

UNIVERSITY OF MISSOURI COLLEGE OF AGRICULTURE
AGRICULTURAL EXTENSION SERVICE
COLUMBIA, MISSOURI

Increasing Farm Efficiency

PROJECT ANNOUNCEMENT 29

AUGUST, 1929

COOPERATIVE EXTENSION WORK IN
AGRICULTURE AND HOME ECONOMICS

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

A. J. MEYER, Director, Agricultural Extension Service

Distributed in furtherance of the Acts of Congress of May 8, and June 30, 1914

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Increasing Farm Efficiency

A. J. MEYER, *Director of Extension*

The following pages record, largely in narrative form, the activities of the Agricultural Extension Service during the year beginning December 1, 1927 and ending November 30, 1928, together with the practical measurable results accomplished by those activities.

This announcement, therefore, constitutes the annual report of the Agricultural Extension Service. It has been compiled mainly by the College of Agriculture editors, A. A. Jeffrey and Louis Grinstead, from the detailed annual reports of extension projects submitted by the various project leaders. The project reports are largely made up from the annual reports of county and district agents.

The compilers of this report have consciously avoided the appearance of crediting results to individual members or groups of the extension staff. It is only in rare cases that extension results come as a result of individual activity. The county agent, the 4-H club worker and the subject-matter specialist cooperate closely. Each project group cooperates with every other project group. The clerical and stenographic staff at the College and in all the county offices make a distinct and positive contribution to the cause. Finally, as the report itself will show, there is a great body of volunteer local leaders in the State without whose cooperation and active participation this extension report would be a decidedly meager one. Probably the greatest single responsibility of the Agricultural Extension Service is to locate and interest rural local leadership in the all-round betterment of the farm, the farm home and the farm community.

The Agricultural Extension Service of the Missouri College of Agriculture continues to stress efficiency in the two major aspects of agriculture, namely, making a living from the farm and living a life on the farm. "Making two blades of grass grow where one grew before" as an ultimate agricultural goal went into the discard before the present Agricultural Extension Service came into being and has remained there ever since. The goal of the Missouri College of Agriculture for many years—even decades—has been to make one acre of land produce twice the satisfactions that two acres produced before. The goal is a practical one. It is attainable today just as it was fifteen years ago when President Woodrow Wilson, on May 8, 1914, signed the Smith-Lever Act providing a nation-wide system of extension work in agriculture and home eco-

nomics by cooperation of the U. S. Department of Agriculture and the various agricultural colleges.

The following pages of this "Project Announcement" tell the story of another year's efforts to increase the efficiency of the Missouri farm as a business unit and of the Missouri home as the wise beneficiary of the farm dividends, small as they have been in most instances.

The Capper-Ketcham Act

Since the publication of the last annual report of the Agricultural Extension Service—Project Announcement 25 entitled "Making the Farm Pay"—the Capper-Ketcham Act of Congress providing additional funds for extension work in agriculture and home economics in the various states has gone into effect.

The Act follows:

THE CAPPER-KETCHAM ACT

Approved May 22, 1928

To provide for the further development of agricultural extension work between the agricultural colleges in the several States receiving the benefits of the Act entitled "An Act donating public lands to the several States and Territories which may provide colleges for the benefit of agriculture and the mechanic arts," approved July 2, 1862, and all Acts supplementary thereto, and the United States Department of Agriculture.

SECTION 1. Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That in order to further develop the cooperative extension system as inaugurated under the Act entitled "An Act to provide for cooperative agricultural extension work between the agricultural colleges in the several States receiving the benefits of the Act of Congress approved July 2, 1862, and all Acts supplementary thereto, and the United States Department of Agriculture," approved May 8, 1914, there is hereby authorized to be appropriated, out of any money in the Treasury not otherwise appropriated, for the purpose of paying the expenses of the cooperative extension work in agriculture and home economics, and the necessary printing and distributing of information in connection with the same, the sum of \$980,000 for each year, \$20,000 of which shall be paid annually, in the manner hereinafter provided, to each State and the Territory of Hawaii, which shall by action of the legislature assent to the provisions of this Act. The payment of such installments of the appropriations hereinbefore made as shall become due to any State or Territory before the adjournment of the regular session of the legislature meeting next after the passage of this Act may, in the absence of prior legislative assent, be made upon the assent of the governor thereof, duly certified to the Secretary of the Treasury. There is hereby authorized to be appropriated for the fiscal year following that in which the foregoing appropriation first becomes available, and for each year thereafter, the sum of \$500,000. The additional sums appropriated under the provisions of this Act shall be subject to the same conditions and limitations as the additional sums appropriated under such Act of May 8, 1914,

except that (1) at least 80 per centum of all appropriations under this Act shall be utilized for the payment of salaries of extension agents in counties of the several States to further develop the cooperative extension system in agriculture and home economics with men, women, boys, and girls; (2) funds available to the several States and the Territory of Hawaii under the terms of this Act shall be so expended that the extension agents appointed under its provisions shall be men and women in fair and just proportions; (3) the restriction on the use of these funds for the promotion of agricultural trains shall not apply.

SECTION 2. The sums appropriated under the provisions of this Act shall be in Addition to, and not in substitution for, sums appropriated under such Act of May 8, 1914, or sums otherwise annually appropriated for cooperative agricultural extension work.

THE EXTENSION SITUATION IN MISSOURI

It is not the purpose of this report to make comparisons between Missouri and her sister states. Each state has its own problems and its own way of solving them. The following table is presented, however, as a matter of cold fact. It shows Missouri's present status in the field of extension as compared with the seven states touching her borders.

State	No. of counties in state	No. of counties with county agents	Percentage with county agents
Missouri.....	114	44	38
Arkansas.....	75	63	84
Oklahoma.....	77	72	93
Kansas.....	105	72	68
Iowa.....	99	99	100
Illinois.....	102	95	93
Kentucky.....	120	90	75
Tennessee.....	95	64	67

The primary purpose of all important extension legislation has been to place county agents in every agricultural county of the United States. It is universally recognized that extension results in any state are in direct proportion to the extent to which its counties have been supplied with county agents. Measured by this universal yardstick, Missouri is, at present, a poor eighth in the group of states of which she forms the geographical center.

As a partial relief to this situation, the Missouri College of Agriculture has provided a system of district extension agents. Each district agent has a territory comprising two or three counties. Under this system, 29 counties are served by 13 agents. The plan is inadequate and

unsatisfactory but it is the best substitute so far devised to partly relieve the existing situation.

THE EXTENSION STAFF

During the year ended November 30, 1928, there have been 14 resignations and 25 new appointments to the Agricultural Extension Service.

