

UNIVERSITY OF MISSOURI COLLEGE OF AGRICULTURE
COOPERATIVE EXTENSION WORK IN
AGRICULTURE AND HOME ECONOMICS

UNIVERSITY OF MISSOURI COLLEGE OF AGRICULTURE AND THE UNITED STATES
 DEPARTMENT OF AGRICULTURE COOPERATING

P. H. ROSS, Acting Director, Agricultural Extension Service

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COLUMBIA, MISSOURI

APRIL, 1921

PROJECT ANNOUNCEMENT 13

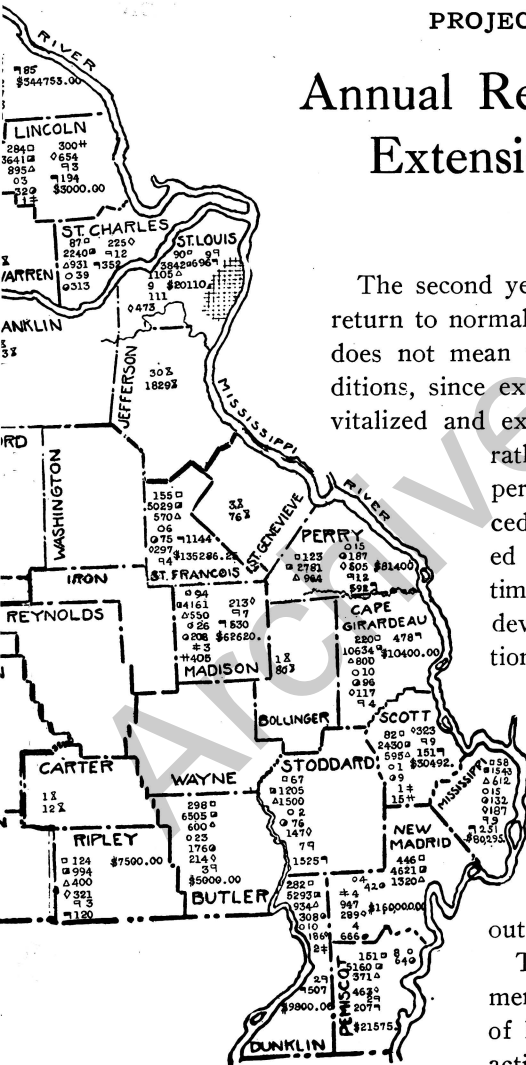
Annual Report of Agricultural Extension Service, 1920

P. H. ROSS

The second year of peace has witnessed a gradual return to normal procedure in extension work. This does not mean that we are returning to 1916 conditions, since extension work has been tremendously vitalized and expanded since that time. It means

rather that we have arrived again at a permanent systematic method of procedure, planning our work with extended future development in mind, with time enough to give each phase of our development due deliberate consideration. Fresh inspiration, new ideals, greatly improved organization, are driving our machinery forward at speed much greater than in pre-war days. The spasmodic, impulsive and sometimes hysterical procedure of the days of war has been replaced by carefully thought-out long-distance programs.

The greatest factor in this development has been the farmer's realization of his tremendous power in cooperative action, and his energetic and intelligent



building of machinery for such action. The world has probably never seen on so vast a scale as in the past two years, the development of farmers' organization for industrial not political, procedure. No state and very possibly no county in the whole United States, has failed to evidence in some measure the farmers' desire and determination to act collectively in promoting and protecting their business interests.

This has brought to extension workers a magnificent opportunity to render high class, tremendously efficient service. Through cooperation with farm bureaus our field of action has been multiplied many times by increase in membership and still further by the farmer's new attitude of mind toward extension work. What there was of veiled hostility and indifference formerly has given way to an insistent demand for service. The extension worker has a straight, clear path before him—his greatest problem being to so organize his work that he may be able to meet the greater part of the demand.

No report of the extension work done in this state in the last year would be complete or understandable without outlining the farm bureau development and showing its connection with the development of the various phases of the extension program.

FARM BUREAU DEVELOPMENT

The farm bureaus of Missouri have had a federation since 1915. This organization was not very active, however, until the fall of 1918. At the annual session at Pertle Springs that year the officials of the federation, in cooperation with the Extension Service, recast the constitution and by-laws, elected new officers and made arrangements for the next annual meeting of the federation during Farmers' Week at the College in 1919. An effort was made to secure a large attendance of farm bureau members at this meeting. The response was very encouraging and plans were made for vigorously pushing forward the campaign of farm bureau organization.

Later in the summer the plans for a national federation took gradual shape and the president of the Missouri Federation was one of the original group which met at Ithaca, New York, and issued a call for a national meeting at Chicago in November. At this November meeting the national federation adopted a tentative constitution and by-laws which it asked other states to ratify

previous to March 3, 1920. On this latter date 32 states adopted the national constitution and by-laws, elected officers, and began functioning as a nation-wide institution.

In the meantime, the state federation had grown very rapidly in strength and enthusiasm. A sentiment for a larger membership fee rapidly developed and later in the fall a recommendation was made by the officials of the federation to all county farm bureaus to raise the membership fee to a minimum of five dollars. This met with instant acceptance from many counties and on the first of the year a campaign for membership under the new provision began under the auspices of the Farm Bureau Federation but in close cooperation with the College. The membership campaign rapidly gained momentum and by early spring two or three counties at a time were successfully carrying through their campaigns. From 500 to 1,500 members were easily secured in each county. Several counties adopted ten dollars as a basis for membership and were almost as successful as those on a five-dollar basis in the number of members secured. The attention of the federation officials was given exclusively at first to those counties which had farm bureaus and county agents at work. These counties had practically been covered by the middle of the summer, and going into new territory it was found much more difficult to make headway because of lack of understanding of the work and the organization, locally.

The result has been beneficial in a financial way in almost every instance. A few counties failed to secure large enough membership to net them a larger financial basis than before, but in the main finances were greatly strengthened and the work strengthened accordingly. A decided increase in the salaries of agents was an almost immediate result. This was very fortunate since other states were bidding strongly for Missouri men.

The activities of the federation have caused a decided increase of interest in cooperative marketing. A majority of the farm bureaus insist upon this phase of extension work being included in their programs. Cooperation with the state federation has been confined almost exclusively to this project. The detailed development of this work will be found reported under the marketing project in this report.

CHANGES IN PERSONNEL

(to June 30, 1920)

The following table shows the names of those extension workers who were under appointment July 1, 1919 and, in addition, shows new appointments and resignations throughout the fiscal year:

**STAFF OF THE AGRICULTURAL EXTENSION SERVICE FOR
YEAR ENDING JUNE 30, 1920, LISTED BY PROJECTS**

HOLDING APPOINTMENT JULY 1, 1919	APPOINTMENTS
I. Administration—	
A. Ross Hill, President of the University	
F. B. Mumford, Dean, College of Agriculture	
A. J. Meyer, Director (on leave absence since 5-1-20)	
P. H. Ross, Ass't. Director (Acting Director since 5-1-20)	
W. W. Wooden, Secretary	
II. Publications—	
O. W. Weaver, Agr. Editor	
III. County Agent Work—	
P. H. Ross, County Agent Leader	M. D. Amburgey, Pemiscot, 12-1-19
W. H. Baker, Ass't. County Agent Leader	R. S. Clough, Johnson, 1-1-20
E. A. Livesay, Ass't. County Agent Leader	R. I. Coplen, St. Francois, 4-1-20
P. B. Naylor, Ass't. County Agent Leader	O. H. DeWolf, Mississippi, 8-1-19
E. H. Anderson, Montgomery County Agent	J. L. Fidler, St. Louis, 12-31-19
J. W. Butler (Negro Agent)	O. C. Fuchs, Carroll, 9-1-19
Seth Babcock, Cape Girardeau	F. W. Hancock, Howell, 2-15-20
A. F. Baker, Sullivan	W. A. Hook, Clark, 3-1-19
F. W. Caldwell, Lafayette	T. F. Lueker, Cole, 4-1-20
C. E. Carter, Knox (Transferred to Ext. Ass't. Prof. in Farm Crops 1-1-20)	W. W. Merritt, Ralls, 9-1-19
George Catts, Greene	Vance Mershon, Livingston, 4-26-20
L. F. Childers, Howard	John F. Nicholson, St. Charles, 3-1-20
J. M. Ellison, Pemiscot	C. E. Neff, Callaway, 5-1-20
W. L. Flanery, Madison	Asbury Roberts, Saline, 8-1-19
A. I. Foard, Scott	
W. D. Griggs, Pike	
J. Robert Hall, Cass	

