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OWATONNA ROUTE HOGS SHOWED PROFIT IN 1922

Average Cost of Producing 100 Pounds of Gain Was \$6.56; Average Selling Price \$8.43 per Hundred

(By W. L. Cavert)

Prof. G. A. Pond, in charge of cost of production investigations for the University of Minnesota, finds in a preliminary report for 1922 on the Owatonna statistical route that the average cost of producing 100 pounds of gain on hogs was \$6.56 and the average selling price was \$8.43, leaving an average profit of \$1.87 per hundredweight with an average corn price of 43 cents per bushel.

Details of Hog Costs

If one knows how much feed and labor are required for 100 pounds of gain, he can readily adjust the figures to current prices of hogs, corn and labor. The following table will enable one to make such calculations if he desires:

Cost of 100 pounds of gain (average of 21 farms)—	
Ear corn, 446 lbs. @ 43c per bu.	\$2.74
Oats, barley, succotash, 110 lbs. @ 1c	1.10
Shorts, 2 lbs.03
Tankage, 1 lb.04
Skimmilk, 397 lbs. @ 22½c per cwt.89
Pasture31
Man labor, 5.9 hours, @ 17.5c.	1.04
Horse labor, .5 hour @ 10c.05
Interest on investment.27
Miscellaneous items09
Total	\$6.56
Average selling price	8.43
Profit	\$1.87

The average number of pounds produced per farm was 12,864, or the equivalent of 57 hogs weighing 225 pounds each. The greatest amount produced on one farm was 28,305 pounds, and the least amount on one farm was 4,579 pounds. In calculating the pounds produced per farm, the method is to add together the weight of hogs on hand at the end of the year, the weight sold, and weight of hogs butchered for family use. From this is deducted the weight on hand at the beginning of the year plus the weight of any hogs bought. Therefore, these figures cover the feed and labor required for the breeding stock and incidental losses from disease and accident.

Cost in Terms of Corn, Skimmilk and Labor

If one assumes ear corn to weigh 70 pounds to the bushel, and a pound of oats, barley, succotash or shorts to equal a pound of corn, and a pound of tankage to equal 11 pounds of skimmilk, the requirement for 100 pounds of gain, aside from some pasture, was the following:

Corn or equivalent amount of other grain, 8.4 bushels.
Skimmilk, 4:08 hundredweight.
Man labor, 5.9 hours.
Horse labor, .5 hours.

Variations in Cost

While the average cost was \$6.56, the figure on individual farms varied from \$4.33 to \$9.77. Nine farms had a cost below \$6 per hundredweight, six farms had a cost between \$6 and \$8 per hundredweight, and six farms had a cost between \$8 and \$9.77. Such variations in cost should stimulate the individual farmer to keep approximate records of feed costs so that he may determine the requirements under his own conditions of feed and management. If one found that he were a low-cost producer, he might consider enlarging his operations, while if he were a high-cost producer, he should either learn the methods of the low-cost producer or limit his hogs to the number that will provide a market for skimmilk and other unsalable feeds.

The extension division can supply county agents with a limited number of record books suitable for the use of farmers who desire to keep feed records on hogs.

Causes of Variations in Cost

The figures are not adequate to give a reliable guide as to the causes of variations in cost. However, the fact that the number of pigs raised per litter varied from three to seven, with an average of 4.5, would suggest that learning how to feed sows and to control diseases and parasites so as to raise average litters of six or better is one of the important factors in getting in the low cost column.

Now that the seeding season is at hand, the question of suitable pastures is one that can well receive attention. Most of the low cost producers had good rape, clover or alfalfa pastures throughout the season. The figures indicate that one of the largest opportunities for lowering the cost of producing hogs consists in the more general use of labor saving methods. On individual farms, the labor required per 100 pounds of gain varied from 3 to 13 hours with an average of 5.9 hours. The more general hogging off of corn, use of self feeders, and the use of self watering devices, are some of the practices that tend to conserve labor. With labor likely to be high in price in 1923, it would seem to be worth while to urge farmers to plant sufficient corn convenient to the hog lots so that the hogs may harvest as much as possible. One way to make the hogs harvest more corn is to get them at it earlier in the season by planting a few acres of an early flint variety.

NEW POTATO EXCHANGE NOW BEING ORGANIZED

Committee of Farmers and Business Men Will Work Out Plans Suggested by Sapiro and Peteet.

A new potato marketing exchange is being organized in Minnesota along lines suggested by Aaron Sapiro and Walton Peteet to a large group of growers holding a conference in St. Paul March 2. Dan Wallace and A. M. Dunton were designated a committee with power to appoint a third member (Director F. W. Peck was selected) and proceed with the development of an organization committee which in its turn should proceed to create a marketing association.

On Saturday, March 24, the organization committee met and took preliminary steps to start the organization work. It was agreed that the chief principles of the Maine contract should be adopted and a proposed form of this contract was discussed in detail. Employment of a campaign manager was discussed also. An executive committee of five, consisting of J. A. Monson, Braham, president; Marius Waldahl, Plummer, first vice president; Earle A. Barker, Bemidji, second vice president; A. M. Dunton, Minneapolis, secretary, and Walter Oby, Detroit, was appointed with broad powers to work out the details of the campaign.

Besides these five, the general organization committee consists of the following: James L. Mitchell, St. Paul; Curtis M. Johnson, Rush City; Chas. Hart, Long Prairie; W. A. Ferguson, Osseo; S. R. Houlton, Elk River; L. B. Arnold, Duluth; A. J. Niles, Grand Rapids; Joseph Ulland, Fergus Falls; C. L. Hanson, Thief River Falls; B. M. Landby, Swift; J. H. Nordlund, Middle River; Bob Scott, Borup; Dan C. Biddick, Minneapolis; H. E. Roberts, Moorhead; Wm. J. Brown, Thief River Falls; J. A. Green, Stephen; Chas. Youngren, Northcote; E. K. Ecklund, Fosston; John Frisch, St. Charles; H. A. Bjumppa, Jenkins; J. E. Merritt, Aitkin; A. J. McGuire, St. Paul.

