions of cuts of meat.

Farmers' bulletins—

- A Week's Food for an Average Family, No. 1228
- Baking in the Home, No. 1136
- Cheese and Its Economical Use in the Home, No. 487
- Economical Use of Meat in the Home, No. 391
- Home Canning of Fruits and Vegetables, No. 1211
- How to Select Foods I, No. 808
- How to Select Foods II, No. 817
- How to Select Foods III, No. 824
- Milk and Its Uses in the Home, No. 1207
- Rice as Food, No. 1195
- Sugar and Its Value as Food, No. 535
- Home Canning of Meats and Sea Foods with the Steam-Pressure Canner, States Relation Service, Washington, Doc. 80.

For use in community centers or school lunches

- Quantity Cookery, Richards and Treat, Little, Brown & Co., Boston
- Recipes for Institutions, Chicago Dietetic Association, Inc.
- Recipes and Menus for Fifty, Frances Smith, Whitcomb & Barrows, Boston
- Extension Bulletin 44—Cafeteria, Bulletin Rooms, University Farm, St. Paul

Home management—

- Getting your Money's Worth, Isabelle Ely Lord, Harcourt, Brace & Co., New York
- New Methods in Child Training, Parents' Association, New York City
- The Manual of Home Making, VanRensselaer, Rose and Cannon, Macmillan Co., New York

Textiles—

- Baldt, L. I., Clothing for Women, J. B. Lippincott Co., Philadelphia
- Cook, R. C., Sewing Machines, Manual Arts Press, Peoria, Ill.
- Denny, G. G., Fabrics and How to Know Them, J. B. Lippincott, Philadelphia
- Fales, J., Dressmaking, Chas. Scribner's Sons, New York
- Farmer, A. T., Sewing and Textiles, D. Appleton & Co., Chicago

- Farmer, A. T., The Study of Fabrics, D. Appleton & Co., Chicago
- Gibbs, C. M., Household Textiles, Whitcomb and Barrows, Boston
- Hound, Agnes, Pattern Making, Macmillan Co., New York
- Lyon, Hester B., Modern Millinery, Millinery Trade Pub. Co., 1225 Broadway, New York
- Phillips, Martha Jane, Modern Home Dyeing, North American Dye Corporation, Mount Vernon, N. Y.
- Sherwin Williams Co., The Home Painting Manual, 601 Canal Road, N. W. Cleveland, Ohio
- Woolman, M. S., Clothing—Choice, Care, Cost, J. B. Lippincott Co., Philadelphia

Bulletins—

- Floors and Floor Coverings, 1922, U.S.D.A. Farmers' Bulletin 1219
- Home Laundering, 1922, U.S.D.A. Farmers' Bulletin 1099, L. R. Balderson
- Removal of Stains from Clothing and Other Textiles, 1922, U.S.D.A. Farmers' Bulletin 861, Land and Whittelsey
- The Care of Leather, 1922, U.S.D.A. 1183, Veich, Holman and Frey
- Textiles, 1920, Minnesota Special Bulletin No. 15, Marion Weller

Related art—

- A Practical Description of the Munsell Color System, with suggestions for its use, T. M. Cleland, Munsell Color Co., 8th Ave. and 34th St., New York, 50 cents, 1921
- Art in Dress with Notes on Home Decoration, Bolmar and McNutt, Manual Arts Press, Peoria, Ill., 1916
- Color in Everyday Life, Weinberg, Moffat, Yard & Co., New York, 1918
- Composition, Arthur W. Dow, Doubleday Page & Co., New York, 1918
- Design in Theory and Practice, E. A. Batchelder, Macmillan Co., New York, 1910. This book is primarily planned for the worker.
- Manual of Home Making, Van Rensselaer, Rose and Cannon, Macmillan Co., New York, 1919. An excellent chapter on the selection of hats.
- Shelter and Clothing, Kinne and Cooley, Macmillan Co., New York, 1914.

Bulletins—

- Appropriate Clothes for the High School Girl, Virginia M. Alexander, Bulletin No. 74, Feb. 1, 1920, College of Industrial Arts, State College for Women, Denton, Texas.
- Artistic Dress, extension circular No. 34, University of Illinois.
- Color in Dress, extension circular No. 35, Leona Hope, University of Illinois.
- Fashion, Its Use and Abuse, extension circular No. 33, University of Illinois.
- The Correlation of Fine Art and Domestic Art, with suggestions for application, by Mary Bastow, division of vocational education, department of public instruction, Salt Lake City, Utah.

Home Planning and Furnishing—

- A Manual of Home Making, VanRensselaer, Rose and Cannon, Macmillan Co., New York, 1919.
- Art Principles in House, Furniture and Village Building, A. B. Clark, Stanford University Press, 1921.
- Domestic Architecture, L. E. Robinson, Macmillan Co., New York, 1917.
- Household Engineering, C. Frederick, American School of Home Economics, Chicago, 1919. Helpful chapters on the labor saving kitchen and on kitchen and laundry equipment.
- Interior Decoration, F. A. Parsons, Doubleday, Page, 1915.
- The Livable House, A. Embury, Moffat Yard, N. Y., 1917. Practical information on planning by a successful architect.
- The Principles of Interior Decoration, B. C. Jakway, Macmillan Co., New York, 1922.
- What Makes the House Beautiful, H. Peabody, Atlantic Monthly Press, Boston, 1920. Specific information and illustrations of house-plan details with many valuable measured drawings.
- The Honest House, Goodnow and Adams, Century Co., New York, 1914. Not technical, thoroughly readable and thoroughly sound.

Bulletins—

- Home Laundering, Farmers' Bulletin 1099, U. S. Department of Agriculture.
- Interior Decoration, Song, College of Industrial Arts, Denton, Texas.
- Plans and Floor Coverings, Farmers' Bulletin 1219, U. S. Department of Agriculture.
- The Decorative Use of Flowers, Warner, Cornell Home Economics Bulletin, Ithaca, N. Y., Vol. IV, No. 87.
- The Farmhouse Improved, Etherton, Kansas State Agricultural College, Manhattan. Vol. 1, No. 8.
- The Farm Kitchen as a Workshop, Farmers' Bulletin 607, U. S. Department of Agriculture.