RESIGNATIONS		
<i>Name</i>	<i>Title</i>	<i>Date Services Terminated</i>
E. A. Bierbaum	Extension Assistant Professor of Horticulture	Aug. 31, 1928
A. J. Clayton	County Extension Agent, Chariton County	Nov. 30, 1928
Mrs. Bina Slaughter Davis	Extension Instructor in Home Economics	April 30, 1928
Ira Drymon	County Extension Agent, Jackson County	Dec. 31, 1927
Marion Dunshee	Extension Assistant Professor of Home Economics	Sept. 15, 1928
D. R. Forrester	County Extension Agent, Livingston County	Dec. 31, 1927
J. R. Hansen	County Extension Agent, St. Louis County	Jan. 31, 1928
B. L. Hummel	Extension Assistant Professor of Rural Sociology	Sept. 30, 1928
H. W. LeMert	Extension Instructor of Agricultural Engineering	Dec. 31, 1927
John S. Matthews	District Extension Agent, Christian, Stone and Taney Counties	Dec. 15, 1927
Preston Richards	Extension Assistant in Agricultural Economics	Aug. 31, 1928
P. F. Schowengerdt	Extension Associate Professor of Soils	April 30, 1928
Ross J. Silkett	Extension Assistant Professor of Soils	June 30, 1928
E. W. Stewart	County Extension Agent, Platte County	Dec. 31, 1927

NEW APPOINTMENTS

Name	Title	Date Work Was Begun
Lois M. Batjer	Assistant Home Economics Agent	June 15, 1928
Blanche Belknap	Assistant Home Economics Agent	Sept. 1, 1928
Helen Ida Bruss	Assistant Home Economics Agent	June 18, 1928
Frances L. Davis	County Home Economics Agent, Greene County	June 15, 1928
Gus Davison	Assistant County Agent	Aug. 6, 1928
Mrs. Kathryn Roderick Dow	Assistant Home Economics Agent	July 1, 1928
Joe A. Grant	County Extension Agent, Lincoln County	July 15, 1928
D. B. Ibach	County Extension Agent, Atchison County	July 1, 1928
Genevieve Johnson	Assistant Home Economics Agent	June 18, 1928
Russell H. Knoop	County Extension Agent, Bates County	Dec. 5, 1927
Mrs. Agnes Lackey	Assistant Home Economics Agent	Feb. 1, 1928
Elmer D. McCollum	County Extension Agent, Liv- ingston County	March 5, 1928
James O. Martin	District Extension Agent, Christian and Taney Coun- ties	Feb. 1, 1928
David Meeker	District Extension Agent, Howell and Ozark Counties	Feb. 16, 1928
B. K. Miller	Assistant County Agent	June 11, 1928
Preston Richards	Extension Assistant in Agri- cultural Economics	June 1, 1928
Henry I. Seaton	Assistant County Agent, St. Louis County	Feb. 15, 1928
Ivan S. Slaughter	District Extension Agent, Miller and Morgan Counties	June 1, 1928
Claude K. Shedd	Extension Assistant Professor of Agricultural Engineering	Sept. 17, 1928
F. L. Thomsen*	Extension Assistant Professor of Agricultural Economics	Sept. 1, 1928

G. B. Thorne*	Extension Instructor of Agricultural Economics	Sept. 1, 1928
Pauline Weaver	Assistant Home Economics Agent	Sept. 1, 1928
Robt. C. Wetherell	County Extension Agent Platte County	July 1, 1928
N. D. Wrinkle	County Extension Agent, Stoddard County	June 15, 1928
N. C. Bruce (Colored)	Negro Agent—Extension Work	June 15, 1928

TRANSFERS

<i>Name</i>		<i>Date of Transfer</i>
O. E. Allen	From County Extension Agent of Cass County to Extension Assistant Professor of Soils	Oct. 1, 1928
Blanche Belknap	From Assistant Home Economics Agent to County Home Economics Agent of Jackson County	Nov. 1, 1928
E. E. Brasfield	From District Extension Agent of Howell and Ozark Counties to County Extension Agent of Pettis County	Feb. 1, 1928
Helen Ida Bruss	From Assistant Home Economics Agent to County Home Economics Agent of Holt County	July 1, 1928
Robt. S. Clough	From County Extension Agent of Pettis County to Jackson County	Jan. 15, 1928
Gus Davison	From Assistant County Agent to District Extension Agent of Wright and Douglas Counties	Oct. 22, 1928
Thos. A. Ewing	From County Extension Agent of Boone County to Extension Assistant Professor of Animal Husbandry	Oct. 1, 1928

*Part-time appointments to replace H. C. Hensley, Marketing Specialist, on leave.

Wendell Holman	From District Extension Agent of Polk and St. Clair Counties to County Extension Agent of Boone County	Nov. 5, 1928
Genevieve Johnson	From Assistant Home Economics Agent to County Home Economics Agent of Lincoln County	July 1, 1928
Mrs. Agnes Lackey	From Assistant Home Economics Agent to County Home Economics Agent of Carroll County	March 1, 1928
Oscar W. Meier	From County Extension Agent of Lincoln County to St. Louis County	March 19, 1928
B. K. Miller	From Assistant County Agent to District Extension Agent of Polk and St. Clair Counties	Nov. 5, 1928
Mrs. Claire Montgomery	From County Home Economics Agent of Lincoln County to Pettis County	March 26, 1928
Floyd E. Rogers	From District Extension Agent of Wright and Douglas Counties to County Extension Agent of Cass County	Oct. 22, 1928

THE PRESENT STAFF

The staff of the Agricultural Extension Service, (not counting those on leave) at the close of the period covered by this report—November 30, 1928—consists of

- 44 county extension agents
- 3 assistant county extension agents
- 13 district extension agents
- 11 county home demonstration agents
- 3 assistant county home demonstration agents
- 38 state workers including all administrative and supervisory officers, club and subject-matter specialists
- 1 Negro Extension Agent

Following is the staff personnel:

COUNTY EXTENSION AGENTS

<i>Name</i>	<i>County</i>	<i>Headquarters</i>
M. D. Amburgey	Pemiscot	Caruthersville
E. E. Brasfield	Pettis	Sedalia
F. R. Cammack	Marion	Palmyra
A. J. Clayton	Chariton	Keytesville
Robt. S. Clough	Jackson	Independence
Jas. E. Crosby, Jr.	St. Francois	Farmington
Frank H. Darnall	Butler	Poplar Bluff
Marvin B. Ditty	Lafayette	Higginsville
Jas. A. Fairchild	Perry	Perryville
J. Ross Fleetwood	Nodaway	Maryville
Joe A. Grant	Lincoln	Troy
H. W. Guengerich (Asst.)	Jackson	Independence
J. Robt. Hall	Linn	Linneus
Henry W. Hamilton	Saline	Marshall
S. E. Hargadine	Pike	Bowling Green
Wendell Holman	Boone	Columbia
D. B. Ibach	Atchison	Tarkio
E. T. Itschner	Holt	Mound City
Scott M. Julian	New Madrid	New Madrid
C. C. Keller	Greene	Springfield
T. M. Keyser	Cape Girardeau	Jackson
A. W. Klemme	Lawrence	Mount Vernon
Russell H. Knoop	Bates	Butler
R. A. Langenbacher	St. Charles	St. Charles
W. W. Lewelling	Callaway	Fulton
T. F. Lueker	Cole	Jefferson City
Owen McCammon	Clinton	Plattsburg
E. D. McCollum	Livingston	Chillicothe
Chas. W. McIntyre (Asst.)	Jackson	Independence
E. S. Matteson	Monroe	Paris
Oscar W. Meier	St. Louis	Clayton
Dan E. Miller	Howard	Fayette
Jas. A. Muster	Vernon	Nevada
Coe Pritchett	Buchanan	St. Joseph
A. J. Renner	Scott	Benton
Wm. A. Rhea, Jr.	Ralls	New London
F. E. Rogers	Cass	Harrisonville
L. A. Saunders	Gentry	Albany
H. L. Seaton, (Asst.)	St. Louis	Clayton
V. B. Sheldon	Carroll	Carrollton
Earl T. Steele	Jefferson	Hillsboro