The principles proposed by Messrs. Sapiro and Peteet include the following: That a binding contract covering a five-year period similar to the one used in Maine be employed. That the local marketing association and the local warehouse corporation be developed separately so that the marketing association can receive warehouse receipts from the warehouse on which money can be borrowed for advances to growers. That no paid organizers be employed, unless possibly an organization manager for the entire state, the local organizing to be done by volunteer effort. That a low mem-

bership fee (\$5 being suggested) be adopted, this to be the only obligation aside from the marketing contract required of the members. That action be started immediately, organization to be completed in June to prepare for handling the 1923 crop. That definite goals as to the percentage of crop to cover and number of locals required should be set. That the Minnesota organization be developed in harmony with those of other states to make it possible for these states to join in a national movement. That the new organization take over the obligations as well as the business and assets of the present Potato Exchange.

DYER SUCCEEDED BY HATHAWAY IN RENVILLE

W. K. Dyer, following five years of successful county agent work in Renville county, resigns his position to become associated with the Joint Stock Land bank, operating at Redwood Falls. Previous to becoming county agent of Renville, Mr. Dyer served nearly four years as high school agriculturist at Olivia.

Mr. Dyer is succeeded by F. C. Hathaway of Grafton, N. D., who has been employed as county agent for five years in Walsh county, in that state. Mr. Hathaway spent his boyhood days near Winnebago, Minn.; attended the School of Agriculture at University Farm, and later was graduated from the South Dakota Agricultural College, after which he taught agriculture for several years in both Dakotas.

Renville county, as one of the first in the state organized for county agent work in 1913, secured the services of W. E. Morris, who likewise served in the county five years. The county has long been known as one which maintained the county agent service on a high order, and the fact that it has employed men eminently qualified and has retained them for a goodly period of time, serves as a very good answer as to why the work has become so well stabilized and so fruitful of results in the county. It will be well for other counties to consider this important factor in stabilizing and securing maximum results from the service.

Cafeteria Dinner Relished

Dinner served a la cafeteria at a clothing project meeting in Goodhue county was such a success that it was voted to serve all the dinners for the following meetings in the same way. Twenty-five women attended the meeting.

Farmers Buying Foundation Stock

More than 90 per cent of two herds of purebred Duroc gilts offered for sale in Wabasha county recently were purchased by local farmers for foundation stock.

Another Drive Planned

Washington county livestock and extension interests are making their plans for an early purebred sire selling campaign.

OLD HOME AIN'T WHAT IT USED TO BE; BIDDY SAYS IT'S MUCH BETTER

Remodeled Poultry House in Brown County a Feature of Project Work Directed by Miss Cooke

Farmers of Brown county are anxious to make their poultry a paying side line, says Miss Cora Cooke, poultry specialist, who has just completed a five-months' poultry project with three groups of men and women in that county. The results obtained by Miss Amelia Peterson stand out as particularly good. The remodeling of the poultry house was the main point of attack. When the group first saw this house in November, it looked altogether too small for the 100 Barred Rocks. But the suggestions offered for remodeling were used at once and two weeks later Miss Peterson reported that the interior of the house had been entirely remodeled in spare time and with no cost for materials.

A partition was knocked out, roosts and dropping boards were placed along the back of the house, ventilation was provided by means of a straw loft and the equipment, consisting of a home-made feed hopper, nests, and an old hog waterer, was so placed as to give the hens ample scratching space. When the group visited this house in February, the change was so noticeable that opinion was expressed that it must be a different house. There is also a new colony brooder house which will be used for 300 chicks this spring.

Miss Peterson reports an increased egg yield over the previous year of 50 per cent in December and 30 per cent in January. Up to the middle of March the hens were laying about 60 per cent. She says another big factor is the general improvement in the health of the flock.

Miss Peterson writes: "The definite plan for improving the interior of our hen house was the fulfillment of a wish I had had a long time. The results obtained have been worth many times the effort."

YOUNG PIGS SHOULD HAVE BEST OF CARE

"It is a hard proposition to avoid heavy losses of small pigs when the weather is as variable as it has been this spring," says E. F. Ferrin of the animal husbandry division at University Farm. "Cold days and chilling winds are apt to bring on attacks of scours, while if the pigs are kept shut up in a small space, they get too fat and are subject to thumps. In a large farrowing house ventilation needs to be watched. An effort should be made to equalize the temperature within the house, avoiding extremes of heat and cold. This cannot be done successfully without a little artificial heat during nights with subzero temperatures. The pigs can be kept warm in a portable house by having a tight fitting door and hanging a lantern at the top of the house.

"Dry bedding is very necessary. It is hard to keep pigs healthy without

frequent change of bedding material. If possible it is a good plan to put away some dry oat straw during the fall or winter for the special use of the brood sows and their litters.

"Conservative and careful feeding is one of the best safeguards protecting the owner against losses of suckling pigs. Keep the sow somewhat hungry, especially until the time she is put with her pigs in a good sized lot or pasture. Then when the pigs get considerable exercise there is little danger of overfeeding.

"If the pigs begin to scour, cut the feed the sow is getting and feed her a handful of Glauber's salts. If this does not check the trouble in the pigs, each one of them should be given a few drops of castor oil or mineral oil. A medicine dropper or an open glass tube is the most convenient means of giving the oil."

80 DAIRY MEETINGS HELD IN 35 COUNTIES

The second season of dairy feeding schools terminated officially the first of April. Meetings were held in 35 counties, a majority of the counties having two days of such work. One year ago approximately 80 feeding meetings were conducted in 30 counties with an average attendance close to 100. This season more than 80 meetings have been held with average attendance of 60. Last season added features such as free lunches, movies, etc., encouraged attendance. From the standpoint of actual interest in dairy feeding alone the attendance this season has been satisfactory.

These feeding discussions were instituted because of the expressed desire of farmers and county agents for the work.

"It is apparent," says L. V. Wilson, dairy extension specialist, "after two winter's work and association with problems involved that the most glaring cause of Minnesota's low average production per cow is the feeding of too poor a dairy ration. On this account the growing and feeding of succulent feeds and legumes and the feeding of a grain ration balanced as far as possible with home-grown grains and fed according to production have been the chief subjects of discussion."