Those seeking publications in this particular field may be particularly interested in having their attention called to the recent appearance of Circular 156 entitled "Convenient Kitchens," and Bulletin 353 entitled "Farm Homes," issued respectively by the agricultural extension service and the experiment station of the University of Wisconsin.

Animal Husbandry List

Prof. W. H. Peters, chief of the division of animal husbandry and his associates very appropriately head their list with the significant work, "Feeds and Feeding," by Henry and Morrison. In 25 years this publication has been accepted generally by stockmen as containing the latest and most accurate information on a most important phase of animal husbandry—feeding and care. That "the eye of the master fattens his cattle" has a growing meaning is evident in the recent revision of this excellent work which appears as the eighteenth edition. The full list of recommendations from this division follows:

General Pooks on Livestock Subjects—

- Feeds and Feeding, revised edition of 1923, Henry & Morrison, Henry Morrison Co., Madison, Wis.
- Types and Breeds of Farm Animals, by C. S. Plumb, Ginn & Co., Chicago.
- The Breeding of Animals, by Mumford, Macmillan Co., New York.
- Types and Market Classes of Livestock, Vaughan, R. C. Adams & Co., Columbus, Ohio.
- Western Livestock Management, Potter, Macmillan Co., New York.
- Veterinary Studies for Agricultural Students, Revised 1922, Reynolds, Macmillan Co., New York.

Pooks on Peef Cattle—

- The History of Shorthorn Cattle, Sanders, The Breeders' Gazette.
 - The Story of the Hereford, Sanders, The Breeders' Gazette.
 - History of Aberdeen Angus Cattle, by American Aberdeen Angus Cattle Breeders' association, Union Stock Yards, Chicago.
- Pamphlets on beef cattle (free upon request)—
- Hereford Cattle, American Hereford Cattle Breeders' association, Kansas City.
 - Facts About Meat, Institute of American Meat Packers, 22 West Monroe street, Chicago.
 - Progressive Beef Cattle Raising, Armour's Bureau of Agricultural Research and Economics, Union Stock Yards, Chicago.

Bulletins on beef cattle—

- Minnesota, Investigations in Beef Production, No. 193; Cattle Feeding Investigations, No. 200.
- South Dakota, Corn and Millet Silage for Fattening Cattle, No. 189.
- Oregon, Fattening Steers, No. 174.
- U. S. Department of Agriculture, The Feeding of Grain Sorghums to Livestock, No. 724.
- Purdue, Cattle Feeding, Winter Steer Feeding, Nos. 206, 191, 220, 163.
- South Dakota, Corn Silage for Beef Production, 182.
- U. S. Department of Agriculture, Growing Beef on the Farm, Farmers' Bulletin 1073.
- Texas, Grain Sorghums vs. Corn for Fattening Baby Beeves, No. 296.
- Oregon, Fattening Steers, No. 193.
- Missouri, Composition of the Beef Animal and Energy Cost of Fattening, No. 30.
- Kentucky, Comparison of Broken Ear Corn and Shelled Corn Fed with Silage for Fattening Steers, Circular 26.
- Oregon, Growing Steers, Bulletin 182.