Frank Stonner	Randolph	Huntsville
C. R. Talbert	Dunklin	Kennett
Paul H. Teal	Mississippi	Charleston
Ross Welsh	Johnson	Warrensburg
Robt. C. Wetherell	Platte	Platte City
Noble D. Wrinkle	Stoddard	Bloomfield

DISTRICT EXTENSION AGENTS

<i>Name</i>	<i>Counties</i>	<i>Headquarters</i>
Joe C. Caldwell	Washington, Iron	Ironton
Roy I. Coplen	Camden, Dallas, La- clede	Lebanon
Gus Davison	Wright, Douglas	Mansfield
E. T. Mallinckrodt	Madison, Wayne, Bollinger	Fredericktown
Jas. O. Martin	Taney, Christian	Ozark
David Meeker	Howell, Ozark	West Plains
Bertram K. Miller	St. Clair, Polk	Humansville
John R. Paulling	Ripley, Oregon	Doniphan
Wm. C. Shotwell	Reynolds, Carter	Ellington
O. V. Singleton	Benton, Hickory	Warsaw
Jay W. Stratton	Newton, McDonald	Neosho
L. F. Wainscott	Crawford, Dent, Phelps	Rolla
Ivan S. Slaughter	Miller, Morgan	Eldon

COUNTY HOME ECONOMICS AGENTS

<i>Name</i>	<i>County</i>	<i>Headquarters</i>
Blanche Belknap	Jackson	Independence
Helen Ida Bruss	Holt	Mound City
Florence Carvin*	Jackson	Independence
Frances L. Davis	Greene	Springfield
Genevieve Johnson	Lincoln	Troy
Mrs. Agnes Lackey	Carroll	Carrollton
Louise McClellan	Buchanan	St. Joseph
Mabel McMahan	Saline	Marshall
Cecile Manikowske	St. Louis	Clayton
Margaret Nelson	Cass	Harrisonville
Ione Rhoades	Callaway	Fulton
Anne Sillers	Lafayette	Higginsville
Pauline Weaver	(Unassigned)	Columbia
Lois M. Batjer	Dunklin	Kennett
Mrs. Kathryn Roderick Dow	Mississippi	Charleston

*On leave of absence from Sept. 15 1928 to July 15, 1929.

NEGRO EXTENSION AGENT

<i>Name</i>	<i>Counties</i>	<i>Headquarters</i>
N. C. Bruce	Dunklin, Mississippi, New Madrid	New Madrid

STATE WORKERS

<i>Name</i>	<i>Title</i>
A. J. Meyer.....	Director, Agricultural Extension Service.
J. W. Burch.....	Extension Associate Professor of Animal Husbandry.
H. M. Garlock.....	Extension Assistant Professor of Animal Husbandry.
T. A. Ewing.....	Extension Assistant Professor of Animal Husbandry.
D. C. Wood.....	Extension Assistant Professor of Agricultural Economics.
H. C. Hensley*.....	Extension Assistant Professor of Agricultural Economics.
F. L. Thomsen †.....	Extension Specialist in Marketing.
G. B. Thorne †.....	Extension Specialist in Marketing.
A. J. McAdams.....	Extension Assistant Professor of Agricultural Engineering.
Claude K. Shedd.....	Extension Assistant Professor of Agricultural Engineering.
M. J. Regan.....	Extension Assistant Professor of Dairy Husbandry.
A. F. Stephens.....	Extension Assistant Professor of Dairy Husbandry.
C. E. Carter.....	Extension Associate Professor of Field Crops.
K. G. Harman.....	Extension Assistant Professor of Field Crops.
Ide P. Trotter.....	Extension Assistant Professor of Field Crops.
Essie M. Heyle.....	Extension Professor of Home Economics.
Gladys Muilenburg.....	Assistant State Agent.
Fra Clark.....	Extension Assistant Professor of Home Economics.
Lois Martin.....	Extension Assistant Professor of Home Economics.
Julia M. Rocheford.....	Extension Assistant Professor of Home Economics.

*On leave of absence.

†Part-time.

Mary E. Robinson.....	Extension Associate Professor of Home Economics.
Mary E. Stebbins.....	Extension Assistant Professor of Home Economics.
Mrs. Edith G. Van Deusen.....	Extension Assistant Professor of Home Economics.
Marion K. White.....	Extension Assistant Professor of Home Economics.
Berley Winton.....	Extension Assistant Professor of Poultry Husbandry.
Harold Canfield.....	Extension Assistant Professor of Poultry Husbandry.
O. T. Coleman.....	Extension Assistant Professor of Soils.
O. E. Allen.....	Extension Assistant Professor of Soils.
J. F. Nicholson.....	State Extension Agent.
P. B. Naylor.....	State Extension Agent.
C. C. Hearne.....	State Extension Agent.
R. R. Thomasson.....	State Extension Agent.
T. T. Martin.....	Boys' and Girls' State Club Agent.
Jane Hinote.....	Boys' and Girls' State Club Agent.
Margaret C. Huston.....	Boys' and Girls' State Club Agent.
R. H. Emberson.....	Boys' and Girls' State Club Agent.
Sara Chiles*.....	Assistant Boys' and Girls' Club Agent.
A. A. Jeffrey.....	Agricultural Editor.
Thos. L. Cleary.....	Assistant Agricultural Editor.
W. H. Rusk.....	In Charge U. S. Veterans Bureau Trainees.

PUBLICATIONS

The total number of extension circulars, project announcements and leaflets distributed during the past year was 162,431.

There were also distributed 63,409 copies of 4-H club circulars and record books.

NEW CIRCULARS

<i>No.</i>	<i>Title</i>	<i>Pages</i>	<i>Edition</i>
191	Making the Farm Grounds Attractive.....	16	4,000
192	Planting and Cultivating Soybeans for Seed.....	4	10,000
193	Cotton Varieties for Missouri.....	4	5,000
194	Missouri Plan of Growing Healthy Chicks.....	8	10,000
195	How to Grow Red Clover.....	4	10,000
196	Fruit Sprays and Spraying.....	16	10,000
197	Controlling Potato Disease by Seed Treatment....	8	5,000
198	Water for the Farmstead.....	28	8,000

*On leave of absence.