The work will be continued next season with cow testing associations, bull associations and creamery communities as nuclei for attendance.

More Wedding Bells

Miss Mattie Rogers, former county club agent in Watonwan county, was married recently to Arthur S. Crowley, a prominent and successful farmer of Butterfield, Minn. While regretting the loss from their ranks, extension people extend best wishes and congratulations to bride and bridegroom.

Strong Combination, This

L. V. Wilson and "Partners" were at Houston February 20 and at Hokah February 21, and aroused great interest in group work, according to County Agent Turner. The night meeting at Hokah was attended by 200.

Suggestions for Work With the Farm Home in Counties Without Home Demonstration Agents

For the benefit of county extension agents who wish to serve the interests of the farm home as well as the farm, Miss Grace E. Frysinger of the States Relations Service has prepared the following suggestions:

GROUP I		GROUP II		GROUP III
Agricultural subjects which may be developed in relation to their application to the home.		Semi-agricultural or semi-home economics projects.		Purely home economics subjects such as clothing, nutrition, etc., which may be carried on indirectly.
Project	Application to home	Project	Application to home	
1. Dairy Milk Cheese Butter	1. Importance of supply for the family. 2. Amounts needed for family. 3. Care of dairy products in the home.	1. Engineering	1. Importance of water in home. Suggest water system to meet any pocketbook. 2. Heating, lighting, ventilation. 1. Screens, doors, windows. 2. Sewage disposal— Septic tank Outdoor toilet Others.	Carried on indirectly by the extension agent, who organizes the groups, the subject matter training being given by the state specialist responsible for the subject matter involved. All follow-up work is directed by the state specialist to the local people through the extension agent's office.
2. Gardens	1. Importance in diet. 2. Varieties which may be grown locally to maintain necessary varied diet and sufficient quantity for productive and non-productive months. Garden and canning budget.	2. Sanitation	3. Rat, fly, mosquito, and vermin eradication.	
3. Meats	1. Place in the diet. 2. Encourage home canning and curing.	3. Landscape gardening	1. Trees. 2. Flowers. 3. Shrubs. 4. Grass.	
4. Orchards	1. Need of fruit in diet. 2. Importance of saving from general supply, sufficient for family use. 3. Varieties which may be grown locally to maintain balanced diet. 4. Amount needed. 5. Fruit preservation.	4. Accounts and budgets	1. Importance of accounts and budgets for home. 2. Simple methods of household accounts. 3. Importance as part of complete farmstead accounting system.	
		5. Storage	1. Fruit and vegetable storage. 2. Methods suited to locality.	
		6. Civics	1. Better school grounds and buildings. 2. Cleanup campaigns, etc. 3. Paint-the-buildings campaign.	
		7. Recreation	1. Need of community recreation facilities. 2. Need of new or different type of recreation. 3. Need of playgrounds and equipment.	

1,000 ACRES LEGUMES OTTERTAIL PROSPECT

R. C. Shaw, county agent in East Ottertail, believes the legume acreage in his territory will be increased by something like 1,000 acres this year. As soon as the roads open, he says, the extension forces will push the project in every township. On the basis of pledges already taken the county farm bureau has pooled orders for 5,600 pounds of Grimm alfalfa seed, all of which was grown in the county and was scarified before being distributed. Nearly a ton of sweet clover seed of 99 per cent purity has also been scarified and delivered. Thirty-five bushels of Manchu soybeans have been ordered for seed, with more orders coming daily.

Kittson to Try Out Beets

Kittson county farmers will watch experiments in the growing of sugar beets this year. About 70 acres, largely around Lancaster, will be planted to beets.

NEW OFFICERS BRING SLEEPING UNIT TO LIFE

Kelehan of Lyon county notes in his February report that a certain township unit affected with sleeping sickness has been revived by the simple process of electing new officers, especially a director who directs. Mr. Kelehan observes: "It seems to be half the life of the unit if the director is active and gets out among neighbors and asks them to take part in the work. Our farm-bureau members are well satisfied with the organization at the present time. We have more paid up members than we had a year ago."

Entire County Getting Interested

Thirty farm women representing 15 communities attended clothing project meetings in St. Charles and Winona when thermometers recorded 20 degrees below zero. The county agent says that 18 and possibly all of the 20 townships in the county will get into the work. The attendance upon local group meetings is far exceeding expectations, he says.

PASTORS ORGANIZING CLUB PROJECT WORK

Several ministers have taken off their coats to work for the advancement of boys' and girls' clubs in Minnesota. Conspicuous among them are Rev. J. E. Cadwell, pastor of the Congregational church at Backus, Cass county, and Rev. William E. Thompson of Kellogg, Wabasha county. They are organizing work in several projects while serving as volunteer leaders for the good of the cause. In a letter to T. A. Erickson, the state leader, Rev. Mr. Cadwell says: "I am much interested in adding this most of all important agency for enlarging a community program, but having no county leader or agricultural agent in the county, am somewhat handicapped in getting started."

Five Communities Doing Good Work

Home demonstration work is flourishing in the communities of St. Clair, Amboy, Vernon Center, Garden City, and Judson, says County Agent McMillan of Blue Earth county.

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WALTER C. COFFEY
Dean of the Department of Agriculture and
Director of Experiment Station

FRANK W. PECK
Director of Agricultural Extension
W. P. KIRKWOOD **E. C. TORREY**
Editors

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THE COST OF EXTENSION SERVICE

It is comparatively easy to arouse a feeling of extreme economy among people in all lines of business by demanding a decrease in public taxation. It is a matter of common knowledge and a common fact that taxes are not only extremely high, but that in many instances they are positively a burden to agriculture in its present depressed condition.

There is no inclination on the part of those concerned with the extension service to belittle the taxation problem, and it should never be truthfully said that we are oblivious of the fact that extension service is an item of expense to the nation, to the state, and to the county concerned.