- U. S. Department of Agriculture, Meadows for the Northern States, Farmers' Bulletin 1170.
- U. S. Department of Agriculture, The Beef Calf, Farmers' Bulletin 1135.
- Missouri, Effect of Limited Food on Growth of Beef Animals, No. 28.
- U. S. Department of Agriculture, Breeds of Beef Cattle, No. 612; Beef Production in the Corn Belt, No. 1218; Feeding Experiments with Grade Beef Cows Raising Calves, No. 1024; Principles of Livestock Breeding, No. 905; Essentials of Animal Breeding, No. 1167.
- Books on horses—**
- Productive Horse Husbandry, C. W. Gay. Macmillan Co., New York.
- The Horse Book, J. H. S. Johnstone. The Breeders' Gazette.
- History of the Percheron Horse, Sanders and Dinsmore. The Breeders' Gazette.
- Pamphlets and circulars on horses (free upon request)—**
- The Percheron Review, 1922. Percheron Society of America, Union Stock Yards, Chicago.
- Publications of the Horse Association of America, Wayne Dinsmore, secretary, Chicago.**
- Illinois Percheron Sires, Illinois Percheron Breeders' association, J. L. Edmunds, secretary, Urbana, Ill.
- Report of the Minnesota Stallion Enrollment Board, J. F. Kuehn, secretary, University Farm, St. Paul.
- Recent bulletins on horses—**
- Utah, Feeding Work Horses, circular 43. Washington, Horses and Stable Management, No. 22.
- U. S. Department of Agriculture, The Cost and Utilization of Power on Farms Where Tractors Are Owned, No. 997.
- Illinois, The Horse and the Tractor, No. 231.
- Nebraska, Forage Rations for Growing Horses, No. 130.
- Illinois, Feeding Purebred Draft Fillies, No. 235.
- U. S. Department of Agriculture, Feeding Horses, Farmers' Bulletin 1030.
- Books on sheep—**
- Productive Sheep Husbandry, W. C. Coffey. J. B. Lippincott Co.
- Sheep Farming in North America, J. A. Craig. Macmillan Co.
- Sheep Management, Frank Kleinheinz. Published by the author, Madison, Wis.
- Sheep Farming in America, Joseph E. Wing. Sanders Publishing Co., Chicago.
- Bulletins on sheep—**
- U. S. Department of Agriculture, Effects of Shearing on Gains Made by Lambs, Farmers' Bulletin 162; Market Classes and Grades of Sheep, No. 350; Breeds of Farm Sheep, No. 576; Judging Sheep, No. 593; Sheep on Temporary Pastures, No. 1181; Diseases of Sheep, Circulars 193 and 157; Parasites of Sheep, No. 1150; Diseases of Sheep, No. 1155; The Stomach Worm, Circular 47.
- Wisconsin, When Lambing Time Comes, Extension Circular 144; Sheep Raising in Wisconsin, Bulletin 263.
- Illinois, Handling the Flock at Lambing Time, Extension Circular 18; Sheeping Down Corn, No. 21; Sheep Club Manual, No. 42; Suggestions for Sheep Club Leaders, No. 42.
- Purdue, Sheep Feeding, Bulletin 202; Sheep Feeding, Bulletin 179-234.
- North Dakota, Sheep Feeding Trials No. 115.
- Texas, Mineral Requirements of Sheep, No. 232.
- Washington, Digestion of Sunflower Silage, No. 161.
- Missouri, Stomach Worms in Sheep, Extension Circular 87.
- Kentucky, Stomach Worms in Sheep, Extension Circular 78.
- Kansas, Wool for Market, Extension Circular 19.
- Missouri, Co-operative Wool Marketing, Extension Circular 76.
- Kentucky, Handling the Wool Clip, Extension Circular 72.
- Ohio, Winter Rations for Breeding Ewes, No. 358.
- Texas, The Searing Iron versus the Knife for Docking Lambs, No. 173.
- Nebraska, Supplementary Feeds in Fattening Lambs No. 173.
- U. S. Department of Agriculture, Farm Slaughtering and Use of Lamb and Mutton, Farmers' Bulletin 1172.
- Ohio, Some Pests of Ohio Sheep, No. 356.
- Books on swine—**
- Pork Production, W. W. Smith. Macmillan Co.
- The Hog Book, H. C. Dawson. The Breeders' Gazette.
- Swine, William Dietrich. The Breeders' Gazette.
- Productive Swine Husbandry, G. E. Day. J. B. Lippincott Co.
- Pigs—Breeds and Management, Sanders-Spencer. Vinton & Co., London, England.
- Pigs for Breeders and Feeders, Sanders-Spencer. Vinton & Co., London, England.
- Success with Hogs, Charles Dawson. Forbes & Co., Chicago.
- Swine in America, F. D. Coburn. Orange Judd Publishing Co.
- History of Poland-China Swine, J. R. Davis and H. S. Duncan. Poland-China History association, Omaha, Neb.
- Pamphlets and circulars on swine (first four free upon request)—**
- Minnesota Farmers' Institute Annual No. 28, 1915.
- Hogs in Kansas, Kansas Board of Agriculture Report, 1918. J. S. Mohler, secretary, Topeka.
- Hogs for Pork and Profit, R. A. Hayne. International Harvester Co., Chicago.
- Progressive Hog Raising, E. R. Gentry. Armour & Co., Chicago.
- Forty Years' Experience of a Practical Hog Man, A. J. Lovejoy. The Frost Publishing Co., Chicago.
- History of the Duroc, Robert J. Evans. James J. Doty Publishing Co., Des Moines.
- Hogology, Robert J. Evans. James J. Doty Publishing Co.
- Hogs, A. J. Lovejoy and John M. Evvard. Frost Publishing Co., Chicago.
- Handbook on the Sow, James Baynes. American Swineherd Co., Chicago.
- Recent bulletins on swine—**
- Minnesota, Care and Feeding of Swine, Extension Circular 1923; Hog Cholera, Extension Division Special Bulletin 52.
- U. S. Department of Agriculture, Hog Lice and Hog Mange, Farmers' Bulletin 1085; Pork on the Farm, Farmers' Bulletin 1186.
- Iowa, Selecting, Dressing and Curing Pork on the Farm, Circular No. 61; Handy Equipment for Swine Raising, No. 69; Swine Mineral Mixtures, No. 70; Swine Publications and Associations, No. 79; Saving the Orphan Pigs, No. 80; Feeding the Brood Sow, No. 81; Sunshine and Sanitation for Hog Houses, Bulletin No. 194; Self-Feeders for Swine, Bulletin No. 208.
- Illinois, The Serum Treatment of Hog Cholera, Circular No. 261.
- Kansas, Home Preparation of Pork, Circular No. 76; Swine Feeding Investigations, 1918-19, Circular No. 78; Swine Feeding Investigations, 1919-20, Circular No. 89.
- Missouri, Infectious Abortion in Swine, Bulletin No. 187.
- Nebraska, Wintering Mature Brood Sows, Bulletin No. 162; Growing Pigs in Summer, No. 165; Experimental Hog Feeding, No. 175; Summer Hog Feeding, No. 176; Hog Houses for Nebraska, Circular No. 14; The Common Intestinal Roundworm of Swine, Circular No. 17.
- North Dakota, The Northern Pig from Birth to Market, Bulletin No. 156.
- Ohio, Supplements to Corn for Fattening Swine, Bulletin No. 349.
- South Dakota, Rations for Pigs, Bulletin No. 192.
- Readings on Dairying**
- Dr. C. H. Eckles, chief of the division of dairy husbandry, says he has made up his list of dairy readings primarily from the standpoint of county agents, having in mind the things which he thinks should be of interest to them and will help to keep them up-to-date in the lines covered in the list. He calls attention to Special Circular No. 2, issued by the Minnesota agricultural extension division, which he says will be especially useful to county agents for distribution among farmers who may want to be put in contact with the source of information on various matters connected with dairying and dairy farming. Dr. Eckles' list is as follows:
- Books on dairy production—**
- Feeds and Feeding, Henry Morrison Co., Madison, Wis. (New edition just issued.)
- Productive Dairying, R. M. Washburn. Lippincott & Co., Philadelphia.
- Dairy Cattle and Milk Production, C. H. Eckles. Macmillan Co., New York. (Revised edition soon to be issued.)
- Feeding of Dairy Cattle, A. C. McCandlish. John Wiley & Sons, New York.
- A Study of Farm Animals, C. S. Plumb. Webb Publishing Co., St. Paul.
- Books on milk, composition, testing, etc.—**
- Manual of Milk Products, W. A. Stocking. Macmillan Co., New York.
- Modern Methods of Testing Milk and Its Products, L. L. VanSlyke. Orange Judd Co., New York.
- Management of Dairy Plants, M. Mortensen. Macmillan Co., New York.
- Bulletins—**
- Influence of Pure Bred Sires, Bulletin 198, South Dakota Experiment Station, Brookings.
- Comparative Expense of Mechanical and Hand Milking, Bulletin 24, Illinois Experiment Station, Urbana.
- Relation of Production to Income from Dairy Cows, Bulletin 1069, U.S.D.A.
- Sunflower Silage for Milk Production, Bulletin 171, Pennsylvania Experiment Station, State College, Pennsylvania.
- Why Costs of Milk Vary, Bulletin 345, Wisconsin Experiment Station, Madison.
- Utility Value of Purebred Livestock, Circular 235, United States Department of Agriculture.
- The Production and Utilization of Manure on Dairy Farms, Bulletin 240, Illinois Experiment Station.
- Co-operative Bull Associations, Farmers' Bulletin 993, U. S. Department of Agriculture.
- Judging the Dairy Cow, Farmers' Bulletin 434, U. S. Department of Agriculture.
- Judging Dairy Cattle, Bulletin 335, Wisconsin Experiment Station.
- Minerals for Livestock, Bulletin 350, Wisconsin Experiment Station.
- Influence of Rations Restricted to the Oat Plant on the Reproduction of Cattle. Wisconsin Experiment Station.
- The Influence of Calcium and Phosphorus in the Feed on the Milk Yield of Dairy Cows, Farmers' Bulletin 945, U. S. Department of Agriculture.
- Minerals in the Livestock Ration, E. B. Hart, Hoard's Dairyman, March 3, 1922.
- Newer Aspects of Animal Feeding, E. B. Hart, Hoard's Dairyman, Dec. 22, 1922.
- Feeding and Management of Dairy Calves and Young Stock, Farmers' Bulletin 777, U. S. Department of Agriculture.
- Feeding Dairy Cows, Farmers' Bulletin 743, U. S. Department of Agriculture.
- Developing a Grade Guernsey Herd, West Central Experiment Station, Grand Rapids, General Report, 1915-1919.
- Statistics on dairying—**
- A Handbook of Dairy Statistics, U. S. Department of Agriculture.
- Annual Reports, Dairy and Food Commission, Old Capitol, St. Paul.
- United States Census Reports, Agriculture of Minnesota, United States Census Bureau, Washington.
- Publications on Poultry**
- Prof. A. C. Smith of the division of poultry husbandry suggests as general reference books the following:
- Robinson's Principles and Practice of Poultry Culture, Ginn & Co., Chicago.
- Lewis' Productive Poultry Husbandry, Lippincott Co., Philadelphia.
- Lippincott's Poultry Production, Lea & Febiger, Philadelphia.
- Special information on different breeds—**
- The American Standard of Perfection, American Poultry association, Fort Wayne, Ind.
- Plymouth Rock Standard and Breed Book, A. C. Smith. American Poultry association.
- Wyandotte Standard and Breed Book, H. A. Nourse. American Poultry association.
- The R. P. J. Series on many of the leading breeds. Reliable Poultry Journal Pub. Co., Dayton, Ohio.
- Professor Smith also calls attention to leading poultry journals for this territory, including The Poultry Herald, Shubert building, St. Paul, and the Reliable Poultry Journal, Dayton, Ohio, and others. The poultry division at University Farm is prepared to furnish mimeograph notes on feeding for winter eggs, feeding young chicks artificially reared, plans and specifications of the Minnesota Model Poultry House, and plans of a chicken coop.
- Publications in Veterinary Studies**
- The following list of references in a subject of growing importance both from