HOLDING APPOINTMENT JULY 1, 1919

APPOINTMENTS

W. R. Hendrix, St. Charles
 G. S. Hensley, St. Francois (Transferred
 to Harrison County 3-15-20)
 H. C. Hensley, New Madrid
 John Howat, Randolph
 R. J. Howat, Harrison
 W. H. Hook, Newton
 J. M. Huston, Dekalb
 E. A. Ikenberry, Jackson
 S. M. Jordan, Chariton
 R. A. Kinnaird, Clinton (Transferred to
 Nodaway County 4-1-20)
 L. S. Kleinschmidt, Andrew
 J. C. Kline, Stoddard
 F. G. Kraege, Marion
 Grover Kinzy, St. Louis
 W. W. Langston, Butler
 R. A. Langenbacher, Bates
 W. W. Lewelling, Adair
 C. M. Long, Pettis
 C. G. Lueker, Cole
 G. Q. McDaniel, Buchanan
 J. H. H. Mote, Jasper
 Ross Nichols, Linn
 M. B. Oates, Vernon
 E. L. Peter, Howell
 Alfred Raut, Perry
 Asbury Roberts, Saline
 L. A. Saunders, Gentry
 P. F. Schowengerdt, Callaway (Trans-
 ferred to Ext. Ass't. Prof of Soils
 2-1-20)
 V. B. Sheldon, Lincoln
 J. M. Slaughter, Atchison
 W. C. Swarner, Holt
 C. W. Vetter, Lewis

George V. Sheets, Ripley,
 9-1-19
 R. F. Shaffer, Knox, 4-1-20
 R. R. Thomasson, Webster,
 8-1-19
 L. J. Wormington, Newton,
 12-1-19
 W. E. Foard, Scott, 6-1-20

RESIGNATIONS

E. H. Anderson, Montgom-
 ery, 12-31-19
 A. F. Baker, Sullivan,
 12-31-19
 George Catts, Greene, 5-15-20
 J. M. Ellison, Pemiscot,
 9-1-19
 J. L. Fidler, St. Louis, 6-30-20
 A. I. Foard, Scott, 5-31-20
 W. D. Griggs, Pike, 7-31-19
 F. A. Gougler, Johnson,
 9-30-19
 W. H. Hook, Newton,
 8-31-19
 W. R. Hendrix, St. Charles,
 9-15-19
 F. W. Hancock, Howell,
 5-17-20
 E. A. Ikenberry, Jackson,
 1-31-20
 S. M. Jordan, Chariton,
 6-30-20
 Grover Kinzy, St. Louis
 12-31-19
 J. C. Kline, Stoddard, 6-15-20
 E. A. Livesay, Ass't. Co. Agt.
 Leader, 8-31-19
 C. G. Lueker, Cole, 3-31-20
 M. B. Oats, Vernon, 3-15-20
 E. L. Peter, Howell, 12-31-20
 R. M. Roland, Ass't. Co. Agt.
 Leader, 5-31-20

IV. Extension Work in Home Eco-
 nomics—

Essie M. Heyle, Ext. Assoc. Prof. of
 Home Economics

Mrs. Louis Selbert, Ext.
 Ass't Prof. of Home Eco-
 nomics, 6-20-20

 HOLDING APPOINTMENT JULY 1, 1919

 APPOINTMENTS

Anna Jensen, Ext. Ass't. Prof. of Home Economics
 Mary E. Robinson, Ext. Ass't. in Home Economics
 Lillian Whaley, Ext. Ass't. in Home Economics
 Herietta K. Patrick, Ext. Ass't. in Home Economics (Negro)
 Mrs. Louis Selbert, Ext. Ass't. Prof. of Home Economics

V. Boys' and Girls' Club Work

R. H. Emberson, Boys' and Girls' Club Leader
 George W. Reavis, Ass't. Boys' and Girls' Club Leader
 Olga Hungate Ronzone, Ass't. Boys' and Girls' Club Leader
 Addie D. Root, Ass't. Boys' and Girls' Club Leader (Transferred to Home Dem. 6-1-20)
 F. L. Wright, Ass't. Boys' and Girls' Club Leader
 W. L. R. Perry, Poultry Club Agent
 Florine E. Fate, District Club Leader (Transferred to Columbia as Ass't. State Club Leader 2-1-20)
 Leo F. McShane, St. Louis Garden Club Agent

Mary Moreland, Ass't. Boys' and Girls' Club Leader,
 6-1-20

RESIGNATIONS

George W. Reavis, Ass't. Club Leader, 11-15-19
 Leo F. McShane, St. Louis Garden Club Agent, 12-31-19
 W. L. R. Perry, Poultry Club Agent, 4-4-20

VI. Home Demonstration Work—

Carrie L. Pancoast, Home Demonstration Leader (Resigned 4-24-20)
 Addie D. Root, Home Demonstration Leader (Transferred from Ass't. Boys' and Girls' Club Leader 6-1-20)
 Julia Rocheford, Ass't. Home Demonstration Leader
 Margaret Brown, Ass't. Home Demonstration Leader
 Rosilyn Bloch, Urban Home Demonstration Agent
 Edna Kissinger, Urban Home Demonstration Agent

APPOINTMENTS

Anne Sillers, Butler, 9-1-19
 Nevin O. Betz, Urban Home Dem. Agt., St. Louis, 12-8-19
 M. May Long, Holt, 1-1-20
 Elnora Baker, St. Francois, 6-1-20
 Lutie Burkholder, Jasper, 11-1-19
 Olivia Peugh, St. Francois, 12-8-19

HOLDING APPOINTMENT JULY 1, 1919

APPOINTMENTS

Ida Shilling, Urban Home Demonstration Agent

Mrs. Irene Blood, Jasper
 Katherine Brand, Dunklin
 Lola Braswell, Jefferson
 Florence Carvin, Jackson
 Ida Fra Clark, Clay
 Cora DeVault, Holt
 Signe Freestrom, Sullivan
 Helen Glass, Chariton
 Mildred Glass, Lafayette
 Iola George, Harrison
 Alene Hinn, Cole
 Jane Hinote, Cape Girardeau
 Rena Jenkins, Montgomery
 Nelle McGhee, Marion
 Lulu Morris, Livingston
 Margaret Nelson, Linn
 Marion Rogers, Butler

RESIGNATIONS

Mrs. Irene Blood, Jasper, 10-31-19
 Marion Rogers, Butler, 8-30-19
 Iola George, Harrison, 10-1-19
 Cora DeVault, Holt, 10-1-19
 L. Pet Tucker, St. Francois, 10-15-19
 Helen Glass, Chariton, 11-1-19
 Mildred Glass, Lafayette, 9-21-19
 Rosilyn Bloch, Urban Home Dem. Agt., St. Louis, 8-31-19
 Lulu Morris, Livingston, 8-7-19
 Margaret Brown, Ass't. Home Dem. Leader, 7-17-19
 Alene Hinn, Cole, 12-31-19
 Edna Kissinger, Urban Home Dem. Agt., St. Louis, 9-17-19
 Lola Braswell, Jefferson, 4-30-20
 Lutie Burkholder, Jasper, 4-21-20
 Nelle McGhee, Marion, 2-13-20
 Carrie Pancoast, Home Dem. Leader, 4-24-20
 Olivia Peugh, St. Francois, 5-31-20
 Marion Rogers, Butler, 8-31-19

VII. Poultry Husbandry—

T. S. Townsley, Ext. Assoc. Prof. of Poultry Husbandry
 R. L. Mason, Poultry Specialist

VIII. Dairy Husbandry—

E. M. Harmon, Ext. Assoc. Prof. of Dairy Husbandry

APPOINTMENTS

R. L. Mason, Poultry Specialist, 9-30-19

M. H. Keeney, Ext. Ass't. Prof. of Dairy Husbandry, 8-1-19

HOLDING APPOINTMENT JULY 1, 1919	APPOINTMENTS
A. C. Ragsdale, Ext. Assoc. Prof. of Dairy Husbandry	M. J. Regan, Ext. Ass't. in Dairy Husbandry, 5-1-20
IX. Horticulture—	RESIGNATIONS
H. A. Cardinell, Ext. Instructor in Horticulture	A. C. Ragsdale, Ext. Assoc. Prof. of Dairy Husbandry, 9-1-19
X. Entomology—	M. H. Keeney, Ext. Ass't. Prof. of Dairy Husbandry, 1-13-20
C. C. Hamilton, Ext. Instructor in Entomology	C. C. Hamilton, Ext. Instructor in Entomology, 8-1-19
XI. Farm Crops—	APPOINTMENTS
J. C. Hackleman, Ext. Assoc. Prof. of Farm Crops	R. T. Kirkpatrick, Ext. Inst. in Field Crops, 4-1-20
C. E. Carter, Ext. Ass't. Prof. in Field Crops (Transferred from County Agent, Knox County 1-1-20)	RESIGNATIONS
XII. Farm Engineering—	J. C. Hackleman, Ext. Assoc. Prof. of Farm Crops, 8-31-19
Frank Meckel, Ext. Instructor in Farm Engineering	APPOINTMENTS
XIII. Animal Husbandry—	William Etz, Ass't. in Animal Husbandry, 3-1-20
W. H. Rusk, Ass't. Prof. of Animal Husbandry	
S. T. Simpson, Ext. Assoc. Prof. of Animal Husbandry	
D. A. Spencer, Ext. Ass't. Prof. of Animal Husbandry	
XIV. Farm Management—	
W. E. Foard, Farm Management Demonstrator (Transferred to County Agent, Scott County 5-31-20)	
XV. Soils—	
P. F. Schowengerdt, Ext. Ass't. Prof. of Soils (Transferred from County Agent, Callaway County 2-1-20)	
XVI. Marketing—	Ralph Loomis, Ext. Ass't. Prof. of Farm Management, 7-7-19

INCREASING THE EFFICIENCY OF EXTENSION WORKERS

The development in the use of the written project has been one of the most effective means of increasing the efficiency of the extension specialist. Written projects have been used for several years but experience is helping us gradually to develop the most helpful kind of projects. Such projects make toward a better understanding between extension workers, make each extension worker think out clearly and definitely to the end, his plans for the year. Each year's experience adds something to the project and in many cases results in dropping portions of plans that have proved impracticable.