In any discussion of the depressed condition of an industry and the reduction of taxation for the maintenance of that industry an attempt should always be made to analyze the various items that compose the total tax bill, and, what is more important, to consider carefully those items that are intended to bring the industry back to a more prosperous condition.

Those who are most prone to criticize the expenditure of public money for practical education of the people usually exaggerate the importance of the expense of the education as related to other public work, and they likewise magnify the resultant saving or reduction of the burden of the taxation by the elimination of one or two relatively small items. Every thinking man in the state should know the importance of the various items that make up the total tax expense. This knowledge alone would at once place the proper emphasis upon those items that should receive the greatest attention. It would then be readily realized that on the basis of last year the entire elimination of all expense, including federal, state, and county funds, which makes up the cost of county extension service, would result in a possible saving of from one to three cents per tillable acre out of a total tax expense of one dollar and thirty-two cents. This would be selecting for elimination a very minor

item and one of the important measures that is designed for and is achieving the promotion of better farming and better living on Minnesota farms.

The beneficial results of extension service are not theoretical, nor are they only long time benefits, but every day in many ways in those counties maintaining extension service there are farmers who are obtaining more information as to the means of making their business more profitable.

Elsewhere in this issue is a statement of the relation of the cost of the county extension service to the total cost of all forms of education in the state. It is worth while noting the relative importance of the cost of extension work and of the purpose back of the movement when considering how much it costs the people of various counties.

HAPPINESS, FAITH, HEALTH

Talk Happiness. The world is sad enough
Without your woes. No path is wholly rough:
Look for places that are smooth and clear,
And speak of these to rest the weary ear
Of earth, so hurt by one continuous strain
Of human discontent and pain.

Talk Faith. The world is better off without
Your uttered ignorance and morbid doubt,
If you have faith in God, or man, or self,
Say so; if not, push back upon the shelf
Of silence all your thoughts till faith shall
come;
No one will grieve because your lips are
dumb.

Talk Health. The dreary never changing tale
Of mortal maladies is worn and stale;
You cannot charm or interest or please
By harping on that minor chord, disease.
Say you are well, or, all is well with you,
And God shall hear your words and make them
true.

—Ella Wheeler Wilcox.

Frick Offers an Idea

County Agent Frick of Itasca county developed a plan of farmers' club activities which worked out well this winter—that of emphasizing a timely subject in all clubs in all parts of the county each month. The movement had the hearty support of club officers. The first program was sent out in January for the February meetings. This was based on the bulletin, "Making a Living on a Timber Farm." A prepared program was sent to each of the 18 clubs and used by many of them. The program for March was on dairy feeding and legumes, and for April it centers on poultry. In this way extension activities are concentrated on one subject at a time, and definite assistance is given each club in making a study of the subject for the month.

Important Culling Project

Fifty-six chicken culling demonstrations were held on East Ottertail county farms the past year, says R. C. Shaw, county agent. Of 4,962 birds under examination, 34 per cent were found to be unproductive. Tuberculosis was detected in 31 flocks. Mr. Shaw writes that requests are already coming in for more demonstrations which he plans to give in July and August.

More Farm Laborers Wanted

A shortage of farm laborers for spring work is reported by many Minnesota county agents.

Some Problems of Co-operation

By Dr. J. D. Black

The 2,270 local selling and buying organizations of Minnesota are doing much for Minnesota farmers. But there are some things they are either not doing, or are not doing well. Suppose we make a list of them:

1. **Controlling quality**—easily the most important function of a co-operative. Some progress, but slow. More power needed to enforce specifications.

2. **Standardizing production**—getting farmers to produce the same type of product, same variety. More progress being made here, but not fast enough yet.

3. **Adjusting production to consumption**—getting farmers to produce the kinds of produce the market wants.

4. **Stabilizing production**—getting farmers to produce the quantities of each product the market wants—smoothing out the ups and downs of the production cycle.

5. **Making consumption fit production**—by advertising and sales campaigns, getting the consumers to absorb large as well as small crops.

6. **Regulating the flow of produce to market**—of importance with potatoes and several other types of produce. Easily over-emphasized. Farmers sometimes lose by selling in the fall, sometimes by holding till spring.

7. **Distributing the product**—seeing that it goes to the market that needs it most.

8. **Inspecting produce en route or at destination.**

9. **Handling claims.**

10. **Selling**—making connections with actual buyers, in place of consigning to commission merchants and the like. Important with some commodities.

11. **Financing marketing operations**—only for moving certain commodities do local co-operatives at present borrow funds as cheaply as they could.

12. **Bargaining**—local co-operatives are not at present on equal bargaining terms with buyers of some commodities; and where this is the case, they can get better prices by collective bargaining. Very easy to overemphasize.

13. **Improving accounting and business practices**—progress altogether too slow.

14. **Research in marketing methods**—such as has been done by the raisin growers and the like.

It has been demonstrated that some form of overhead organization usually operating in the central markets can do much to handle all of the foregoing problems. The important question is: What form of organization is best suited to handle the foregoing problems for each commodity? Minnesota is trying to handle them by "federations." Are these adequate?

This Shows Cost of General Education and County Agent Work in Minnesota by Counties

(By F. E. Balmer)

Accompanying is a table showing the cost of general education and county agent work by counties in Minnesota for the year 1921-22. The county agent work is a form of educational service, a phase of extension work defined as "a permanent system of practical education for farming people, outside of schools, conducted according to well matured plans, by public officers, for the benefit of all the people."

The purpose of reproducing these figures is in no wise to raise any objection to what is spent for education. Any democratic form of government should expect to give liberal support to public education.

The point to which attention is called is that the funds expended for general education are stabilized and forthcoming regularly. In the case of county agent work that is not always the case, particularly as to appropriations made for the service by boards of county commissioners. Yet for the state at large, the cost of the county agent service is just slightly over one-half of 1 per cent of the cost of general education.

The figures are quite worthy of study and comparison. The column headed, "Total Spent for General Education" is for the year ending July 31, 1922, and includes what was paid for general control, teachers' wages, text books and supplies, library books, operation, maintenance, transportation, land, buildings, equipment, bonds and interest, cash on hand, outstanding orders, and other expenses.