199	Thick Spacing of Cotton for Missouri.....	4	5,000
200	Collars and Necklines.....	4	4,000
201	Modern Corseting.....	4	4,000
202	Selection and Care of Shoes and Stockings.....	4	4,000
203	Disposal of Household Wastes.....	8	5,000
204	Safe and Profitable Uses of Sweet Clover.....	4	3,000
205	Altering Commercial Patterns.....	8	8,000
206	Grafting and Budding Fruit Trees.....	28	10,000
207	The Missouri Farm Home at Its Best.....	4	1,500
208	How to Use Agricultural Limestone.....	4	15,000
209	Community Organization.....	60	5,000
210	Four Essentials of Wheat Production.....	4	10,000
211	Selecting Seed Corn.....	8	10,000
212	The 30 x 30 Missouri Poultry House.....	8	10,000
213	Handling and Care of Fruit Trees.....	16	10,000
214	Control of Apple Blotch.....	12	10,000
215	Bermuda Onions.....	8	7,500

REPRINTS

101	The 20 x 20 Missouri Poultry House.....	8	10,000
124	Better Concrete on the Farm.....	16	5,000
132	Soil Improvement by the Missouri Plan.....	4	10,000
151	Poultry Equipment Made at Home.....	16	10,000
175	Essentials of Alfalfa Production.....	8	8,000
179	Sweet Clover in Missouri.....	8	15,000
180	Health and Home Care of Sick I.....	16	5,000
181	Health and Home Care of Sick II.....	12	5,000
182	Health and Home Care of Sick III.....	16	5,000
185	Practice of Health.....	12	5,000
186	Producing and Feeding Beef Calves.....	16	8,000
188	Culling for Egg Production.....	16	20,000
189	Factors in Beef Production.....	8	5,000
190	The Use of Dynamite for Ditch Blasting.....	20	5,000
195	How to Grow Red Clover.....	4	15,000

PROJECT ANNOUNCEMENTS

25	Biennial Report.....	116	4,000
26	Manual for Neighborhood Women's Clubs.....	48	5,000
27	Boys'and Girls' Club Work.....	100	6,000

BOYS AND GIRLS CLUB CIRCULARS

15	Health and First Aid (Reprint).....	40	5,000
20	Ewe and Lamb Club Circular.....	36	3,000

21	Garment Making I	64	10,000
25	Supper Club Circular	40	3,000
25	Supper Club Circular (Reprint)	40	5,000

LEAFLETS

25	Soybean Varieties	2	5,000
26	Growing Soybeans for Hay	2	10,000

POSTERS

12	Missouri Poultry House	1	5,000
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FINANCIAL STATEMENT

Financial reports in the Agricultural Extension Service are based on the fiscal year July 1 to the following June 30. The statement herewith submitted is for the fiscal year ending June 30, 1928.

Receipts

<i>Federal</i> —1.	Allotment to Missouri under Smith-Lever Act	\$154,958.78
2.	Allotment to Missouri under special supplementary appropriation	45,962.54
3.	Allotment to Missouri from U. S. Department of Agriculture funds	13,000.00
	Total from federal sources	\$213,921.32
<i>State</i> —	State appropriation to Agricultural Extension Service	100,587.62
<i>County</i> —	County Court appropriations and other local funds for support of county agents	142,806.34
	Total, all sources	\$457,315.28

Expenditures

Salaries	\$332,337.70
Travel	92,803.27
Supplies	12,327.37
Telephone, telegraph and postage	7,072.69
Publications	5,558.83
Equipment	3,010.38
Freight and express	423.87
Heat, light, power, etc.	223.55
Miscellaneous	3,557.62
Total	\$457,315.28

THE EXTENSION PROJECTS

The extension activities of the year were conducted under the following projects:

1. Administration.
2. Publications.
3. County Agent Work.
4. Home Demonstration Work.
5. Publicity—News Service.
6. Boys' and Girls' 4-H Clubs.
7. Clothing.
8. Health and Home Sanitation.
9. Home Management.
10. Soils.
11. Field Crops.
12. Animal Husbandry.
13. Dairy Husbandry.
14. Poultry Husbandry.
15. Horticulture.
16. Agricultural Economics—including Farm Management.
17. Agricultural Engineering.
18. Rural Sociology.
19. Farmers Week.

Detailed reports upon these projects follow.

4-H CLUB WORK

In Missouri in 1928 the Extension Service of the Missouri College of Agriculture organized and conducted 1163 standard 4-H clubs with a total enrollment of 11,514 boys and girls. As compared to the preceding year this was an increase of 1,817 members and 150 clubs. This increased enrollment included 7,487 girls and 4,027 boys living in 94 Missouri counties.

Among all these counties St. Charles ranked first in 4-H club enrollment, having 753 members. Other counties having outstanding enrollment totals were as follow: St. Louis 634, Howell 469, Polk 440, Macon 351, Audrain 347, Cooper 341, Lafayette 298, Montgomery 282, Boone 266, Marion 261, and Jackson 258.

Each 4-H club member who carried on a production club project secured a satisfactory income while learning farm or home practices. Missouri 4-H club members at the end of the year owned club products, or their equivalent, worth \$115,485.63. Deduction of actual recorded costs left a net income of \$37,082.41. This was an average of \$10.35 for

each of the 3,582 members completing club projects that could be measured in dollars and cents.

In cash earnings the several 4-H projects varied greatly. The baby beef clubs gave to each individual member for his year's club work an average net return of \$37.25, the pig clubs, \$42.41, the dairy clubs \$38.42, the corn clubs \$51.83, the cotton clubs \$23.79, the soybean clubs \$12.76, the poultry clubs \$12.17, the bee clubs \$8.78, the potato clubs \$8.08, and the sheep clubs \$5.98 to each member.

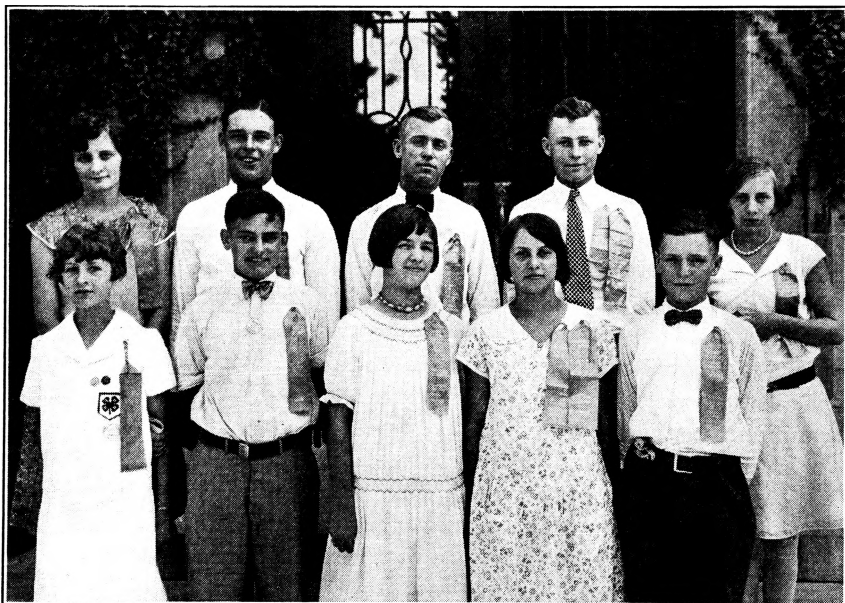


Fig. 1.—Missouri 4-H Health Champions, 1928

Less readily measured was the value of 12,547 articles of clothing made by 2,583 members of 4-H clothing clubs for themselves and for members of their families. Projects whose chief value consisted of practical training in farm and home duties were completed by 3,838 members.