The appointment of an acting leader of specialists to give particular attention to the development of the specialists' work and the coordination of their work is beginning to show results. He has had charge of the work since September, and since that time our system of scheduling specialists has been revised to advantage, also forms in connection with assignments to field work have been improved and a series of conferences of the specialists under the direction of the leader has resulted in an improved understanding between workers and a resultant decided growth in morale.

The addition of the four dictaphones to our equipment has made for greater efficiency on the part of the specialist while in the office. With this equipment he is able to dispose of his correspondence at his own convenience and one stenographer is able to handle the work of several specialists. Our moving picture projectors have made the specialists' work more effective in the field but we have been very badly handicapped in this line because of our inability to secure sufficient acceptable moving picture films.

RELATIONSHIPS

The county agent is responsible for local organizations carrying out projects in every case. He looks to the specialist for information in subject matter and, in a measure, in methods. A similar relationship exists between the home demonstration agents and the extension specialists in home economics. There are at present no club agents in Missouri.

PUBLICATIONS OF THE AGRICULTURAL EXTENSION SERVICE

The publication of bulletins, circulars and leaflets is increasing in importance as an extension activity. During the fiscal year ending June 30, 1920 there were published a total of 31 circulars, leaflets and poster bulletins with a total edition of 580,000 copies. The following table gives the subject of the different publications, the number of pages in each and total edition.

(From July 1 to December 31, 1919)

Circulars

No.	Name of Publication	Date	Edition	Pages
8	The Judging of Chickens (reprint)	Sept., 1919	25,000	24
59	Winter Eggs for Missouri (reprint)	Sept., 1919	25,000	4
70	How to Cull Farm Hens	Aug., 1919	50,000	14
71	Sewage Disposal for Farm Homes	Aug., 1919	15,000	4

Project Announcements

(From January 1 to June 30, 1920.)

37	Hogging Down Corn (reprint)	Jan., 1920	5,000	4
69	Farm Buildings for Missouri (reprint)	Feb., 1920	2,500	11
72	How to Breed Good Layers	Feb., 1920	25,000	4
73	Feeding the Baby	Feb., 1920	20,000	8
74	The Missouri Colony Brooder House	Feb., 1920	20,000	4
75	The Way to Grow Soybeans	Mar., 1920	15,000	4
76	Cooperative Wool Marketing	Mar., 1920	10,000	15
77	Raising Pigs	Mar., 1920	4,000	11
78	Saving the Summer Egg	May., 1920	25,000	4
79	Colds—Their Causes, etc.	June, 1920	20,000	4
80	The Hessian Fly	June, 1920	25,000	4
81	Raising Calves	June, 1920	30,000	8
82	Dress Forms	June, 1920	15,000	4

Miscellaneous Leaflets

No.	Name of Publication	Date	Edition	Pages
12	Agricultural Extension Work	Nov., 1919	2,500	54
3	Constipation	July, 1919	30,000	1
5	Healthful Clothing	July, 1919	10,000	2
6	Some Substantial Milk Dishes	Sept., 1919	30,000	2
7	Milk Desserts	Sept., 1919	30,000	2
8	Keeping Physically Fit	Sept., 1919	20,000	2
9	The Family Medicine Chest	Sept., 1919	10,000	2
10	Cause and Treatment of Boils	Sept., 1919	10,000	2
11	Winter Dairy Rations	Oct., 1920	5,000	2
12	The Modern Rural Home and Health	Mar., 1920	20,000	2
13	Stinking Smut	Aug., 1919	50,000	2
1	Children Need Milk	Jan., 1920	20,000	2

Posters

7	The Farm Woman's Dream	May., 1920	6,000
8	Liming for Clover	May, 1920	5,000

Methods of Distribution.—A copy of each publication as it is issued goes to each of the county agricultural agents and home demonstration agents. Upon their request, these agents are supplied with bulletins in quantity for distribution in the county but agents are advised to distribute these bulletins only in response to definite requests for them. A classified mailing list is maintained at the College. The subject matter of the bulletin determines its classification and the list to whom it will be sent. Periodical announcements of recent publications are made. Return cards asking for certain classes of bulletins form the basis of a revised mailing list. Publications are sent free to those requesting single copies in the state. Charges sufficient to cover cost of publication are made to those who live in other states and those in this state requesting bulletins in quantity.

SOURCES OF REVENUE

The sources of revenue for the Agricultural Extension Service for the last fiscal year were the regular and supplementary Federal Smith-Lever funds and an appropriation of \$120,000 from the state legislature, \$10,000 of which latter amount was not released. This amount fell far short of being sufficient to off-set the Federal Smith-Lever funds. Expense accounts and statements covering salaries of county extension workers paid from funds of county farm bureaus amounted to more than \$112,000. This is an indication of the kind of local support that extension work is getting. The fact that we have no State Extension funds other than those which must be used as a Smith-Lever off-set limits our operations greatly. No new laws nor any rules in relation to state appropriations have been enacted during the last fiscal year.

Additions to Office Equipment.—During the last year the following material has been added to the equipment of the Agricultural Extension Service:

1	Addressograph Model F-2 \$440.00 less ½	.....	\$220.00
	One-half cost of the above paid by the Experiment Station.		
1	Graphotype Model G-2	.....	\$2,272.90
	50,000 Blank Alloy Plates		
	50,000 Shifting Frames		
	50,000 Card Strips		
	1 Lister for Cards		
3	De Vry Projects @ \$225.00	.....	675.00
1	B-7 Dictaphone	.....	117.00
1	A-7 Dictaphone	.....	125.00
1	Type A Dictaphone @	\$140.00	
1	Type A Dictaphone on ped. @	145.00	
1	Type B Dictaphone on ped. @	130.00	
	Total (less 10%)	415.00	373.50
	Total Cost of Equipment	.....	3,783.40

HOME ECONOMICS EXTENSION

All home economics extension comprises one section of the Agricultural Extension Service. One sub-division of this section covers home demonstration agent work and the other the work of subject matter specialists. The complete organization will provide for a leader in charge of home economics specialists as well as at present a home demonstration agent leader. The number of specialists is not yet sufficient to justify the former. This organization blends the specialists' and agents' work in a very desirable way. The results as reported below represent the efforts of agents and specialists working as a team and no attempt is made to differentiate between the work done by each. The work done was carried out by projects, each worker having a definite portion of the plan to carry out.

Four subject matter specialists served all counties in which there were home demonstration agents and in addition reached 26 county agricultural agent counties with some measure of service, and 13 unorganized counties. Necessarily, the work outside of counties having home demonstration agents is less intensive and permanent than in a county where an agent can follow up the work closely and keep interest going. By far the greater part of the totals given in the following account of the results of home economics extension are made up from work in cooperation with home demonstration agents.

Home Demonstration Work.—The 1920 plan for the Home Demonstration Work in Missouri included 16 home demonstration agents and three urban agents during the year. Urban work-

ers were discontinued during the year in St. Louis and Kansas City and this money released for the home demonstration work in the counties. At the close of the year 11 counties had home demonstration agents at work. Seven other counties have made preparations and requested cooperation from the College in the employment of a home demonstration agent, but it has been impossible to secure sufficient adequately trained women for the positions. The difficulty in securing satisfactory home demonstration



Fig. 2.—Home demonstration agent in Montgomery county holding a nutrition clinic.

agents is greater than with any other class of workers, because of the many difficulties of the position. The prospects are that this will continue to be a very serious problem during the next year but it is hoped that very considerable extension can be made of this project.

Child Feeding.—This project was the major one in home economics extension this year. The need of such work was indicated by the fact that 20 to 60 percent of the children of the state are at least 7 percent below the average weight of children of their age and height. To 2,709 mothers with underweight children individual counsel was given concerning changes in diet to increase

weight. Children to the number of 2,418 were weighed a second time, reported on the results of our field workers' suggestions, and 1,348 of these children made more than the average monthly gain which should normally be made. Of these children 184 were brought up to normal weight in two months. A total of 6,492 women have reported the adoption of improved methods of feeding children.

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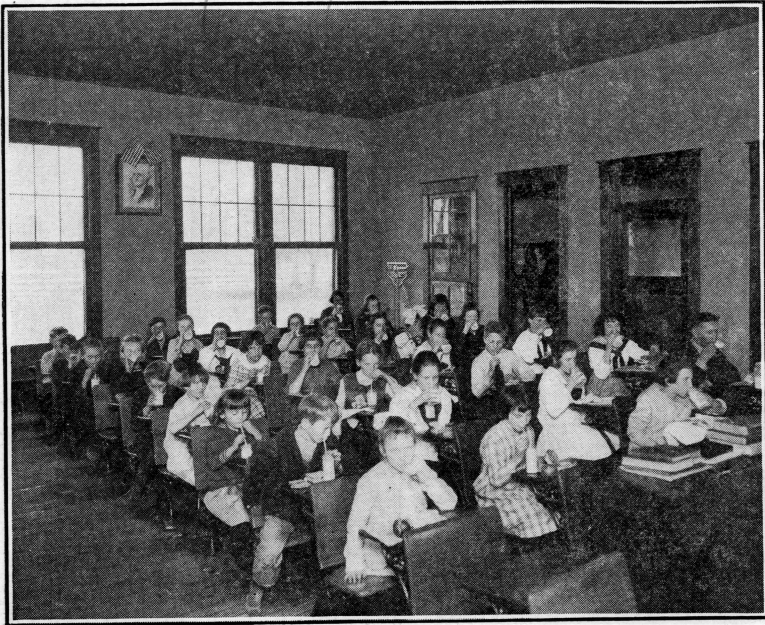


FIG. 3.—Children benefited by the "Use More Milk" campaign

A "Use More Milk" campaign in Kansas City increased the weekly consumption of milk in the city 14.7 percent.