The column headed, "Spent for County Agent Work," is for the year ending June 30, 1922, except as for the counties noted. Where the county agent work was in operation for less than a year's time in any county, as may be noted in the table, calculation was made by which an estimated equivalent for a year is inserted for comparison. The expenses of county agent work include salaries, office and field expenses of agents employed.

It should be borne in mind that the total spent for education includes sums expended for both investments and maintenance, while the amount spent for county agent work is practically entirely for maintenance.

The data in the accompanying table with the study of the relative cost of county support of the extension service appearing in the March, 1922, number of Extension Service News should prove of special value to boards of county commissioners in considering the question of funds needed to promote the county agent service.

County	Total Spent for General Education	Spent for County Agent Work	Per Cent County Agent Work is of General Education
Aitkin	\$ 543,723	\$ 4,543.17	.83
Anoka	396,610	3,862.98	.97
Becker	598,134	4,669.58	.78
Beltrami	1,166,786	5,985.39	.51
Benton	160,586	5 1/2 mo. 1,199.61—2,817.32*	2.35
Bigstone	257,721	9 mo. 2,930.13—3,906.84*	1.51
Blue Earth	1,151,198	4,382.60	.38
Brown	471,058	4,544.34	.96
Carlton	885,417	3,727.76	.42
Carver	232,438	3,124.49	1.34
Cass	854,783	4,457.45	.52
Chippewa	621,574	2,508.25	.40
Chisago	239,465	3,690.40	1.54
Clay	609,664	2,550.01	.42
Clearwater	169,192	2,387.48	1.41
Cook	116,766	2,114.39	1.81
Cottonwood	408,406	4,739.15	1.16
Crow Wing	719,488	4,454.09	.62
Dakota	1,024,324	5,007.80	.49
Dodge	322,113	4,269.75	1.33
Douglas	329,092	(1919) 2,865.52	.87
Faribault	477,488	4,081.45	.85
Fillmore	664,134	4,868.69	.73
Freeborn	682,680	4,914.42	.72
Goodhue	630,761	3,402.81	.54
Grant	206,303	(1919) 2,190.06	1.06
Hennepin	12,540,266	5,727.45	.05
Houston	293,426	3,593.30	1.14
Hubbard	344,314	3,999.50	1.15
Isanti	244,493	3 mo. 663.51—2,654.04*	1.09
Itasca	2,826,093	4,972.60	.18
Jackson	514,609	4,150.77	.81
Kanabec	139,201	4,644.65	3.34
Kandiyohi	372,572	4,040.78	1.09
Kittson	335,551	4,923.65	1.47
Koochiching	401,334	4,827.57	1.05
Lac qui Parle	287,969	3,481.45	1.21
Lake	381,939	3,225.25	.84
Le Sueur	351,234	3,360.00	.96
Lincoln	314,888	3,646.72	1.16
Lyon	532,308	4,162.94	.78
McLeod	383,933	3,236.81	.84
Mahnomen	245,625	3,483.58	1.42
Marshall	530,745	5,130.11	.97
Martin	578,331	5,016.66	.87
Meeker	284,891	4,515.74	1.58
Mille Lacs	391,444	3,943.10	1.01
Morrison	626,985	3,585.19	.57
Mower	688,992	3,621.55	.53
Murray	293,032	5,033.23	1.72
Murphy	268,420	4,170.00	1.55
Nicollet	466,155	4,228.69	.91
Nobles	453,261	4,373.54	.96
Norman	623,869	4,115.16	.66
Olmsted	857,346	7,200.79 (2 agents)	.83
Ottertail	345,136	3,675.81	1.07
Pennington	745,720	3,826.58	.51
Pine	295,214	3,603.18	1.22
Pipestone	873,202	5 mo. 829.89—1,991.76*	.23
Polk	311,835	3,344.79	1.07
Pope	4,032,207	3,584.63	.09
Ramsey	159,675	4,713.67	2.95
Red Lake	553,812	4,734.25	.91
Redwood	589,694	5,034.25	.73
Renville	571,015	4,302.08	.95
Rice	484,128	5,420.26	1.00
Rock	361,359	4,847.32	1.14
Roseau	12,426,931	4,113.81	.85
St. Louis	221,450	10,533.91 (5 agents)	1.54
Scott	236,552	3,398.01	1.63
Sherburne	107,765	3,847.24	1.89
Sibley	813,737	3,751.30	.56
Stearns	724,077	4,555.42	.69
Steele	271,128	4,972.07	1.67
Stevens	385,540	4,520.05	.45
Swift	712,572	1,731.20	.78
Todd	158,825	5,598.68	2.28
Traverse	686,663	3,628.50	.57
Wabasha	209,991	3,935.50	2.22
Wadena	254,072	4,656.53	1.66
Waseca	755,521	4,239.36	.58
Washington	217,468	4,392.17	1.89
Watsonwan	257,511	4,134.60	1.73
Wilkin	760,291	4,444.59	.50
Winona	590,480	3,821.33	.63
Wright	381,779	3 mo. 979.61—3,758.40*	1.15
Yellow Medicine		4,404.60	

State Totals	\$62,180,208	\$344,599.49 (Actual)	
		7,403.73**	
		\$351,903.22	
County Average	723,025	4,091.90	.56

* Full amount estimated in event full year's expense incurred.
 ** Extra amount estimated in event full year's expense incurred.

Co-operative Egg Marketing---Organization, Function and Relationships (Commodity Plan)

By W. J. Corwin

FARMER joins unit of State Ass'n (on non-stock basis if possible) and contracts 3 years output.