The projects on which Missouri 4-H clubs worked during the year covered a wide range of practical farm and home problems, including: baby beef production, beekeeping, corn raising, cotton growing, raising and developing dairy heifers, grain judging, pig raising, potato growing, poultry keeping, sheep raising, soybean growing, stock judging, house-keeping, baking, canning, sewing, selection and care of clothing, conservation of health, hot lunch preparation, home beautification, and preparation of meals.

Percentage of Completions.—Considerably more than half of Missouri's 4-H clubs in 1928 complied with all the standard club requirements, according to the reports of 1,163 local club leaders. All members of 383 clubs completed their work, giving these clubs the outstanding distinction as "100 per cent" clubs. In meeting these standards the 7,420 members who completed all their required work kept business records, reported all their club work, and raised the number of standard club activities in the state as a whole to a total of 27,461. This included a gain of 9,177 over the record of the preceding year and consisted of the following classification of activities: 6,444 members judged club products, 4,954 demonstrated approved practices, 6,452 exhibited club products, 5,148 gave individual demonstrations at club meetings, 2,520 team demonstrations were given, and 1,943 approved practices were adopted.

Leaders' Training Conferences.—For the training of local leaders 95 county conferences were conducted in 57 counties by extension agents with the assistance of subject matter and club specialists of the Missouri College of Agriculture. These conferences were attended by 910 leaders. It is estimated that during the year each of these volunteer leaders gave an average of ten days to the work of giving the boys and girls in their communities the educational and material benefits of 4-H club training. The combined services of these leaders represent a total of 37 years of community service.

Additional training for these local leaders was supplied at the second state-wide 4-H club leaders conference, which was conducted in August at the College of Agriculture as a part of the State 4-H Round-Up. There was an average attendance of 75 leaders at each session of this conference, which was in charge of Ray A. Turner, of the United States Department of Agriculture. Under the best instruction obtainable the outstanding club leaders of the state were given two days of intensive training for their work with Missouri boys and girls.

The State 4-H Club Round-Up.—The attendance at the State Round-Up in August set a new record for Missouri 4-H club work with a total of 532 registrations, including 415 club members and 117 leaders from 50 counties.

The program was planned to meet the needs of outstanding 4-H club members and leaders of Missouri.

The opportunity to live and work for one week under actual University conditions was an inspiration to every boy and girl who attended while the participation in spirited contests developed a higher type of sportsmanship and better methods of carrying out farm and home practices. The group discussions developed leadership and gave all club members an opportunity to have a part in thinking out club problems

and learning new ways of doing things for use in their home communities. Social, musical, and recreational activities gave balance to the program and a delightful thrill to the interesting experiences of the week.

Awards for Outstanding Club Work.—A number of educational trips were provided as awards for outstanding 4-H club work by organizations cooperating with the Extension Service. The Missouri Bankers' Association awarded \$1,500 to the fifteen outstanding club counties of the State to pay the expenses of 4-H club members attending the Round-Up. The C. B. & Q. Railroad Company provided \$525 which was awarded in the form of \$15 trips for one 4-H club member from each of the 35 counties of Missouri traversed by the C. B. & Q. lines. The Wabash Railway Company, for the fifth successive year, provided a sum of money equivalent to the cost of a round-trip transportation for one club member from each of the 24 counties of the State traversed by the Wabash lines.

A number of educational trips to the Round-Up were awarded to dairy club members. The Purina Mills sent the State dairy champion. The American Jersey Cattle Club awards were used to send dairy club members to the Round-Up who owned purebred Jerseys. The Missouri Holstein-Friesian Association continued their offer of free transportation to one club member from each of eight counties who owned Holstein dairy animals.

The Women's National Exposition of St. Louis provided \$250 which was used to pay part of the expenses of outstanding leaders of home economics clubs.

In addition, county farm organizations, chambers of commerce, club groups, and individuals supplied funds to defray the expenses of a large number of club members and leaders to the State 4-H Club Round-Up.

Learned to Camp by Camping.—Ten 4-H club camps were held in Missouri during the year. These included five district camps and five county camps with a total attendance of 742 club members and leaders from 26 counties. These camps were conducted, in the main, under some form of self-government. All camps were financed locally. The programs, as a general rule, blended work, play and social activities into a happy and successful experience for the 4-H club members and leaders.

Special 4-H Club Activities.—During the year, 4-H club members of Missouri took an active part in the program of the Second National Club Camp at Washington, D. C.; the Missouri State Fair at Sedalia; the Inter-State Baby Beef and Market Pig Club Show at St. Joseph; the National Dairy Exposition at Memphis, Tennessee; the American Royal Live Stock Show at Kansas City, Missouri; and the Seventh National Club Congress at Chicago.

Outstanding 4-H Club Achievement Champions for the Year.— Missouri was represented in the National 4-H Club Camp at Washington, D. C. in June by the four most outstanding 4-H club members of the state, as follows: Lutie T. Chiles of Jackson county, Amelia Dunn of Buchanan county, Herbert Fick of St. Louis county, and Wayne Short of St. Charles county.

Marie Rochwite of St. Louis county won the championship of the United States in the 4-H Girls' Style Revue at the Seventh National Club Congress at Chicago in November.



Fig. 2.—State Champion 4-H Dairy Demonstration Team, 1928.

At the American Royal Live Stock Show in November, Charleen Moss of Mercer county, Missouri won the grand championship in the 4-H club section of the baby beef show over the representatives of all other states, and also the reserve championship in the open classes, with her prize Angus calf. Marvin Smith of Cass county won first place in the Hereford show of the 4-H club sections. Cecil Ballew of Howard county won first place in the Shorthorn show of the 4-H club section.

At the Missouri State Fair in August the winners in the 4-H baby

beef show were as follow: William Whitsett of Johnson county first and grand champion with his Hereford cattle; J. B. McCorkle of Howard county, first in Angus class; and Cecil Ballew of Howard county, first in Shorthorn class. The county group of five 4-H baby¹beeves from Boone county was ranked first in the 4-H club section and also first over all other county groups shown by juniors at the Missouri State Fair.

At the National Dairy Show in October, the Jackson county Demonstration team composed of E. C. Adams, Jr. and Paul Jones, ranked fifth in the United States.

Darrell Stevenson of Holt county exhibited the prize ton litter of pigs at the Inter-State Baby Beef and Market Pig Club Show at St. Joseph in October, and was also declared the state pig club champion for the year.

Club Work in Non-Agent Counties.—Of the 94 Missouri counties sharing the benefits of 4-H club work during the year 29 were counties not employing a local extension agent; yet in these 29 counties the state specialists and club agents, with the cooperation of the school superintendents and teachers, conducted 375 clubs with 3,543 members.