Food Preservation.—The total value of food preserved during the year under the direction of representatives of the Agricultural Extension Service was \$34,862.38. This included 35,063 quarts of fruit, 34,345 quarts vegetables, 8,902 quarts canned meat, 3,692 pounds of dried products, and 2,363 quarts of brined vegetables.

The methods of food preservation taught by the Extension Service and the United States Department of Agriculture have virtually revolutionized that practice in the farm homes of Missouri.

Clothing.—The high price of ready-to-wear clothing created an

unusual interest in this work. The difficulty of properly fitting home-made garments seems to be the greatest problem and a special effort was made to meet the demand for help in this particular. As many as 237 women were assisted in making padded forms duplicating their own measurements, and 544 were helped in making foundation-fitted patterns. As a result of this work \$10,027 was saved to the women of the state.

Health.—A health specialist was employed but six months of the year, yet 5,027 people reported the adoption of such health habits as sleeping with windows open, increasing daily consump-

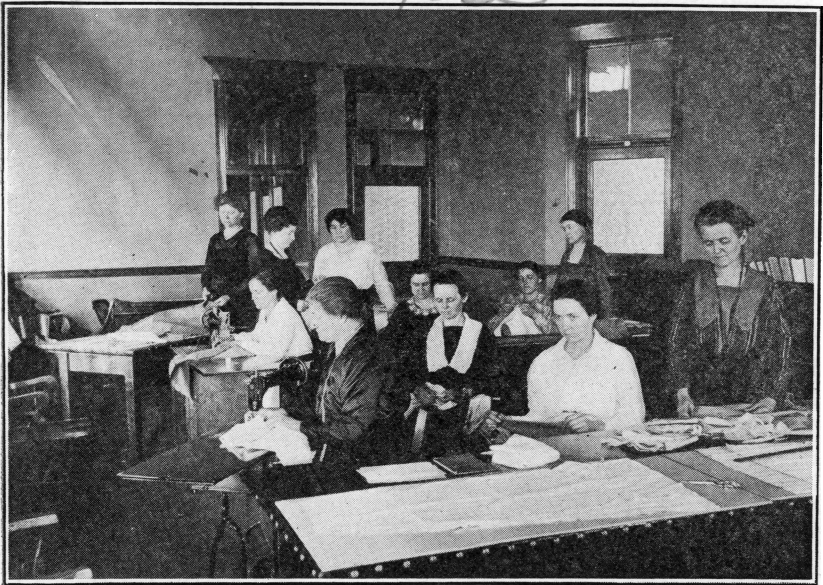


Fig. 4.—A Cape Girardeau training class for local leaders in the sewing project

tion of water, brushing the teeth, overcoming constipation, wearing sensible shoes, etc.; while 2,604 children were reported as receiving better care as a result of the health specialist's work.

Household Conveniences.—During the year 186,870 hours of work were saved in one county alone as a result of the installation of labor-saving devices in farm homes. Two counties reported the installation of ten new water systems; six counties reported 39 kitchens rearranged to lighten the housewife's labor.

Poultry.—Home demonstration agents gave instruction in culling poultry that resulted in a saving through the year of \$20,936.00.

Work is Established and Extension is Demanded.—The impor-

tance of the farm home in any plan of rural betterment, educational or otherwise, is unquestioned. Home demonstration work is firmly established in a dozen counties, and requests for assistance in home problems are increasing as the resources of the Extension Service are better understood. Expansion, both in the service of specialists from the College and home demonstration agents, is a necessity, if we are adequately to meet the growing demands from the woman on the farm.

COUNTY AGENT WORK

The year 1920 has seen steady growth in county agent work. On December 1, 1919 there were 49 county agents, while on December 1, 1920 there were 57. Three assistant county agents, with headquarters at Columbia, have served several months during the year. Twenty-one new county agents were secured during the year, either to be placed in new counties or to take the place of agents resigning. Five agents within the state were transferred to other counties. The rapid turn-over of county agents shows signs of decreasing rapidly and the prospects for retaining men in the counties a considerable length of time is very good. Our biggest problem for the last three years has been in securing well trained men for this work, but evidently our trouble along that line will be less in the future.

Outside of the regular project work, community organization has occupied a great deal of attention from county agents. Of the 54 counties reporting up to the 30th of November 34 counties or, 36 percent, reported executive committeemen in charge of projects. One or more community committees were reported to be in existence in 45 counties, or 84 percent, of all the counties. On the face of it this showing is not discouraging, but the fact that a great many of these committees did not meet or take any action of value to the community makes the advance in this work less real than apparent. The fact that the development of the organization idea has not been all that we hoped it might be is not any reason to become pessimistic, but rather carries the lesson that community organization deserves more attention since it is a difficult as well as a tremendously important job. Greater attention and more work must be put on this particular phase if our organization is to function to a high degree of efficiency in the state. As this type of organization also implies multiplied activities on the part of the local people, it becomes all the more desirable. It is

hoped that during the next year circumstances will be such as to make it possible to secure additions to our personnel necessary to give effective assistance in community organization.

Project Work in Cooperation with Subject Matter Specialist.—The work of the county agent and extension specialist has been so thoroughly blended that it is not possible to make a separate report on the work of each group. The work in this report will be handled by projects, it being understood that in each project the county agent and the specialist have worked together toward the desired end. In some counties the specialist has contributed a greater portion of his time than in others, but for the purposes of this report those considerations are not important.

During the year the increase in the number of specialists has not kept pace with the increase in county agents. It is very difficult for any one man to meet the demand on his time from nearly 60 agents and in a number of projects if the farmers are to be adequately served there must be an increase in the number of subject matter specialists. This is particularly true since the prospects are excellent that the number of county agents will be gradually increased during the next year.

FARM MARKETING

The farm marketing project was initiated July 1, 1919. During the first year only one specialist was at work and he devoted



Fig. 5.—Melon Growers Marketing Association loading melons in Dunklin county.