the standpoint of economic value and human health is furnished by Dr. C. P. Fitch of the veterinary division:

Books—

- Smith, Fred, Manual of Veterinary Physiology. Alexander Egar, Chicago, 1921.
 Moore, V. A., Veterinary Microbiology. Macmillan Co., New York.
 Park, W. H. and Williams, A., Pathogenic Microorganisms. Lea & Febiger, Philadelphia.
 Klein, L. A., Principles and Practice of Milk Hygiene. Lippincott, Philadelphia.
 Various authors, Diseases of Cattle. U. S. Department of Agriculture, Revised Edition, 1916.
 Various authors, Diseases of the Horse. Bureau of Animal Industry, U. S. Department of Agriculture, Revised Edition, 1916.

Bulletins—

- Minnesota Experiment Station, St. Paul, Bovine Infectious Abortion, special bulletin No. 28; Bacteriology and Pathology of Sterility in Cattle, technical bulletin No. 5; Tuberculosis of Poultry, special bulletin No. 63.
 Missouri, Infectious Abortion in Swine, No. 187.
 U. S. Department of Agriculture, Tuberculosis in Livestock, Farmers' Bulletin No. 1069.
 Montana, Hairlessness and Goiter in New Born Domestic Animals, No. 119.
 U. S. Department of Agriculture, Important Poultry Diseases, Farmers' Bulletin No. 957.
 California, Bacillary White Diarrhea of Chicks, No. 162; Diseases and Parasites of Poultry, No. 251; Bovine Infectious Abortion, No. 353.
 Illinois, Leg Weakness in Chickens, Animal Pathology Exchange, Dec. 1, 1922.
 Massachusetts, Control of Bacillary White Diarrhea, No. 18.
 Washington State, The Prevention of Goiter and Hairlessness of Newborn Domestic Animals, No. 117.
 Minnesota, Hog Cholera, special bulletin No. 52.

Journal articles—

- Beach, J. R., Progress of Combating Poultry Diseases in the United States, Cornell Veterinarian, Vol. XI, 3-4.
 Hall, M. C., Stunting and Other Effects of Parasites, Vet. Med., Vol. 17, No. 3, March, 1922, p. 129.
 Beach, J. R., Observation of the Occurrence of Fowl Cholera in California, Poultry Science, Vol. 1, p. 186.
 Fitch, C. P., Necrobacillosis, Cornell Veterinarian, Vol. 9 (1919) p. 93.

Supplementary Veterinary List

A further list has also been submitted by Dr. Fitch, as follows:

Books—

- Wood, T. B. and Marshall, F. H. A., Physiology of Farm Animals, Cambridge at the University Press, 1920.
 Pavlov, Ivan, The Work of the Digestive Glands Exeter Street Strand, London, Chas. Griffin & Co., Ltd.
 Carlson, Anton Julius, The Control of Hunger in Health and Disease, University of Chicago Press, 1916, Chicago.
 Cannon, Walter B., The Mechanical Factors of Digestion, Longmans, Green & Co., 1911, New York.
 Cannon, Walter B., Bodily Changes in Pain, Hunger, Fear and Rage, D. Appleton Co., 1915, New York and London.
 Lusk, Graham, The Science of Nutrition, W. B. Saunders & Co., 1915, Philadelphia and London.
 Fischer, Martin H., The Physiology of Alimentation, J. Wiley & Sons, 1907, New York.
 Harrow, Benjamin, Endocrinology Glands in Health and Disease, E. P. Dutton Co., 1922, New York.
 Berman, Louis, The Glands Regulating Personality, Macmillan Co., 1921, New York.
 Jensen L., Essentials of Milk Hygiene, translated and amplified by Leonard Pearson, Lippincott Co., 1907, Philadelphia and London.
 MacNutt, J. Scott, The Modern Milk Problem in Sanitation, Economics and Agriculture, Macmillan Co., 1917, New York.
 Parker Horatio Newton, City Milk Supply, McGraw-Hill Book Co. Inc., 1917, New York.
 Ward, A. R., Pure Milk and Public Health, Macmillan Co., 1909, New York.