The clubs in non-agent counties were as follow: 71 grain judging clubs, 4 potato clubs, 1 corn club, 1 soybean club, 4 dairy clubs, 13 beef calf clubs, 11 pig clubs, 4 ewe and lamb clubs, 6 poultry clubs, 1 stock judging club, 3 supper clubs, 2 canning clubs, 12 hot lunch clubs, 119 clothing clubs, 4 more attractive homes clubs, and 118 health clubs. The percentage of members completing all club requirements in non-agent counties was 57.7.

Club Work in Extension Agent Counties.—In 65 counties 4-H club work was under the supervision of county and district extension agents. Of this group 24 counties were served by 13 district agents, while 41 counties were served by 12 home demonstration agents and 41 county agents. The highest percentage of club members completing all the work and turning in all the records required for completion of standard 4-H club projects was 74.5, secured in the 237 clubs under the supervision of the home demonstration agents. The percentage of completions in the 326 clubs organized and conducted by county agents was 67.2. In the 225 clubs under district agent supervision the percentage of completions was 59.4.

Club Work Gains in Efficiency.—A comparison of Missouri 4-H club records for 1928 with those of the preceding year reveals a considerable gain in efficiency. The total number of clubs rose from 1,013 to 1,163, the number of members from 9,679 to 11,514; a gain of 150 clubs and 1,817 members. The number of members completing their club projects rose from 5,248 to 7,420, and the percentage of completions from 54.1 to 64.4.

TABLE 1.—FOUR-H CLUB STATISTICS FOR 1928

Club Projects	Number of Clubs		Number of Members		Value of Products	Profit or Labor Income	Prizes Won
	Organized	Completing	En-rolled	Completing			
Garment Making.....	492	292	4,288	2,583	\$11,476.73	\$5,098.67	\$446.12
Health.....	277	202	3,476	2,659	*	*	*
Supper.....	44	31	389	268	*	*	21.75
Canning.....	12	9	96	82	\$833.69	259.51	51.30
Hot Lunch.....	17	5	158	61	*	*	*
Young Housekeepers.....	10	9	103	87	*	*	13.
More Attr. Homes.....	6	5	46	37	*	*	*
Baking.....	6	5	60	41	*	*	10.00
Baby Beef.....	52	19	524	347	\$55,753.62	\$12,929.10	\$3,987.07
Swine.....	32	12	330	153	18,816.29	7,557.21	1,312.55
Sheep.....	9	4	65	39	1,650.10	233.37	95.1
Stock Judging.....	12	5	146	84	*	*	*
Dairy.....	33	16	259	153	18,943.20	5,877.89	723.25
Grain Judging.....	107	63	1,018	601	*	*	*
Corn.....	19	5	212	61	4,360.73	3,161.96	35.25
Cotton.....	3	1	29	14	789.98	333.15	*
Soybean.....	1	0	7	7	171.00	89.43	*
Poultry.....	21	6	233	83	1,760.59	1,010.45	18.75
Potato.....	9	8	66	51	817.22	452.59	33.0
Bees.....	1	0	9	9	112.48	79.08	*
TOTALS.....	1,163	696	11,514	7,420	\$115,485.63	\$37,082.41	\$6,747.20

*Benefits not adapted to appraisal in dollars and cents.

TABLE 2.—COMPARISON OF 4-H CLUB STATISTICS FOR 1927 AND 1928

Measure of Service	1927	1928
Number of counties in which club work was done.....	99	94
Number of 4-H Clubs organized.....	1,013	1,163
Number of 4-H Clubs finishing as standard clubs.....	488	696
Enrollment in 4-H Clubs.....	9,697	11,514
Boys enrolled.....	3,345	4,027
Girls enrolled.....	6,352	7,487
Members completing club project.....	5,248	7,420
Boys completing.....	1,599	2,500
Girls completing.....	3,649	4,920
Home and farm practices changed through club work ..	1,146	1,943
Demonstrations of better practices by club teams....	1,373	2,520
Demonstrations by individuals.....	3,342	5,148
Members who received experience in judging.....	4,409	6,344
Members who demonstrated.....	3,411	4,954
Members who exhibited.....	4,503	6,452
Visitors at club meetings.....	6,084	10,718
Value of 4-H club products.....	\$73,727.80	\$115,485.63
Profit above cost of products.....	28,273.33	37,082.41
Value of prizes won by 4-H club members.....	3,582.19	6,747.20

Agricultural Extension Work

EXTENSION AGENTS

County Agents.—The number of county extension agents at work in Missouri during 1928 has varied from 39 to 44, standing at the latter figure at the close of the year. County agent work was resumed in two counties that had long been without this service: in Atchison, which had been without an agent for a year and a half, and in Stoddard after a lapse of several years. An appropriation was secured also in Grundy county late in the year, re-establishing county agent work in this county on January 1, 1929, after a lapse of several years.

Although there has been a pronounced tendency to place county agent work more and more on the basis of public appropriations, the support by local organizations of farmers and business men has continued to be a valued factor. During the last year it has been the plan to pay \$1,800 a year from the state and federal funds towards each agent's salary. The balance is paid by the county from the county court appropriations, farm bureau membership dues, other sources, or from all combined. All local expenses of the county agent have been paid from local funds.

With a 11.6 per cent turnover in county agent personnel involving changes in eight counties during the year, the salary range was slightly lowered in 1928. This and other tendencies in the organization of county agent work in Missouri are shown in the following table:

TABLE 3. COUNTY AGENT STATISTICS, EXCLUSIVE OF DISTRICT AGENTS

	1927	1928
Highest salary paid any agent	\$3800	\$3600
Lowest salary paid any agent	2000	1800
Average salary paid county agents	2708	2550
Average number of miles county agents traveled in county	6472	7010
Average annual cost of each agent exclusive of salary	\$1896	\$1856
Average age of agents	32.3 yrs.	33 yrs.
Average length of time each has been in agent work	4.3 yrs.	4.7 yrs.
Average number of days during the year that the agent was absent from his county on official business	13	14
Percentage turnover in county agents	26.6	11.6
Counties with no change in agent during year	33	35
Counties discontinuing agent work	3	0
Counties with change of agent during year	8	8
Counties resuming agent work	1	2

District Agents.—During the last year 27 Missouri counties were served by district extension agents throughout the entire twelve months,

and two counties for a part of the year. These counties were organized in the following groups: Wright-Douglas, Phelps-Dent-Crawford, Polk-St. Clair, Christian-Taney, Laclede-Camden-Dallas, Newton-McDonald, Howell-Ozark, Benton-Hickory, Ripley-Oregon, Reynolds-Carter, Iron-Washington, Madison-Wayne-Bollinger, and Miller-Morgan. The district last named was added late in the year.

Each district agent cooperates locally with an extension board, which meets regularly at the district agent's office for the purpose of paying the local bills, auditing accounts and in other ways assisting the work in the district. The board assists in formulating the program on which the agent works in the respective counties in his district.