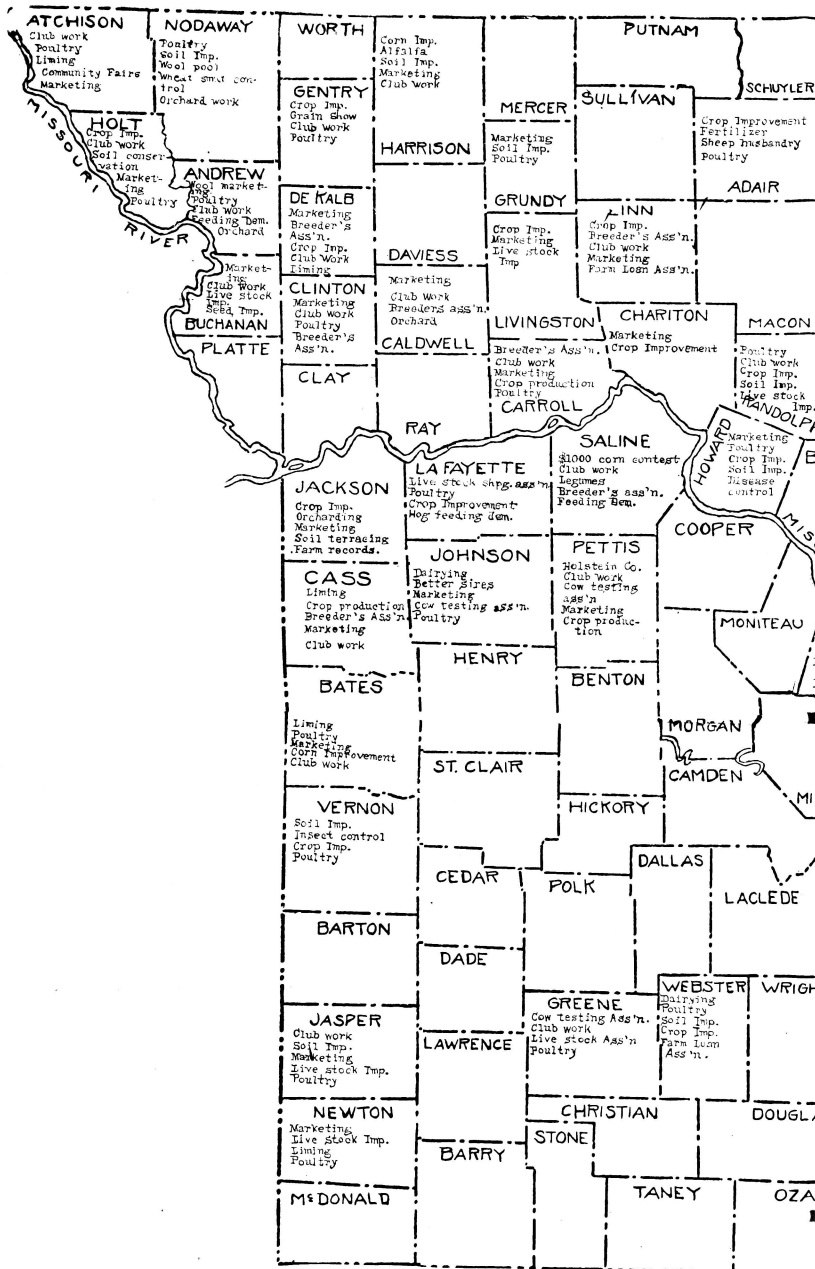
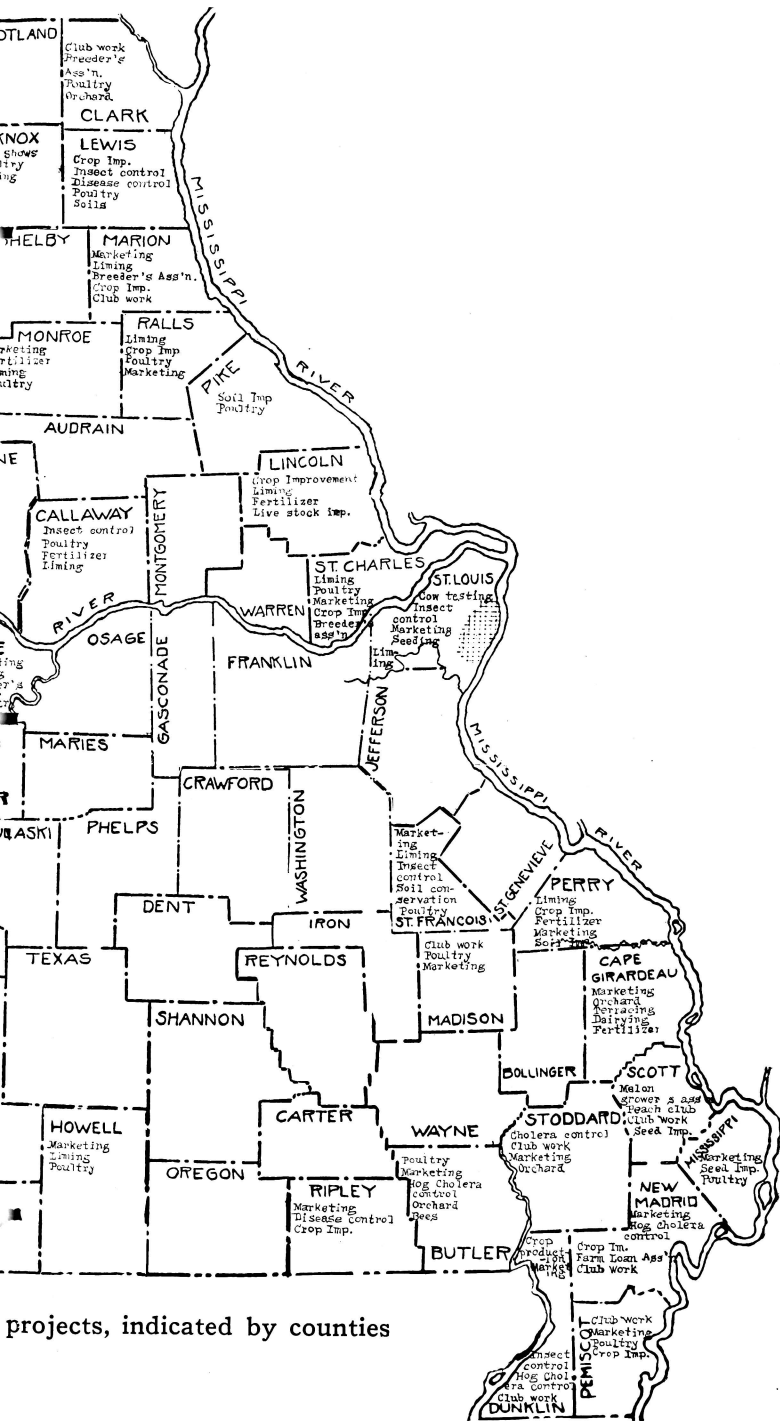


Fig. 6.—Agricultural Extension Service



projects, indicated by counties

OTLAND
 Club work
 Breeder's
 Ass'n.
 Poultry
 Orchard

CLARK

KNOX
 Shows
 Poultry
 Marketing

LEWIS
 Crop Imp.
 Insect control
 Disease control
 Poultry
 Soils

HELBY

MARION
 Marketing
 Liming
 Breeder's Ass'n.
 Crop Imp.
 Club work

FALLS
 Liming
 Crop Imp.
 Poultry
 Marketing

MONROE
 Marketing
 Fertilizer
 Liming
 Poultry

PIKE RIVER
 Soil Imp.
 Poultry

AUDRAIN

NE

LINCOLN
 Crop Improvement
 Liming
 Fertilizer
 Live stock imp.

CALLAWAY
 Insect control
 Poultry
 Fertilizer
 Liming

OSAGE RIVER

WARREN
 Crop Imp.
 Breeder's Ass'n.

ST. CHARLES
 Liming
 Poultry
 Marketing
 Crop Imp.
 Breeder's Ass'n.

ST. LOUIS
 Cow testing
 Insect control
 Marketing
 Seeding
 Liming

FRANKLIN

MARIES

GASCONADE

JEFFERSON

MONTGOMERY

CRAWFORD

WASHINGTON

ST. FRANCIS
 Marketing
 Liming
 Insect control
 Soil conservation
 Poultry

PERRY
 Liming
 Crop Imp.
 Fertilizer
 Marketing
 Soil Imp.

ST. GENEVIEVE RIVER

CAPE GIRARDEAU
 Marketing
 Orchard
 Beekeeping
 Dairying
 Fertilizer

MADISON

IRON

REYNOLDS

SHANNON

DENT

TEXAS

HOWELL
 Marketing
 Liming
 Poultry

CARTER

WAYNE
 Poultry
 Marketing
 Hog Cholera control
 Orchard
 Bees

BOLLINGER

SCOTT
 Melon grower's ass'n.
 Beach Club
 Club work
 Seed Imp.

STODDARD
 Cholera control
 Club work
 Marketing
 Orchard

NEW MADRID
 Marketing
 Hog cholera control

OREGON

RIPLEY
 Marketing
 Disease control
 Crop Imp.

BUTLER
 Crop production
 Marketing
 Club work

MUSKOGEE RIVER

DUNKLIN
 Insect control
 Hog Cholera control
 Club work

DELS

Club work
 Marketing
 Poultry
 Crop Imp.

his time almost exclusively to the organization of livestock shipping associations. The total of these organizations organized in 1920 is 64, and the work was done in 32 counties. In all but a few instances this work was entirely successful and proved a money-saving venture for the farmers concerned. Of course, the activity of the extension specialist was restricted to giving information in the proper organization of these associations.

From this start, interest in other cooperative movements rapidly developed. The project leader was forced to give considerable of his time to the development of cooperative grain elevators. On November 1, an additional worker was accredited to this project and he devoted virtually his entire time to the organization of cooperative elevators.

The leader of this project reports \$150,000 saved through cooperative shipping associations and \$89,500 is reported by county agents as the saving accredited to a melon growers' association in four counties.

Twenty-one organizations with capital stock, including elevators, warehouses, produce companies, one cooperative cotton gin, one alfalfa association, and one sunflower growers' association, have been very materially assisted under this project.

County agents report that a total of 85 cooperative organizations have been formed and a total of \$135,716 saved to farmers this year as a result.

FIELD CROPS PROJECT

Representatives of the Agricultural Extension Service examined 3,196 acres of wheat in 29 counties for the purpose of locating fields of adapted varieties free from fungus diseases and injurious weeds. This resulted in a total amount of 30,000 bushels of high grade seed wheat being located and approved.

In each case the county agent had located the fields to be inspected and just preceding harvest took the specialist on a tour over the county to enable him to make a thorough examination of each field. When the list was completed the agent listed the names of producers of good seed in his county and the information was given state-wide distribution through cooperation with the Missouri Corn Growers' Association.

Heretofore there has been a dearth of soybean seed to fill demands within the state. By pointing out the profits to be secured by the production of this crop and by giving the same effective

publicity, our extension specialist in field crops, who is also secretary of the Missouri Corn Growers' Association, has secured the cooperation of 363 farmers in 42 counties growing 2,460 acres of soybeans for seed. A total of 2,269 bushels of seed was brought from outside the counties where planted. More than 15,000 bushels of soybean seed has been listed for sale.

Special arrangements were made to work through the Smith-Hughes schools in forwarding the Better Seeds project. One specialist gave considerable time to helping Smith-Hughes teach-



FIG. 7.—Wheat certification in New Madrid county

ers in their crop project work. Thirty-four schools approved and accepted the plans presented by the Agricultural Extension Service, the number of pupils in each of these schools especially interested in this work ranging from two to fifteen.