- Kaupp, B. F., Poultry Diseases, Alexander Eger, Chicago.
 Kinsley, A. T., Swine Diseases, American Journal Veterinary Medicine, Veterinary Medicine Series, by D. M. Campbell, Chicago.
 Baker, E. T., Sheep Diseases, American Journal Veterinary Medicine, Veterinary Medicine Series, by D. M. Campbell, Chicago.
 Merrill, L. C., Hoare, E. Wallis, and others, Wound Treatment, American Journal of Veterinary Medicine, Veterinary Medicine Series, by D. M. Campbell, Chicago.
 Birch, R. R., Hog Cholera, Macmillan Co., New York.
 Mumford, H. W., The Breeding of Animals, Bailey.
 Hadley, F. B., Principles of Veterinary Science, Saunders, Philadelphia.
 Mayo, N. S., The Care of Animals, Macmillan Co., New York City.
 Craig, J. A., Common Diseases of Farm Animals, Lippincott, Philadelphia.
 Mayo, N. S., Diseases of Animals, Macmillan Co., New York.
 Reynolds, M. H., Veterinary Studies, Macmillan Co., New York.
 Ward, A. R. and Gallagher, B. F., Diseases of Poultry, Macmillan Co., New York.
 Hadley, F. B., The Horse in Health and Disease, Saunders, Philadelphia.
 Craig, J. A., Diseases of Swine, Orange Judd Co., New York.
 Underhill, B. M., Parasites and Parasitosis of Domestic Animals, Macmillan Co., New York.

Bulletins—

- Michigan, A Study of the Presence of Bovine Abortion in Milk, No. 33.
 U. S. Department of Agriculture, Tuberculosis of Fowls, Farmers' Bulletin 1200.
 Wisconsin, John's Disease, No. 343.
 U. S. Department of Agriculture, Essentials of Animal Breeding, Farmers' Bulletin 1167; Diseases of Sheep, Farmers' Bulletin 1155; Parasites and Parasitic Diseases of Sheep, Farmers' Bulletin 1150; Cattle Scab and Methods of Control and Eradication, Farmers' Bulletin 1017; Some Common Disinfectants, Farmers' Bulletin 926; The Disinfection of Stables, Farmers' Bulletin 954; The Sheep Tick and Its Eradication by Dipping, Farmers' Bulletin 798.
 Wisconsin, History of a Tuberculous Herd of Cows, No. 78.
 North Dakota, Bovine Tuberculosis, No. 77.
 California, Intradermal Test (also Ophthalmic and Thermal) No. 243.
 Montana, Intradermal Test for Tuberculosis, No. 105.
 Nevada, The Use of Bacteria in the Control of Fowl Cholera, No. 85.
 U. S. Department of Agriculture, Common Poultry Diseases, Farmers' Bulletin 1114; Investigations Concerning Infectious Diseases Among Poultry, No. 8; Turkey Raising, Farmers' Bulletin 791.
 North Dakota, Avian Tuberculosis, No. 108.
 U. S. Department of Agriculture, Tuberculosis, Plain Statement of Facts (International Commission on Control of Bovine Tuberculosis), Farmers' Bulletin 473.
 Cornell, Experiment on Non-Tuberculous Cows, No. 82.
 U. S. Department of Agriculture, Infectiveness of Milk of Cows Which Have Reacted to the Tuberculin Test, No. 44.
 Collected Studies from Bureau of Laboratories, Vol. VII, Department of Health, New York.
 The Struggle Against Tuberculosis in Sweden, Swedish government, Stockholm.
 Ohio, Mineral Metabolism of the Cow, No. 363.
 Wisconsin, Experimental Study of Abortion in Swine, No. 55.
 Illinois, Fate of Tuberculosis Bacilli Outside of the Animal Body, No. 161.
 U. S. Department of Agriculture, Tuberculosis of Fowls, Farmers' Bulletin 1200.
 Idaho, Tuberculosis of Poultry, No. 126.
 New Jersey, A Study of Poultry Diseases, No. 363.
 Missouri, Infectious Abortion in Swine, No. 187.
 U. S. Department of Agriculture, Hog Lice and Hog Mange, Farmers' Bulletin 1085; Tuberculosis of Hogs, Farmers' Bulletin 781.
- Circulars—
 U. S. Department of Agriculture, Tuberculin Testing of Livestock, No. 249.
 Kansas, Culling Farm Poultry, No. 93.
 California, Bovine Tuberculosis, No. 155; Suggestions to Poultrymen Concerning Chickenpox, No. 145.
 Cornell, Horse Raising in Colonial New England, Memoir 54.

Journal articles—

- McCandlish, A. D., The Possibility of Increasing Milk and Butterfat Production by the Administration of Drugs, Journal Dairy Science, Vol. 1, No. 6, March, 1918.
 Wilkins, S. D. and Dutcher, R. A., Limber Neck in Poultry, Journal Am. Vet. Med. Assoc., Vol. 10, No. 6.
 Delepine, S., Milk Borne Tuberculosis, Journal of State Med. (Eng.), June, 1913.
 Delepine, S., Discussion on the Milk Supply as a Factor in Relation to Tuberculosis, Journal of State Med. (Eng.), Nov. and Dec., 1914.
 Hayes, P. M. and Taum, I., Infectious Abortion in Sows, Duroc Digest, Vol. 1, No. 2, 1920, p. 44.
 Schroeder, E. C. and Cotton, W. E., Some Facts About Abortion Disease, Journ. Agri. Research, Vol. IX, No. 1, 1917.
 Fitch, C. P., The Control of Bovine Infectious Abortion, North American Veterinarian, Vol. 3 (1922), p. 114.
 Boyd, W. L., The Relation of the Corpus Luteum to Estrum and Involution of the Pathologic Uterus, Journ. Amer. Vet. Med. Assoc. N. S. Vol. 13 (1912), p. 34.