The counties in which this district work is in operation are Ozark counties. The amount of taxable property in this region is so low that the support of a regular county agent by a single county is difficult. The reaction on the part of the local people toward this sort of extension work on a district-wide basis has been very good. The work has resulted in much good being done for people who otherwise would be barred from the benefits of the Extension Service.

The name of each county comprised in an extension district under this new plan is marked with an asterisk (*) in Table 4, and the amounts of the county court appropriations during the last five years are shown. It will be noted that, during this period, some counties have changed from the county-agent to the district-agent plan.

County Court Appropriations.—County court appropriations for extension work in Missouri have steadily increased during the last five years, reaching a maximum of \$142,125 in 1928. The regularity with which this development has taken place indicates a definite tendency toward continued progress in this direction. In Table 4 the county court appropriations in all counties cooperating in the last five years are listed.

TABLE 4.—MISSOURI COURT APPROPRIATIONS FOR EXTENSION WORK
(As of December 1, 1924 to 1928)

Counties	1924	1925	1926	1927	1928
Atchison	2000	2000	2000	2000	2000
Barry	-----	-----	300	300	-----
Bates	-----	-----	1200	1200	1200
Benton*	-----	-----	-----	-----	300
Bollinger*	-----	250	250	250	250
Boone	1550	1550	2700	2700	2700
Buchanan	3600	4000	4000	4000	4000
Butler	1200	1200	1200	2700	2700
Caldwell	1000	1000	-----	-----	1550
Callaway	1500	3100	3100	3100	3100
Camden*	-----	-----	-----	250	250
Cape Girardeau	-----	-----	-----	1550	1550
Carrroll	1500	1500	2500	3000	4500
Carter*	-----	-----	300	400	400
Cass	1800	1800	4000	4000	4000
Chariton	1550	1550	1550	1550	1550
Christian*	-----	-----	-----	250	250
Clay	2000	2000	2000	-----	-----
Clinton	1200	1200	1800	1800	1800
Cole	1200	2000	2000	2000	1200
Dallas*	-----	-----	250	250	-----
De Kalb	1550	1550	1550	-----	-----
Dent*	-----	-----	250	250	350
Douglas*	-----	-----	-----	400	400
Dunklin	2150	3000	3000	2550	2550
Gentry	1000	1000	1000	1000	1250
Greene	1200	2400	3000	3600	5200
Grundy	-----	-----	-----	-----	2300
Harrison	1000	-----	-----	-----	-----
Hickory*	-----	-----	-----	300	300
Holt	2400	2400	2400	2400	3750
Howard	1000	1000	2000	2000	2000
Howell*	-----	-----	700	700	700
Iron*	-----	-----	400	600	600
Jackson	3600	7600	11000	11000	15000
Jasper	1500	-----	-----	-----	-----
Jefferson	1800	1800	2500	2750	2750
Johnson	600	600	600	1000	1000
Lafayette	2000	2000	2000	3000	3000
Lincoln	3000	4000	4000	4000	3100
Linn	-----	1500	1500	3000	3000
Livingston	-----	500	2500	2500	2500
McDonald*	-----	-----	300	300	450
Madison*	500	500	500	500	500
Marion	1620	1500	2000	1500	2500
Mississippi	1500	1500	2450	2450	1225
Monroe	1500	1500	3000	3000	3000
Morgan*	-----	-----	-----	-----	400
New Madrid	1800	1800	1800	1800	1800
Newton*	1200	1200	400	400	550
Nodaway	2000	2000	2000	2000	2800
Oregon*	-----	-----	300	400	400
Ozark*	-----	-----	300	300	300
Pemiscot	1800	3000	3000	3000	2000
Perry	1200	1200	1200	1200	1200
Pettis	2000	2000	2000	2400	4000
Pike	1200	1200	1800	1800	1800
Platte	900	90	900	-----	-----

Counties	1924	1925	1926	1927	1928
Polk*	---	---	500	500	650
Pulaski	500	---	---	---	---
Ralls	900	900	1500	3200	3200
Randolph	1500	2000	2000	2000	1800
Ray	1500	1500	---	---	---
Reynolds*	---	---	300	600	600
Ripley*	600	600	400	---	---
St. Charles	3675	3675	3675	4000	4000
St. Clair*	---	---	500	500	650
St. Francois	800	---	---	3000	3000
St. Louis	3000	5000	5000	9000	9000
Saline	2450	2450	2450	2450	2450
Scott	2000	3000	3000	3250	3250
Stoddard	---	---	---	---	2500
Stone	---	---	---	250	---
Taney*	---	---	---	300	300
Vernon	250	---	---	---	---
Washington*	---	---	300	400	400
Wayne*	1000	250	250	250	250
Wright*	---	---	---	600	600
Lawrence	1200	1200	2400	2750	3500
Totals	78,895	92,375	112,675	126,200	142,125

TABLE 5.—SOME FIGURES TAKEN FROM THE ANNUAL REPORTS OF AGRICULTURAL EXTENSION AGENTS FOR 1927 AND 1928*

	1927	1928
Voluntary leaders engaged in forwarding the extension program	6,914	8,410
Total number of different farms visited	11,481	11,819
Total number of news articles prepared by agents for the press	9,413	11,363
Total number of individual letters written	108,477	93,347
Total number of all meetings held	5,950	7,864
Total attendance at all meetings	256,590	399,092
Total number of office calls	66,699	72,889
Average number of office calls per agent	1,188	1,278
Total number of improved farm practices adopted	37,620	44,430
Average number of farm practices adopted per agent	660	705
Total number of result demonstrations completed	2,109	2,187

Cooperating Organizations.—The Farm Bureau continued during the year to be the organization sponsoring local extension work in the great majority of Missouri counties where extension agents are maintained. Counties in which the Farm Bureau stands in this relation to the work are as follows: Saline, Cass, Lafayette, Cole, Bates, Johnson, Pettis, Jackson, Butler, Callaway, Cape Girardeau, Dunklin, Lincoln, Marion, Mississippi, New Madrid, Perry, Pike, Ralls, Ripley, St. Charles, St. Francois, St. Louis, Atchison, Buchanan, Carroll, Chariton, Clinton,

Gentry, Holt, Howard, Linn, Monroe, Nodaway, Platte, and Randolph. In these counties the local Farm Bureaus accept the county court appropriations, add to them from their own funds, and administer the financing of extension work in their respective counties. The exceptions to this plan will be briefly enumerated. In Lawrence and Livingston counties extension work is administered jointly by the Farm Bureau and the Missouri Farmers' Association. In Grundy county the Missouri Farmers' Association alone performs this function.

In Boone county the county court appropriates to an extension committee which has been appointed by the court.

In Jefferson county the court acts as the executive committee, signs the agreement and handles bills as presented to them. The court also helps make the program.

In Pemiscot county the court appropriates to a county Extension Workers Organization. This body is composed of 250 members, each paying one dollar dues. The executive committee of this organization acts as the administrative body in extension work.

In Stoddard county the county court makes an appropriation to be administered by a group appointed by the court, since there is no other farm organization in the county.