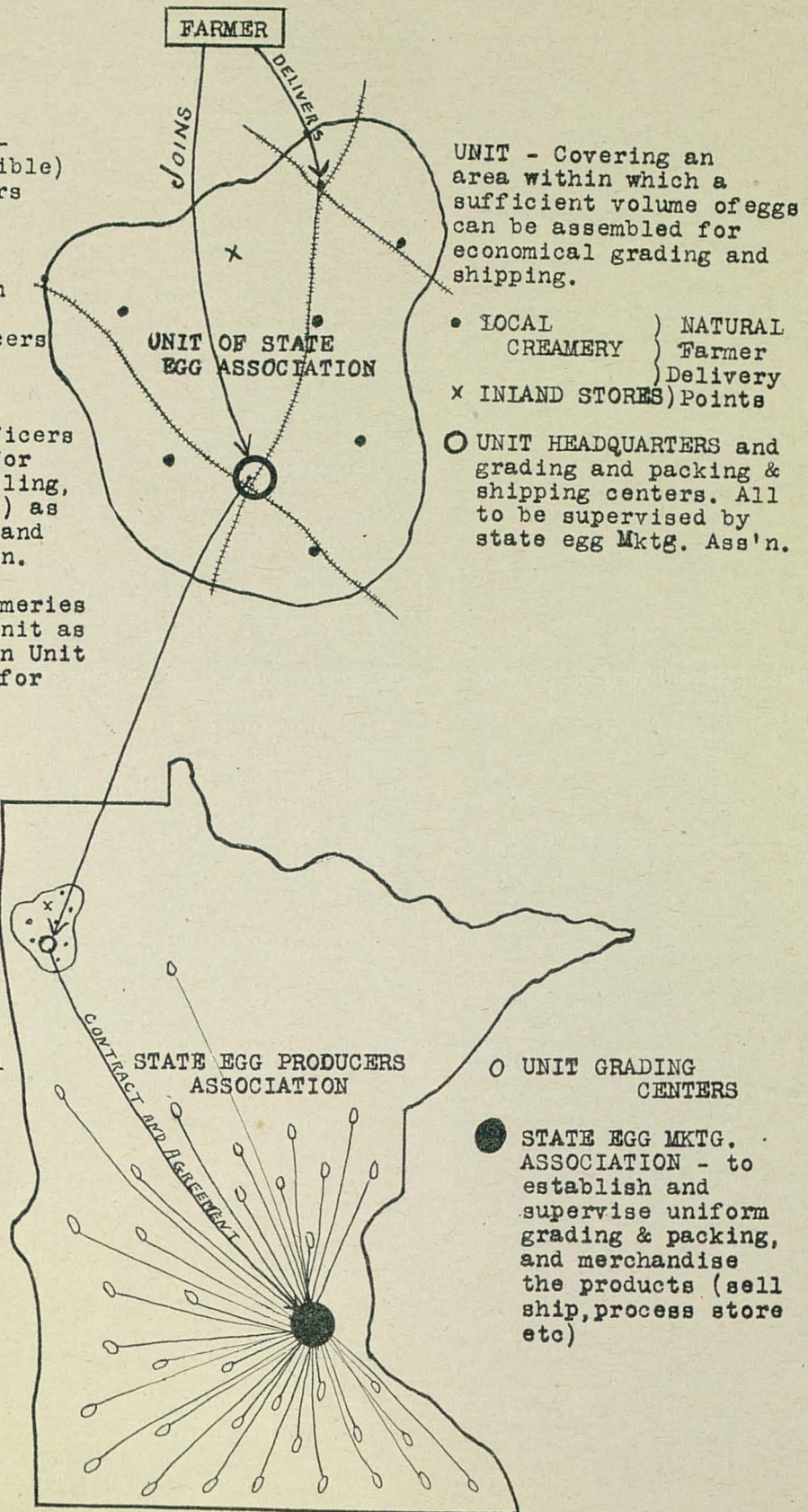
DIRECTORS OF UNIT may be one delegate from each delivery point and chosen by producers who deliver at such points.

DIRECTORS to elect officers and be responsible for work of unit (assembling, grading, shipping etc) as agreed between unit and State Egg Association.

RECEIVING AGENTS (Creameries etc) to be paid by Unit as per agreement between Unit and receiving agent for service rendered.

STATE EGG MARKETING ASSOCIATION - A federation of all the grading units with a director from each unit.

THESE DIRECTORS to choose officers and executive which shall have charge of State Egg Marketing Agency by either hiring or establishing its own service.



UNIT - Covering an area within which a sufficient volume of eggs can be assembled for economical grading and shipping.

• LOCAL CREAMERY } NATURAL Farmer Delivery Points
 x INLAND STORES

○ UNIT HEADQUARTERS and grading and packing & shipping centers. All to be supervised by state egg Mktg. Ass'n.

○ UNIT GRADING CENTERS

● STATE EGG MKTG. ASSOCIATION - to establish and supervise uniform grading & packing, and merchandise the products (sell ship, process store etc)

EXTENSION WORKERS VISIT DEPARTMENTS

Subject Matter Men Describe Various Timely Projects in Hand and Give Hints to Field Forces

Agricultural extension service people have been receiving and giving some firsthand information of late by improving their Monday stay at headquarters to call in a body upon experiment station and college of agriculture men. Three divisions have been visited and, in addition, Director F. W. Peck sketched the development of the extension service and the present status of its work before a meeting of the station staff. Several more meetings, all in the interests of good team work, are yet to be held.

Touring the laboratories of the division of agricultural biochemistry under the guidance of Dr. R. A. Gortner, division chief, members of the extension staff were told by Dr. L. S. Palmer, head of the section of dairy chemistry, that a diet of milk only, while very good for the growth of animals, had an unfavorable effect on reproduction.

Experiments in feeding milk only to calves had been paralleled with experiments in feeding rats, Dr. Palmer said. The experiments with the smaller animals had demonstrated that the creative organs, particularly of females, were affected unfavorably by the steady diet of milk alone. Dr. Palmer's remarks prompted some discussion as to the probability of defects in diet being responsible for the increasing sterility among cows in this country.

Dr. Palmer said the section had completed a large number of studies bearing upon the nutritive properties of milk. The vitamin content of milk powders had been studied and significant work was now in progress on the subject of infant nutrition. Various problems in dairy husbandry, such as the "cream line" and so-called bitter milk, were being attacked.