Plant Pathology and Botany

Many of the following furnished by Dean E. M. Freeman, chief of the division of botany and plant pathology, are timely to consider in organizing plans for plant disease, insect and weed control:

Plant pathology—

- Bibliography of recent literature concerning plant disease prevention. III. Agricultural Experiment Station, Circular No. 183 (free).
 Manual of Fruit Diseases, Hesler and Whetzel (Rural Manual). Macmillan Co., New York, 1917.
 Diseases of Economic Plants, Stevens and Hall (revised edition). Macmillan Co., New York, 1921.
 Insecticides and Fungicides, Spraying and Dusting Equipment, Anderson and Roth. John Wiley & Sons, Inc., 432 Fourth Ave., New York.
 Check list of publications of the state experiment stations on the subject of plant pathology, 1920. Library of Bureau of Plant Industry, U.S.D.A.
 Check list of publications of the U. S. Department of Agriculture on the subject of plant pathology, 1918.
 Plant physiology—
 Palladin's Plant Physiology, translation by Livingston.
 Jost, Plant Physiology, translation by Ewart. Seed laboratory—
 Indiana Weed Book, Blatchley. Nature Publishing Co., Indianapolis.
 Farm Weeds of Canada, Geo. H. Clark and James Fletcher. Department of Agriculture of Canada, Ottawa.
 Weeds and How to Kill Them, L. H. Dewey. Farmers' Bulletin 28, U.S.D.A., Washington.
 15 photographic prints of enlarged drawings of weed seeds, Hillman. Bureau of Publications, U. S. D. A.
 Minnesota Weeds, Series I, II, and III. Publications, University Farm.

Books on Rural Education

Through the courtesy of the division of agricultural education the following lists are submitted as being of particular value in the field of rural education:

- Better Rural Schools, Betts and Hall. Bobbs-Merrill.
 Rural Life and Education, Cubberly. Houghton Mifflin.
 The Rural High School, Ferris. Joint Committee on Rural Schools, Ithaca, N. Y.
 The Consolidated Rural School, Raepert. Scribners.
 The Rural Teacher and His Work, Fought. Macmillan Co.
 Successful Teaching in Rural Schools, Pittman. American Book Co.
 How to Teach Agriculture, Storm and Davis. Lippincott.
 The Teaching of Agriculture, Nolan. Houghton Mifflin.
 Vocational Agricultural Education by Home Projects, Stimson. Macmillan Co.
 The Prown Mouse, Quick. Bobbs Merrill.
 New Schools for Old, Dewey. Dutton.
 Graphic Methods for Presenting Facts, Brinton. The Engineering Magazine Co., New York.
 Magazines—
 Vocational Education Magazine, published monthly except July and August by the

Lippincott Co., Washington Square, Philadelphia.

The Journal of Rural Education, published monthly except July and August by the Rural Department of the National Education association. Address H. W. Foght, Aberdeen, S. D.

Soil Topics

Dr. F. J. Alway, chief of the division of soils, submits the following suggestive readings in that field:

- Soils and Fertilizers, Lyon. Macmillan Co.
The Nature and Properties of Soils, Lyon and Buckman. Macmillan Co.
Productive Soils, Weir. Lippincott.
Beginnings of Agriculture in America, Carrier. McGraw-Hill.
Creative Chemistry, Slosson. Century Co.
Fertilizers and Manures, Wheeler. Macmillan Co.
The Story of the North Star State, Willard. Webb Pub. Co., St. Paul.
Agricultural Value and Reclamation of Minnesota Peat Soils, Alway. Minn. Bul. 188.
Report of Golden Valley Peat Experimental Fields for 1918 and 1919, Alway. Minn. Bul. 194.
Surface Formations and Agricultural Conditions of Northwestern Minnesota, Leverett. Minn. Geol. Survey Bul. 12.
Surface Formations and Agricultural Conditions of Northeastern Minnesota, Leverett and Sardeson. Minn. Geol. Survey Bul. 13.
Surface Formations and Agricultural Conditions of Southern Minnesota, Leverett and Sardeson. Minn. Geol. Survey Bul. 14.
Phosphate Demonstrations, Stevens County in 1918, McMiller, Miller and Nesom. Special Bul. 34, U. of M.
Experiments with Phosphate Fertilizers in Minnesota, Alway. Special Bul. 23, U. of M.
Farmers' Institute Annuals Nos. 30 to 35 inclusive.
Annual reports from sub-stations.

Agricultural Biochemistry

Through the courtesy of the division of agricultural biochemistry, the following list of readings in that field is submitted:

- McCollum, Newer Knowledge of Nutrition, second edition. Macmillan Co., New York.
Sherman, Chemistry of Food Nutrition, second edition. Macmillan Co., New York.
Sherman and Smith, The Vitamins. The Chemical Catalog Co., New York.
Armsby, The Nutrition of Farm Animals. Macmillan Co., New York.
Henry and Morrison, Feeds and Feeding, new edition. Henry-Morrison Co., Madison, Wis.
Manual of Milk Production, Stacking. Macmillan Co., New York.
Hunziker, The Butter Industry. Otto Fred Hunziker, La Grange, Ill.
Kelly and Clement, Market Milk. John Wiley & Sons, 432 Fourth avenue, New York.
Erdman, The Marketing of Whole Milk. Macmillan Co., New York.
Sorghum and Sorghum Sirup Manufacture, Minnesota Bulletin No. 187.
Slosson. Creative Chemistry. Century Co., New York.
Relative Influence of Microorganisms and Plant Enzymes on the Fermentation of Corn Silage, Lamb, J. Agr. Res. 8:361-80 (1917).
Thatcher, Chemistry of Plant Life. McGraw-Hill Book Co., New York.
Modern Silage Methods, Silver Mfg. Co., Salem, Ohio.
E. J. Russell, Soil Conditions and Plant Growth. Longmans, Green & Co., New York.
Literature on cereal chemistry—
Bailey, C. H., Minnesota Station Bulletin No. 143 and Minnesota Station Technical Bulletin No. 3; Report of operations, state testing mill, seasons 1921-22.
Amos, Flour Manufacture. Longmans, Green & Co., New York.
Manrizio, Nahrungsmittel aus getreide (Food-stuffs from Flour). Paul Parey, Berlin.
Neumann, Brot getreide und Brot (Flour Bread). Paul Parey, Berlin.
Grant, Chemistry of Breadmaking. Longmans, Green & Co., New York.
Edgar, Story of a Grain of Wheat. Macmillan Co., New York.
Jago and Jago, The Technology of Breadmaking. Bakers Helper Co., Chicago.
U. S. Department of Agriculture, Bulletins Nos. 764, 557, 478, 328, 102, 48.
U. S. Department of Agriculture, Bur. Plant Ind. Circular 68, 55, 43.