The 43 cooperators who were secured reported a total acreage of 125 producing 12,014 bushels of corn, an average of 53 bushels per acre. These reports come from widely separated points and represent yields from all types of soil. The estimated average yield of corn over the state this year is 34 bushels, which is only 63.6 percent of the average produced by the cooperators. At least 3,000 bushels of seed corn has been carefully selected and stored by the boys directly concerned in this work.

ANIMAL HUSBANDRY

Three major divisions of this project have been carried out this year; hog feeding, sheep management and extension work in beef cattle. One specialist's time has been devoted almost exclusively to hog feeding demonstrations in 16 counties. Sixty-three cooperators were secured, and 20 of them have reported. As an example of the manner in which the total cost of pork production is demonstrated, the following quotation is made from the specialist's annual report:

"Feed fed to breeding herd including 27 brood sows from November 8 to farrowing time and to the breeding herd and their pigs till May 28, 1920.

Corn	350 bu.
Shorts and bran	6,400 lbs.
Tankage	2,000 lbs.
Alfalfa hay	2,000 lbs.

"At this time the 184 pigs weighed 7,190 lbs.

"These pigs were then run on alfalfa pasture till Sept. 13. During this time they were fed 825 bushels corn, 2,000 lbs. shorts and bran, 2,600 lbs. tankage. In the meantime one had died, and 183 weighed 23,315 lbs. At this time 29 were sold, weighing 4,350 lbs. Two sows weighing 775 pounds were added to the remainder, making 156 head, which were then turned into a corn field, carefully estimated to yield 855 bushels. Soybeans and pumpkins were in with the corn. These and the corn were practically consumed by November 9, at which time the hogs weighed 33,190 lbs. They were then fed till December 12, 1920—785 bushels corn, 900 pounds tankage—and had the run of a rye pasture and got a few scattering pumpkins and soybeans.

"A brief summary of this operation shows that this farmer produced 46,875 pounds of pork, using 8,400 pounds mill feed, 2,815 bushels corn, 4,300 pounds tankage, and forages and pumpkins which he estimates at \$198.00.

"Using arbitrary prices for the other feeds we have:

2,815 bu. corn @ \$1.00	\$2,815.00
8,400 lbs. mill feed @ \$2.00 cwt.	168.00
4,300 lbs. tankage @ \$5.00 cwt.	215.00
Forage	198.00
Makes the total for feed	\$3,396.00

Additional charges as follows:

Equipment	\$ 50.00
Worm capsules and vaccination	96.90
Labor	270.00
Straw, salt, conditioner, etc.,	25.00
Grand total cost.....	\$3,837.90

“It cost the feeder more than here given due to higher prices for feeds during a greater part of the time.”

One specialist has been giving his attention to the development of the “Better Bulls” campaign. It is planned definitely to work for the systematic elimination of every scrub bull in the state.

In Millwood Township, Lincoln County, a complete detailed census has been secured including the number of cows, heifers and bulls; whether purebred, grade or scrub. In this particular township, it was found that only 26 percent of the bulls and 3½ percent of the cows were pure bred. This indicates the size of the job in some sections.

The work on livestock improvement through purebred sires has been under way for several years. Last summer the project leader witnessed the selling of a bunch of grade steers in Ripley County which netted the seller \$2.00 per hundredweight above the price received for scrub steers. The grade steers not only sold for \$2.00 per hundredweight more, but weighed 100 to 150 pounds heavier than the scrub steers. In a demonstration herd, owned by W. W. Martin in the same county, 40 head of scrub cows which were being used as a demonstration herd had calves showing 100 percent polled heads and 75 percent clear white faces, typical Hereford markings. The calves showed straight backs, short legs, and a very beefy form. Other herds have been secured for demonstration purposes in Ripley County and three purebred bulls have been shipped into the county this year as a result of the work of the Extension Service.

The demoralization of cattle prices is having a very bad effect upon the interests of men in the cattle business. The one advantage of the situation, however, is the fact that purebred stuff is lower in price than it has been for years, presenting a great opportunity for the ordinary farmer to secure good purebred stock at a nominal cost. Every advantage will be taken of this con-

dition to distribute purebred sires on Missouri farms during the coming year.

In the sheep work, through the use of 35 demonstration farms, practical demonstrations in the culling of ewes, selection of rams, docking and castrating, and in treating for parasitic diseases and general sheep management were given.

The outstanding project work in sheep management was the marketing of wool. This was carried out in cooperation with the State Marketing Bureau and the Missouri Farm Bureau Federation. The county agents assisted the farmers in forming pools and the collecting and storing of wool. The State Marketing Bureau and the Missouri Farm Bureau Federation provided expert graders to grade the wool of the pools previous to permanent storing. Twenty-three wool pools were formed in which 1,477,140 pounds were pooled and graded according to standards of the United States Bureau of Markets. At St. Joseph, nine counties pooled their wool together, the total approximating 400,000 pounds. In the wool sold to date, the complete cost of selling has been approximately $1\frac{1}{2}$ cents a pound.

The economy in marketing wool through pools has not been demonstrated due to the demoralization of the wool market. This has prevented any advantage to farmers pooling their wool, since very few sales have yet been made.

Thirty-nine sheep demonstration farms were arranged for in 1920 and record books distributed. At the close of the year only seven had been completed, the last of interest being due largely to the fact that the sheep business has been greatly damaged by falling prices. Complete reports, however, were secured from seven of these farms, and the results show that the sheep of greatest value gave the best returns. With one exception, also, the highest lambing percentage was on farms where the feed cost was greatest. In commenting on these figures the project leader says: "These conclusions must be general, for factors such as the date of sale of the lamb crop are to be considered along with the varying price of feeds throughout the state."

Unless market conditions in the sheep industry improve, it will be a very difficult matter to arouse much interest in sheep demonstration work during the coming year. If satisfactory adjustment of prices is made there is no doubt about hundreds of sheep men asking for assistance from the College.

DAIRY HUSBANDRY

Two men have been at work in dairy extension, one the whole year and the second since April 1. Their attention has been given primarily to forming cow testing associations and bull associations. The results indicate the value of concentrating on a small number of lines of work.

Cow Testing Associations.—During the year, four cow testing associations were reorganized and two new ones started. Cow testing association work is now operating in Marion, Ralls, St. Louis, St. Charles, Pettis, Greene, and Webster Counties. The St. Louis county association has eliminated 57 unprofitable cows during the year. A member of the Webster county association has reported that information gained from the association has enabled him to reduce his herd from 50 cows to 26, with the result that he is making more from the resulting 26 than from the original 50. The Cape Girardeau association as reported by the specialist in charge has furnished the following excellent data:

Class	Fat produced	Percent of cows in this class	Average profit above feed-cost
I	350 lbs. to 450 lbs.	4 percent	\$171.10
II	250 lbs. to 350 lbs.	41 percent	115.24
III	150 lbs. to 250 lbs.	41 percent	51.72
IV	50 lbs. to 150 lbs.	14 percent	24.74

The Webster County Association shows an improvement in cows through putting into practice the information gained from testing, as follows:

No. 1	Avg. milk per cow	Avg. fat per cow	Avg. profit above feed-cost per cow
First year	5543	253.7	\$109.95
1918 to 1919			
Second year	5730	279.7	121.87
1919 to 1920			
Increase	193	26.0	11.82

Purebred Sires.—All of the cow testing associations organized previous to this year are using purebred sires exclusively. A total of four bulls that are not purebred is all that remains in connection with any of the cow testing associations, and indications are of an immediate removal of these. Three blocks have been

added to the Webster county bull club with an additional membership of 18 farmers and a displacement of eleven scrubs by three purebred bulls.

The advantage to the farmer in belonging to a bull association is strikingly shown in the following table, which data is compiled from records of all Missouri bull associations on cost of bull service before and after organizing.

	Before organizing	After organizing
Cost per year to each farmer	\$29.04	\$ 5.34
Value of bull	65.08	300.00

Development of Dairy Organization.—Every encouragement was given the organization of a number of state dairy organizations. Both the State Holstein Association and the Southwest Jersey Cattle Club have been assisted in placing themselves on a firm footing during the year. Each organization has now employed a field man.

The Missouri State Dairy Council has been organized with the leader of this project as secretary. The purpose of this organization is the education of the public on the food value of dairy products. The membership is about 70, including mostly creameries with a few ice cream plants and dairy cattle breeders. About \$1,000 has been raised by the membership to promote the work. This organization helped with the Kansas City Milk Campaign and in a similar campaign in Columbia.

Federation of County Organizations.—An attempt has been made by the project leader to ally more closely the county organizations through a monthly news letter which goes to all county agents and cooperators. This news letter contains the compilation of the cow testing reports for the month, with any news of interest to other local dairy organizations. Timely hints on feeding and management are distributed in this way, which has helped in keeping the interest of the various cooperators. The news letter reaches about 355 people outside the county agent force.

Dairy Manufacture.—A survey of the condition of factories of various dairy products over the state by a member of the dairy department, has disclosed the fact that there is very great need of help along this line. The production work is so inefficiently handled that it depreciates the farmer's market for his product

and the Extension Service could be of very great benefit to farmers if it could add a specialist in dairy manufacture to its force. It is hoped that this may be done another year.