Work in Cereal Chemistry

Dr. C. H. Bailey of the section of cereal chemistry took his visitors figuratively speaking, through the state's experimental flour mill, of which he is manager. This mill, he said, was simply a large scale laboratory established in the interest of the producers to determine the real values of their wheats not simply as to the marketing grades but within the grades as well.

The experiments had shown, he said, that the amount of gluten in wheat differed materially within the grades and that the producer sometimes did not receive the price or premium to which he was entitled. The purpose of the state in establishing the mill was also to show the true differences in the bread-making value of the farmer's wheat. The mill has facilities for making 150 barrels of flour every 24 hours, but it is not being operated at full capacity. It is not self-sustaining for the reason that the output is not sufficient to meet overhead charges.

Dr. Bailey said his studies in the main concerned the milling and baking value of wheat. Effective co-operation is maintained with plant breeders and agronomists in developing and propagating new wheat varieties. Cereals

are subjected to careful tests so that only wheats of satisfactory milling qualities are distributed.

Sweetcorn and Sorghum

Dr. J. J. Willaman, head of the section of plant chemistry, described the experiments with sweetcorn stalks and said it had been shown that good quality cooking sirup could be produced from them at a profit provided a large sized corn of proved sugar content was more generally grown.

The station's work with sorghum, performed in connection with the privately owned plant at Waconia, had been carried on several years. By a system of seed selection yields have been materially increased and the saccharine value of the stalk materially augmented. The growing season up to full maturity had also been shortened.

Peat Land Experiments

Dr. F. J. Alway, chief of the division of soils, introduced G. H. Nesom who outlined the work on peat soils at Golden Valley, Coon Creek and other experimental stations. Proper drainage is the first step in the reclamation of peat soils, said Mr. Nesom. Two main groups of such soils are to be found in the state—the high lime and low lime. In some cases the low lime cannot be profitably reclaimed, but there are large areas of high lime which can be made good. All such soils are largely composed of organic matter; minerals must be introduced to make them productive. The use of phosphate only had proved sufficient at Golden Valley, but at Coon Creek both phosphate and potash were required. Plots at Golden Valley not treated had yielded only two bushels of winter rye to the acre, while adjacent plots fertilized with phosphate had returned 30 bushels to the acre. Mr. Nesom said it had been demonstrated that the peat soils of the state were better adapted to growing clover than mineral soils.

Dr. C. O. Rost demonstrated two tests for soil acidity—the zinc sulphide or Truog method and the new thiocyanate test which was described in the Minnesota Extension Service News for January of the current year.

Prof. F. R. McMiller explained the work of the division in mapping soils and presented colored maps marking the soils of the Bemidji and Northome districts, also soil maps of Stevens and Anoka counties, which have soils of very different character.

Fertilize or Grow Boneless Cattle

In conclusion Dr. Alway emphasized the necessity of restoring to the stock farms of the state the phosphate lost over a term of years by the raising and marketing of cattle. This must be done to maintain fertility unless a race of boneless cattle could be produced. He was not advising anyone to buy peat land, he said, but if one already had such type of soil it was worth while to try to reclaim it. Much of it can be reclaimed, he said.

Plant Pathology and Botany

Dean E. M. Freeman said the division of plant pathology, of which he is chief, was established in 1907 and was one of the first organized at an agricultural college in this country. Many of the problems before the division have been studied continuously since 1905,

Dr. Freeman said. State and federal programs for barberry eradication have probably received more help from this station than from any other in the United States.

Dr. E. C. Stakman, who is in charge of the broad field of plant diseases caused by fungi, bacteria, and molds, said the division had conducted a very thorough plant disease survey. Here was opportunity, he thought, for some very helpful co-operation on the part of county agents, high school instructors, and extension workers generally.

The work of his section, he said, had been chiefly with wheat, oats, barley, corn, flax, and potatoes although considerable work is done also with vegetable and fruit crops and some on tree diseases. The rust problem has been under continuous attack for several years.

Barberry; New Treatment for Smuts

Dr. Stakman said that the agricultural extension worker should thoroughly understand that the black stem rust on grain will be much less destructive when the common barberry has been eradicated. All scientific facts go to prove it, he said. The plant pathologists, by eradicating the barberry, were simply following in the steps of human pathologists who have demonstrated that certain diseases were controlled when certain insects had been destroyed.

Speaking of the work to control the covered smut of cereals, Dr. Stakman predicted that the day of the wet fungicide is about over, and that the dry dust treatment will supersede it. Simpler methods also are being devised for the control of the loose smuts.

University pathologists were investigating and fighting the scab of wheat, root rots of cereals, flax wilt, flax rust, corn and sorghum smuts, corn rots, potato scab and potato blackleg, he said. In co-operation with the plant breeding section Winona and Chipewewa, two wilt resistant varieties of flax, have been developed. The hot formaldehyde and inoculated sulphur methods for controlling the scab of potatoes were being given thorough trials. In general, it had been shown that substitution of dusts for a liquid spray in controlling potato and fruit diseases was not yet to be recommended.

County Agents Can Help

The seed laboratory probably tests more crop seeds in a year than any other state seed laboratory in the country, said A. H. Larson, analyst in charge. During the fiscal year ending July 1, 1922, 6,161 samples of seeds were tested. Some 547 samples were received from county agents.

Mr. Larson said that the work of the laboratory is largely crowded into the months of February, March, and April. As it is difficult to get trained help for so short a period, there is bound to be delay in making tests. This could be remedied in part if the county agents would advise the farmers to begin sending the samples in December.

Prof. R. B. Harvey, in charge of the section of plant physiology, said he was studying the question of why plants kill out in winter.

"LET'S GROW" CLASSES GIVE DEMONSTRATIONS

Seventeen Juniors of Mower County Build Up Their Own Bodies While Doing Other Project Work.

Seventeen underweight boys and girls enrolled for a junior club project in Mower county and determined to study themselves while developing better pigs and calves. They weighed and measured themselves and some groaned as they recorded the results, for all but one were underweight. Several were in the danger zone. At the end of the season the average gain in height was 1.2 inches, while the average gain in weight was 7.8 pounds. The average weight gain was computed from gains varying from 2 to 15¾ pounds.