MARTIN HOLDS FIRST HOG CHOLERA SCHOOL

Martin county conducted the first school for instructing farmers in the use of hog cholera serum and virus, pursuant to Chapter 112, passed by the last session of the legislature. Apparently County Agent Paul Johnson did some good work in lining up a large number of farmers to attend the school which was held at Fairmont May 22 and 23.

Dr. W. A. Billings, who is conducting these schools for the extension division, made the following report at the close of the first day:

"First school today—128 enrolled. Started rather auspiciously. Discussion of hog diseases that might be confused with cholera, in the morning. The afternoon was devoted to class room work in hog cholera. The second day is to be devoted to demonstrations and quizzes on the work of the previous day, together with a demonstration in the technique of vaccination and other methods. Instruction is given in care and use of syringes, disinfection, and similar subjects. Dr. Cotton (executive officer of the State Livestock Sanitary Board) was present to outline the relation of the sanitary board to the operation of the new law. The youngest attending the school is a boy of 18; the oldest is a Civil war veteran. I go to Blue Earth Thursday, May 24, for a similar school."

Also experiment station bulletins particularly from North Dakota, South Dakota, Nebraska, Kansas, Colorado, Idaho, Montana, and Washington.

Some Books of General Interest

Those desirous of a better knowledge of the state of Minnesota will be interested in the recent appearance of "The Story of the North Star State" written by Daniel E. Willard of St. Paul.

A very complete history of Minnesota is in course of preparation by President-emeritus W. W. Folwell of the University of Minnesota. The first volume has appeared. The second volume will likely be issued the present year. The work is being published by the Minnesota Historical Society, Capitol, St. Paul, and sells for \$5 a volume. Members of the State Historical Society, however, receive the publications of the society at a considerable reduction.

Quick's New Story

In The Country Book Shelf appearing in the March Extension Service News, reference was made to "Vandemark's Folly" by Herbert Quick. Beginning with the March, 1923, number of the Ladies' Home Journal, there is running serially "The Hawkeye, A Sequel to Vandemark's Folly," written by Mr. Quick, which has a setting in rural Iowa. No doubt this will appear shortly in book form.

Some will remember the "Covered Wagon," a romance of the Oregon trail, written by Emerson Hough, who was a disciple of outdoor life and the author of many western stories. The Saturday Evening Post is now publishing a romance of Texas in 1867, also from Mr. Hough's pen, a tale of cattle driving. The title of this story is "North of 36."

FEEDING STUFFS LAW PROVING ITS WORTH

Substantial Help Given Farmers by Dairy and Food Commission's Feed Inspection Work.

(By Ross Aiken Gortner, chief of the division of agricultural biochemistry.)

The fourth annual report of the division of feed inspection of the Minnesota State Dairy and Food Commission has just been issued and should be of interest to all county agents and persons who sell or buy commercial feeding stuffs.

During 1922 commercial feeding stuffs to the value of \$6,430,658 were sold in Minnesota. Figure 1 on page 7 is a graphic representation of the value of this law to Minnesota farmers. It shows that from the beginning of the state inspection in January, 1920, to the end of September, 1921, the average analysis of all tankage samples analyzed was below the amount of protein on the guarantee. In other words, the farmer was paying for protein which he was not getting. Since September, 1921, the average analysis has equaled or exceeded the guarantee—a result which is undoubtedly due to the operation of the feeding stuffs law.

How Farmers Are Benefited

Mr. Halvorsen, chemist in charge of the inspection work, estimates that 5,585 tons of tankage are sold each year in Minnesota and that the actual protein content of the tankage sold has been raised 3 per cent by the fact that we have such a law and that it is being enforced. This means a saving of \$16,755 on tankage alone to the Minnesota farmers, and tankage represents only 2.87 per cent of the commercial feeding stuffs sold.

During 1922, 909,550 pounds of commercial feeds were removed from sale as not complying with the provisions of the law.

The Minnesota farmer should see that the provisions of the law are complied with when he purchases commercial feeding stuffs. Each package of feed should carry an official tag issued by the State Dairy and Food Commission showing that the feed has been registered and registration fees have been paid. Each package should show its net weight and a guarantee analysis showing minimum percentage of protein and fat and a maximum percentage of crude fiber—a statement of the materials of which the feed is composed, and the name and address of the manufacturer. The farmer will save money if he refuses to buy feeding stuffs unless they have complied with the above requirements.

Should Get What They Pay For

Get a copy of the feeding stuffs law—Bulletin No. 74, Minnesota State Dairy and Food Commission—and a copy of the annual report of the division of feed inspection. Check up on the feeds you are using and see if they are on the list of feeds that the feed inspection division has found to be below guarantee. Insist on getting what you pay for.

Requests for publications and inquiries in regard to commercial feeding stuffs should be addressed to H. A. Halvorsen, in charge of feeding stuffs inspection, Old Capitol, St. Paul.

MISS HOTT'S WORK IN NICOLLET APPRECIATED

Lessons in Sewing Passed on to 200 Women by Leaders Trained by Extension Specialists

The following report on the sewing project was given by Mrs. C. R. Poncin at the annual meeting of the Nicollet County Farm Bureau:

"Through the influence of the farm bureau, the women of Nicollet county have been very fortunate in having a series of valuable lessons in sewing.