ANIMAL DISEASE CONTROL

The work in this project was confined to the southeastern part of the state and to sections where veterinary help was unavailable. We were fortunate enough to secure the services of the Professor of Agriculture at the Southeast Missouri State Teachers' College in Cape Girardeau who formerly was connected with our Veterinary Department, and when hog cholera serum was first introduced had given demonstrations in its application. We were able to employ him on a per diem basis to work with county agents in the southeastern portion of the state under the circumstances mentioned. Where efficient veterinary services are locally obtainable, these methods are not recommended.

SOILS PROJECT

The fundamental work of all improvement in agriculture is soil improvement. The fundamental of soil improvement is to bring it into proper physical condition, which in the majority of types of soil in this state requires lime.

Liming.—For that reason liming has been made a major project. More of the specialist's time has been devoted to this work



FIG. 8.—Twenty-five limestone pulverizers were introduced in 1920

than any other part of the program and bigger results have been secured. In connection with the liming work, encouragement was given to the growing of legumes, especially for the purpose of increasing the fertility of the soil. As a result of the work on liming and legumes, 21,899 acres of clover or other legumes were plowed under for green manure. The soil of 1,596 farms was tested for acidity and 984 farms used limestone on the soil. There was reported 18,041 tons of limestone so used.

Assistance was given in the location of sources of lime, and the establishment of cooperative lime pulverizing associations in Perry and Ralls counties. Eight cooperative portable limestone pulverizers were bought in St. Charles county. In Cass county the orders of the farmers were pooled, thus greatly decreasing the cost of transportation of the material. A total of 25 limestone pulverizers were introduced in 1920; a total of 9,821 tons of limestone was pulverized on farms, and 220 liming demonstrations were established.

One great difficulty in getting limestone into use was the failure of limestone producers to furnish the material as rapidly as demanded. One producer reported that he was about 100 cars behind orders all summer and fall.

Commercial Fertilizer.—The next most important phase of the work was with commercial fertilizer. A great deal of commercial fertilizer is used in this state, but it is not high grade and our whole effort was toward persuading farmers to use the high grade material. Thirty-seven counties report 4,705 tons of fertilizer purchased as recommended, and 255 fertilizer demonstrations established. During the year, 2,680 farmers were helped in selecting fertilizer, and 39 counties report 3,748 farmers using some grade of commercial fertilizer as a result of the suggestion of either specialist or agent.

A special demonstration of a new fertilizing material furnished by the Anaconda Copper Mining Company is being tried out. This treble super-phosphate was distributed to more than 20 counties, and nearly 100 demonstrations established.

The greatest need in this work is the addition of another specialist in order that the demand for help coming from agents and from farmers in unorganized counties may be met. We have been in a position to employ an additional specialist since July 1, but have been unable to locate a qualified man.

POULTRY PROJECT

In the poultry work, demonstration farms, with special attention being paid to culling at the proper season of the year and to housing problems at other seasons, have been continued. In the demonstration farm flock contest, it was found that the cost of feed for eleven months for poultry on the average farm was \$249.12. The income per farm from the average of 128 hens was \$642.63 which leaves a net income of \$393.51, or a return over cost of feed of \$3.07 per hen. The average Missouri hen produces 65 eggs per year and leaves no margin for profits.

Community Improvement of Poultry Practices.—A sample of the influence on community practices by the demonstration farm is shown in the following quotation from the poultry specialist's annual report:

“The improvement in poultry keeping methods has undergone a remarkable transformation in the communities where the most successful demonstration farms are located. In the Rockingham community in Ray county, more than 40 modern poultry houses have been built during the past three years, all modeled after the

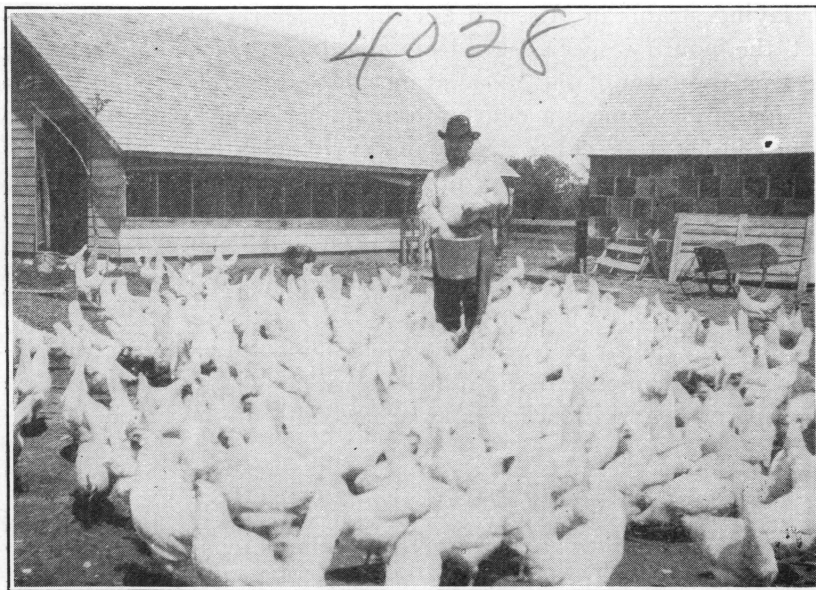


Fig. 9.—M. P. Hollar, a cooperator in whose community 40 modern poultry houses have been built in three years.

modern house on the farm of the local cooperator. In the same community the poultry keeping methods have been completely revolutionized during the past three years due to the influence of the success of the demonstration flock. Practically every farm in this community has changed from general purpose breeds to White Leghorns, and the egg production has been considerably more than doubled by the introduction of better laying stock and better methods of feeding and housing. During the past summer, under the leadership of the man who owns the demonstration flock, this community organized a produce exchange and is shipping carlots of eggs direct to large Eastern markets. They are now building a cooperative cooling plant and expect to be in a position to ship first-class pre-cooled eggs during the next spring and summer. In many other communities the demonstration farms are attracting a great deal of attention, and considerable improvement in poultry keeping methods can be traced to the good results secured on the demonstration farms."

During 1920 a total of 192 demonstration farms were in operation in 47 Missouri counties.

Certified Flocks.—A new sub-project on Certified Poultry Breeding has been initiated for the purpose of building up better laying strains in Missouri flocks. Under the plan of this project the poultry specialist selects the highest type of breeding hens on the farm of the cooperators whose hens have made a record for production as a demonstration flock, and assists the flock owner in locating a pedigreed-poultry breeder who can guarantee that the male is the son of a hen with a trap nest record of more than 200 eggs. The cooperator agrees to use only the selected high producing hens and a pedigreed male for breeders and to raise no chicks except from this special flock. In this work 89 flock owners are cooperating.

The specialist will visit the farm next July or August, examine the cockerels raised from this special mating and band as certified males such cockerels as are worthy of the breed.

HORTICULTURE PROJECTS

Special attention has been given by the extension specialist to demonstrations in pruning. Farmers' schools have been organized for this work, sufficient tools being provided so that each one could practice under the supervision of the college instructor.

Stress was placed on getting each man to use the tools long enough at the demonstration to make him confident that he could handle them in his own orchard. In checking up the results at the end of the season the specialist found that there was not a broken limb on any of the trees that had been pruned at the demonstrations, while the unpruned trees were bending to the ground because of the fruit being at the extremity of the limbs and many of the limbs were broken.

During the present year, 39 counties were visited and there was a total attendance of 1,691 at demonstrations. Regular demonstrations were carried on in cooperation with 16 different county agents, and a total of 64 actual demonstrations were carried out.

In addition to this, spray calendars for each fruit were prepared for the use of the agents by the specialist seasonally; also, information on all needed equipment and material for orchard work. An attempt was made to have local dealers handle the material and equipment needed in caring for an orchard, which effort met with partial success.

ENTOMOLOGY PROJECT

It was impossible to secure a specialist in this work until October 1, 1920. The Hessian fly and chinch bug situation demanded immediate attention and a vigorous effort has been made to influence farmers to burn the chinch bug in his winter quarters, in those portions of the state where loss from this pest was heaviest this season. This work was too recently begun to report results at this time.

FARM MANAGEMENT DEMONSTRATIONS

The work in this project has been handicapped by the fact that it has had no project leader since June 1. This has meant that the work which has been started has not been followed up and many results that have been achieved are not in evidence because of lack of records. Some work, however, was accomplished. There were distributed 686 Farm Account books, and 205 of the farmers taking the books kept them throughout the year. Assistance was given to 390 farmers in summarizing their accounts, and 277 made changes in their business as a result of the assistance given in bookkeeping. Eighteen farmers were given assistance in drawing farm leases. Farm laborers were supplied through the county agents or farm bureau to the number of 18,035. Forty-

seven farm loan associations were organized through the efforts of the county agents and the project leader.

AGRICULTURAL ENGINEERING PROJECT

The leader of this project resigned September 1. Naturally a great deal of work was started that it was not possible to follow up closely due to the fact that throughout the remainder of the year it was not possible to secure a successor. Twenty-five drainage systems were planned and adopted in the state under this project. Seventy-two farms were terraced to avoid soil erosion, the terracing work covering 110,059 acres. Fifty-three soil saving dams reclaiming land on 3,063 acres were installed. Farm buildings were remodeled or constructed to the number of 156. A great deal of assistance and encouragement was given to the installation of water supply systems in farm homes. Four of such systems were planned and installed as a direct result of this work and 34 sewage disposal plants were installed. Forty-two home lighting systems were put in at the suggestion of the county agent or the project leader of this work.