So great was the interest that these juniors determined to dramatize this work and in spite of the fact that there were pigs, calves, and gardens to care for, as well as home and farm chores to do daily, they worked out a dramatic demonstration and three of them put it on at four demonstrations which were attended by 335 persons. That they had a good time is attested by the stories sent in with the project reports. The nutrition specialist of the home demonstration office takes this opportunity to congratulate these boys and girls of Mower county and their county leader, Miss Partridge.

LOCAL LEADERS PUT KANABEC ON THE MAP

For several months the nutrition specialist of the state office has met with groups of women of Kanabec county, who have carried the nutrition project to the remotest corner of the county. Up to March 16 they reported 23 meetings held with an attendance of from one to 18. Their splendid co-operation with the specialist and with their county agent and their loyal support of each other in holding meetings has put Kanabec county on the map in home demonstration work.

At a recent meeting, the local leaders reported their own home demonstrations with the following results: 15 reported increased use of vegetables; 14, increased use of milk; 11, greater use of coarse cereals in breads and breakfast foods; 5 drink more water. In the matter of health, 10 report decided improvement. One writes, "It is easier to plan meals and easier to keep my child well," while another says, "it is more work to plan meals, but the results are better." Still another writes: "I find I practice sitting down when preparing meals more than I did formerly, and, when standing, find it easier to stand erect."

Miss Regan to Watonwan

Miss Ethel Regan has been appointed county club agent in Watonwan county to succeed Miss Mattie Rogers, now Mrs. Arthur S. Crowley, who resigned. Miss Regan's home is in Kanabec county. She was graduated from Stout Institute at Menomonie, Wis., and has had five years' experience as a teacher in rural and consolidated schools.

SEED DUSTING METHOD SAVES TIME AND TOIL

Dusting seed wheat with copper carbonate to prevent smut is recommended on the basis of experiments made by E. B. Lambert, D. L. Bailey and others at University Farm and various substations. In a letter to county agents Dr. E. C. Stakman and Mr. Lambert say that the Corona Chemical division of the Pittsburg Plate Glass company at Milwaukee makes a very satisfactory dust and has instructed local agents to sell it at 20 cents a pound. This makes the cost but little more than the cost of treating with formaldehyde. Several Twin City chemical companies will soon be in position to distribute the dust, say the station men. Companies which have already taken steps to this end are C. B. Lyon & Bro., St. Paul, American Drug & Chemical company, Minneapolis, and Noyes Bros. & Cutler, St. Paul.

The best method of treating the grain is by means of a barrel churn arrangement or a cement mixer which is enclosed to keep in the dust. If the seed is put into a churn or similar arrangement, about 15 or 20 rotations will be enough to insure thorough dusting.

Might Like Many Such Surprises

At a township unit meeting in Lyon county the agent says the men were "given the privilege" of serving the lunch at the noon hour. "The men took hold like majors," says the agent, "and really surprised the women by their skill."

Sick, Rather Enjoys It

Hammargren of Mille Lacs county was recently under attack by influenza and seems to have found it no unmixed evil. Anyway he says: "I was kept in the house five working days. For two years I have not had a chance to get a real touch of home life until this informal stay-at-home party. I would advise all agents to spend more of their time at home."

Howard Returns

George F. Howard, state club agent who has been on leave since January 15, returned to his duties April 1 and is already out in the field. Mr. Howard spent his leave with his daughter and invalid wife in Evanston, Ill., and with a second daughter at Portales, New Mexico. N. A. Thorson, who was attached to the state leader's office part of the time while Mr. Howard was absent, was installed postmaster of Crookston the first of April. Mr. Thorson won his appointment in a civil service examination.

Sweet Clover Seed at Cost

W. E. Hargrave, the Swift county agent, has interested the bankers of the county in buying a carload of sweet clover seed. They will buy the seed at wholesale and distribute it among the farmers at cost.

CLUB WORK GETS GOOD START EARLY IN YEAR

County Agents Report Increasing Interest All Along the Line—Enrollment of 20,000 Predicted

The year 1923 has already brought forth many good things for boys' and girls' club work in Minnesota. Many forces are behind the work for the first time and many more persons are interested in its success than ever before. Generally speaking, state and county officials, business men, ministers, and educators are strong for club work. T. A. Erickson, the state leader, is hopeful that the total enrollment in 1923 will reach 20,000 in round numbers. The enrollment last year was 18,971. Good reports continue to come from the county agents. Here are a few:

Brown—This will be the first year for a dairy calf club.

Martin—The enrollment in junior club work in 1923 will far surpass last year's. More girls are joining than usual.

Traverse—Eight head of Angus calves have been shipped in for baby beef work.

Jackson—Superintendents of consolidated schools will act as local leaders again this year. There is a good enrollment and each district will organize standard clubs.

Nicollet—Several boys have enrolled in the sow and litter club.

After a Journal Prize

Itasca—This county is well able to quality for the dairy calf club contest, so we are advertising The Journal's trip to Chicago as the sweepstakes prize for the best record in this competition.

Todd—Ten Aberdeen Angus calves for baby beef club work and several Duroc Jerseys for pig club work have already been purchased. The sum of \$700 was invested in the purebred pigs.

Koochiching—Two hundred twenty-five enrollments for club work received up to March 1. Garment making led with enrollment of 111.

Washington—Enrollments are coming in fast; we will have a good club this year. Breadmaking and sewing have been taken up for the first time.

Biggest Club Year Yet

Carver—In addition to the dairy calf and pig feeding contests, the acre corn and poultry hatching contests have been started. We hope to make this the biggest club year thus far experienced.

Houston—Many boys and girls have enrolled for club work.

Meeker—Enrollments are coming in for dairy calf, baby beef and pig club work. We will have a particularly good dairy calf club.

East Ottertail—More than 80 boys and girls have enrolled. Spring pig project is the most popular, with poultry a close second.

Redwood—We have 16 baby beef club members, 13 pig club members, eight poultry, five corn, and two dairy calf. This number will be largely increased.