"Miss Nora Hott of the extension division of the University spent two days each month for five months in Nicollet county. At Brighton she met with the leaders and assistants of five groups and at St. Peter eleven groups were represented. Some of them came 16 to 18 miles and the attendance was very good even though the weather was bad at times. These leaders met with groups in their communities and in this way about 200 women benefited by the lessons. Each one was requested to pass on her instruction to two others, so a large number was reached.

New Ways of Doing Old Tasks

"We accomplished a great deal and even those who are proficient with the needle say they have learned many new ideas and new ways of performing old tasks. All the women have greater zeal for sewing than before. Time, or rather the lack of it, is the drawback with most of us.

"We had a lesson on the use of sewing machine attachments and while all of us have had sewing machines, very few used the attachments. We learned that they are great labor and time savers, when we learn to use them. The bound buttonholes and set-in pockets were of great interest. Few had ever tried them. The bias gauge and binder are very valuable aids. The dress form has proven very popular. Two hundred dress form sets have been delivered to the groups. We are finding them fine for fitting and altering dresses, and they come much cheaper than commercial forms.

Lessons in Economy

"We had a lesson on design and style of dress suited to different figures, both good and bad styles. Of course all were interested in that. The altering of commercial patterns was very helpful and gave us a lesson in economy. We have taken up cutting and fitting of dresses and at the last meeting we brought in our finished dresses for inspection by Miss Hott. Our last lesson was on some of the artistic stitches and trimmings giving the final touch to a garment.

"I am certain I speak for all the women who have attended the meetings when I say we all regret that they are over and that we highly appreciate the benefits derived along this line from the farm bureau and from Miss Hott who has endeared herself to us all. And we hope we may have more extension work in the future."

Sugar beet seed and beet drills have been shipped by the carload to points along the Soo Line in Pennington county. Labor for use in the beet fields is being brought up from San Antonio, Texas, and other points in the south.

WOMEN TAUGHT TO MAKE OWN DRESSES

Clothing Project Work Conducted with Great Success by Miss Hott in Rock County Communities

Many women make dresses with set-in sleeves for the first time, as shown by reports of women who have been participating in the clothing project in Rock county as carried on by Nora M. Hott, clothing specialist of the university extension service.

At the last meeting in the Hardwick community the women brought back the completed dresses which they had cut and fitted at the previous meeting. Of the ten members who exhibited crisp spring dresses, six declared it was the first dress they had ever made. One girl of 15 who took the work along with her mother, in addition to making several attractive garments for herself, made many romper suits and clever little dresses for her six younger brothers and sisters. The women in this group feel that they could very profitably spend their time at a continuation clothing project.

Ash Creek was a banner community for work accomplished in Rock county. More than 40 dress forms were made in this community alone. Almost every woman enrolled cut and fitted dresses in a creditable manner though several were doing this work for the first time. All of them applied some phase of the work on garments. Mrs. Marshall, the leader, says that after women from other communities saw what had been done, they were sorry they "missed out" on the work.

The Beaver Creek group was small in comparison to the other groups, but accomplished some very splendid things. One woman from this group made her first dress and another her first one with set-in sleeves at the meeting. Women from the town of Beaver Creek and from surrounding communities are asking how they can get the work.

County Agent M. P. Roske says that secretaries of farm bureau units are making requests for the work. No requests of this kind had been sent in to this office previously.

8 CLASSES IN HOME MANAGEMENT STARTED

Local leader training classes in home management have been started in Dodge, Waseca, Olmsted, and Goodhue counties. Each county has two classes a month, conducted by Miss Mary L. Bull, extension specialist in home management from University Farm.

Fifteen community groups were represented at the training classes in Dodge county, 12 in Goodhue county, 13 in Waseca county, and 20 in Olmsted county.

The splendid co-operation of the farm bureau and the spirit of service manifested at all of these meetings point to a thoroughly enjoyable and profitable piece of extension service.

In two instances where it was not possible for leaders of groups to be present, leaders from other groups volunteered to give the work to the absent ones and to assist in any way possible to help the groups get in line for the second meeting of the training classes.

EXCHANGE'S OPERATION POSTPONED UNTIL 1924

Organization Work Will Be Completed by March 1—Other States Expected to Organize Next Year

Organization work for the new Minnesota Potato Growers' Exchange is progressing rapidly under the direction of S. G. Rubinow, campaign director. One important change from the original plans has been made in that the organization will commence to function with the 1924 crop. It was originally planned that the farmers would contract for a period of five years commencing with this year's crop, but because of the short time left it was felt that it would be better to extend the time until next year. The contract provides that organization work is to be completed by March 1, 1924. This will afford ample time to provide additional warehouses where needed, develop the marketing machinery, care for the legal phases of the organization and otherwise get in shape for effective handling of potatoes on a large scale.

It is probable that some arrangements will be made for taking care of the 1923 crop of those growers who wish to sell co-operatively. Special arrangements will be developed for this purpose, however, as the contract to be signed by the growers will not bear any reference to the 1923 crop.

Mr. Rubinow, A. M. Dunton, E. W. Smith and other speakers are attending meetings constantly in connection with the preliminary organization work. In each potato producing county in the state a county organization is being created which will have immediate charge of organization work in that county. The contract provides that in every county 50 per cent of the potato acreage must be secured before the contract becomes effective. This requires an aggressive campaign on the part of growers, but on the other hand gives every grower an opportunity to withdraw if the goal is not reached by March 1, 1924.

It is hoped that by the fall of 1924 not only will the Minnesota organization be completed, but that similar organizations will have been developed in North Dakota, South Dakota, Wisconsin, and Michigan. It is expected that whatever organizations are worked out in each state will be independent of each other, but will co-operate closely in the actual marketing work. If this is accomplished it will give the middle west potato producing section a marketing system which should have a profound effect upon the market. A similar arrangement is developing in the east, and another group in the mountain states, Colorado, Utah and Montana, which will take care of the crop of those sections in the same manner as is contemplated in this area.

Another District Team Selected

The advanced breadmaking team from Buhl, St Louis county, has won the right to represent the northeast district in the state contest at the state fair. The district contest, held at Eveleth, was entered by six teams—two from each of the counties of Carlton, St Louis, and Cass. The team representing the town of Thomson public schools in Carlton county was second, and the team from Remer, Cass county, third.