There is great need for a determined effort of all extension workers toward building sentiment for better farm home conveniences. There are plans under way at present to emphasize the importance of water systems in farm homes during the coming year. The principal factor in such a campaign will be a capable project leader, thoroughly in sympathy with farm people. It is hoped that such a leader may be secured without much further delay.

BOYS' AND GIRLS' CLUB WORK

The number of persons in the Boys' and Girls' Club Section was smaller during this year than for several years, yet the number of boys and girls completely finishing their season's work was greater than at any previous time except during the two years of war.

Dairy Club Wins at the International.

One of the most successful teams in the club work was led by J. A. Wisdom of Chillicothe. The three boys in the team won a victory over all competing teams in dairy judging at the International Livestock Show in Chicago. In competition with 15 states the Missouri team not only won first as a team, but in indi-

vidual judging one of the Missouri Club boys, Arthur Gwin, won first in judging all breeds. Arthur Bennett another member won second in the judging of all breeds. Lowell Forbes the third member won first prize in the judging of Guernseys.

There is appreciation of and a demand for club work in every county in the state. It is evident that in justice to the boys



FIG. 10.—The Chillicothe judging team which won over all competition at the International Livestock Exposition

and girls and in appreciation of the value of boys' and girls' services in promoting the welfare of each community, we should be developing our extension system by providing county leaders to give their whole attention to the junior work. The following table gives concise information on the club work for the year.

SUMMARY OF CLUB DEMONSTRATIONS OR PROJECTS

Club demonstration project	Organized clubs	Groups finishing as standard clubs	Enrollment	Members reporting	Value of products	Total cost	Total value above costs
Garment making	49	24	572	114	\$ 788.50	\$ 358.55	\$ 429.95
Poultry	93	17	1263	100	2,007.14	447.14	1,559.57
Garden	17	6	929	194	2,716.55	596.50	2,130.05
Canning	61	18	760	112	4,146.50	2,073.00	2,073.50
Corn	56	00	675	60	3,560.00	1,281.60	2,278.40
Beef calf	9	00	139	119	17,890.00	11,900.00	5,990.00
Pig	24	00	283	65	3,872.02	2,728.95	1,143.07
Hot sch.							
Lunch	43	14	568	140	000	000	000
Soil and grain jud'g	42	00	464	464	000	000	000
Stock jud'g	15	15	189	189	000	000	000
Sow and litter	59	00	191	296	74,359.96	43,836.03	30,523.93
Total	468	94	7033	2051	\$109,340.67	\$63,212.20	\$46,128.47

DEMONSTRATION WORK WITH NEGROES

The negro demonstration work was continued as formerly with one agent for the men and one for the women.

The agricultural agent's work included boys' and girls' club work with special emphasis on corn clubs. Seven boys completed this contest and one of the boys produced 110 bushels and 30 pounds on an acre.

A large number of farmers were induced to include soybeans, clover and alfalfa in their rotations. In a number of instances sudan grass was used as a catch crop to provide forage, and the success attained in this venture indicates that it will be greatly extended. In the case of clover it is found that an acid soil was the main factor in practically all failures to secure a stand.

Sixty-one poultry culling demonstrations were carried out in 8 counties, 4,726 hens were handled and 3,896 low producers were culled out. In this work 610 persons were instructed how to cull poultry.

Ten fairs and community exhibits were organized by the agent and at these fairs livestock as well as crop specimens were shown. During the year the agent received 78 office calls, wrote 826 letters to farmers, sent out 900 bulletins, circulars and pamphlets, held 171 general meetings and 1 field meeting with an attendance of

10,327. The agent traveled 4,000 miles by train, 425 by automobile and 300 by buggy, horseback and on foot.

In the women's work a special effort was made to organize groups of women in community organizations in order that the work may be more effectively carried out. This has been rather difficult to accomplish because of the fact that no community leaders have ever been developed and quite a percentage of the people are not able to read or write. This necessitated considerable individual work with families.

Instruction was given in sewing, especially in the renovation of worn garments, and the making of inexpensive and appropriate clothing from new material. Instruction was given in the canning of fruit and vegetables by the cold pack method, also in the canning of meats and soups.

Special attention was given to the instruction in the care of poultry. The agent culled 29 poultry flocks of 1,500 birds, 513 of which were thrown out. In this work 121 women were instructed and actually improved their method in the care of baby chicks. One woman who formerly had secured only 300 chicks from 800 eggs so greatly improved her methods of caring for the eggs that she was able to secure 1,000 chicks from 1,200 eggs.

Negro women were helped with the feeding and care of children. In a number of cases very young children were being given coffee and tea and their diet consisted largely of meat and fried foods. Some success was attained in having vegetables added to the menu and in having the food better prepared. In sanitation work 192 homes had the windows screened in April, 10 of these homes having never before used screens. As a result of the agent's work 27 wells were cleaned, and a number of barn lots and stables put in better condition. Colored ministers and school teachers cooperated in conducting a fly campaign throughout the most of April and May.

Throughout the year the agent held 124 meetings with 6,671 people in attendance. Visits to the number of 347 were made to homes and 19 visits were made in connection with farm projects outside the home. Eight boys' and girls' clubs were organized and 1,524 children were weighed and measured in carrying out the health project.

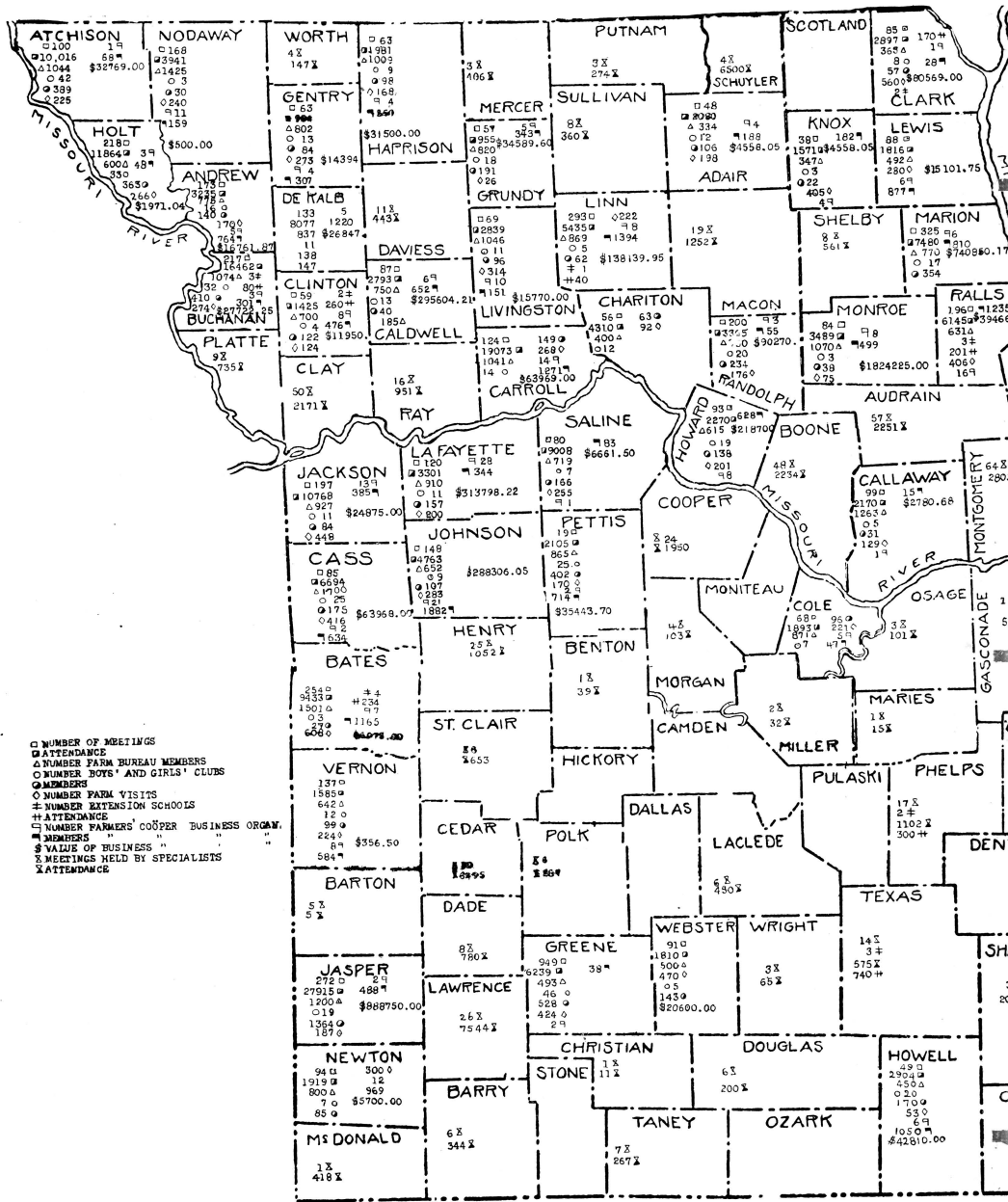


Fig. 1.—Work done by Agricultural Extension Service in 1920

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