In Scott county, the court appropriates to the Farm Bureau. In this county, however, the Farm Bureau includes all farmers, with no dues. This County Farm Bureau does not affiliate with the State Federation. The farmers, in annual session, elect a board of about sixteen representing all of the communities in the county. This board is called the Farm Bureau Extension Committee and administers the affairs of extension work in that county.

In Greene county the court appropriates for extension work and the money is administered by an Extension Board consisting of three members appointed by the county court.

In Vernon county, the Nevada Chamber of Commerce finances and administers the extension work for the county. The Chamber of Commerce has an agricultural committee whose duty it is to handle the county agent work in Vernon county.

In Randolph county, the county court appropriates to the Farm Bureau but the Farm Bureau appoints an agricultural council composed of thirty people representing various interests in the county. The members of the council are not all Farm Bureau members but may be other farmers, business men, lawyers, etc. This council assists in formulating the agricultural program and passes on the policies of the extension agent work in the county.

AGRICULTURAL ENGINEERING EXTENSION

Extension work in agricultural engineering during the year covered the sub-projects of drainage, land clearing, farm building, home equipment, erosion control, and limestone blasting. Missouri's last allotment of war salvage explosives was distributed at an immediate cash saving of \$13,000. Sixteen ditch blasting demonstrations were given and due to this influence 14,514 acres were drained by quick and economical methods. To farmers asking for help in farm building plans the Extension Service supplied 1356 blueprints. Help was given to home builders in building, remodeling, and the installation of water systems. Terracing demonstrations were carried on in 28 counties, eight meetings were held to demonstrate limestone blasting or crushing, and a four-day better-kitchen tour was conducted.

Distribution of War Salvage Explosives.—During the first three months of the year the distribution of war salvage explosives was completed. Of Missouri's final allotment of 120,000 all but 4,000 was distributed in seven carloads shipped to points from which practically the entire state could be served. Sixty-nine counties shared in this distribution. Two of the cars were placed in sections which previously had not taken advantage of the war surplus materials. These sections were Madison county and the Springfield region of southwest Missouri.

After completing the distribution, orders for several thousand pounds were returned. The 116,000 pounds distributed during the three-month period was the largest amount ever put in the State during an equal length of time and meant an approximate saving of \$13,000 for the farmers. This amount of explosive was used to clear the stumps from about 6,000 acres of cultivated land, according to reports obtained from farmers using this explosive, besides 5,200 acres cleared by fire and mechanical means.

The distribution of war salvage explosives terminated April 1, 1928, and since that time no further war explosives have been available. During the period of distributing these explosive (1922-1928) approximately 700,000 pounds of war explosives were used in Missouri for clearing cultivated fields. This amount of explosive was used in spite of the farm price depression, floods, and an apparent lack of interest in the work on the part of the farmers. Through the distribution of war explosives, farmers effected a saving of nearly \$80,000 and the explosives were used to make more efficient about 40,000 acres of tillable land. The impetus given stump work by the distribution of these explosives inspired the clearing of about 38,000 acres with home-made pullers, chains, and fire.

Drainage.—During the past year, 16 ditch blasting demonstra-

tions were conducted with an attendance of 615 farmers. These demonstrations had to do chiefly with the correction of meandering streams. Three drainage districts used explosives for recleaning their ditches. According to records, 44,200 pounds of ditching dynamite was used. Through cooperative purchasing, farmers and others saved approximately \$2,000 by purchasing in large lots. According to agent reports 9,827 acres were given more thorough drainage, and six miles of drainage ditch were recleaned. In non-agent counties reports from cooperators show that 4,687 acres were given better drainage.

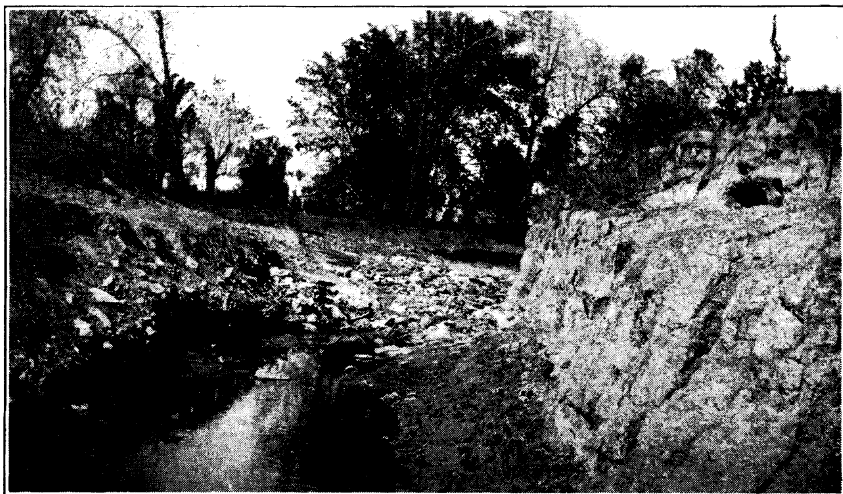


Fig. 3.—Three hours work, using 300 pounds of dynamite, cut off nearly $\frac{1}{8}$ of a mile in a meandering stream on the Weatherell farm in Callaway county.

In addition to the ditching demonstrations, the specialist was called into conference by five different groups on the possibility of organizing a drainage district. All of these proposed districts are now in the hands of Court subject to organization. These districts embodied about 33,000 acres.

Farm Buildings.—To persons interested in farm building projects definite help was given through the distribution of blueprints. The management of the blueprint service was under the direction of the resident department, while the county and district agents were active in utilizing the service for the benefit of farmers throughout the State. During the year 1356 blueprints were sent out to 104 counties of this state and practically every state in the Union. Fully 90% of the blueprints ordered in the State were sent direct to farmers. Most of the extension agents keep a supply in the office which are loaned to

farmers or used as a means of helping the farmer decide on the building best suited to his needs.

The particular building in which the greatest interest was shown was the Missouri poultry house, of which a total of 626 blueprint plans were distributed. The numbers of blueprints of other buildings and devices distributed were as follow: lime spreader 544, movable hog house 81, self feeder 11, septic tank 17, dairy barn 15, big team hitch evener 9, farmstead plan 8, dairy shed 8, lime storage bin 5, general purpose barn 4, farm house 5, terracing frame 5, corn crib 4, machine shed 2, sheep feeding rack 2, and miscellaneous devices 11.

Home Equipment.—In cooperation with the specialists in home economics extension the engineering specialist provided working plans and other help for home builders and to persons remodelling their homes or improving home equipment. As a result of this cooperation, twenty-five new dwellings were constructed and 50 dwellings remodeled. Twenty-eight farm homes reported septic tanks installed and forty-eight reported water systems installed in addition to seventy-seven sinks installed as a result of home economics extension.

A better-kitchen tour lasting four days was conducted in Pettis county. Every section of the county was visited. An average of 18 women accompanied the tour each day and visits were made to farm homes where some outstanding practical piece of work had been completed in making the kitchen a more convenient work room. An average of seven homes were visited each day with a basket dinner at noon. During the noon hour a thorough discussion was given of the Missouri Plan of Water System Installation and during the tour various suggestions were made on water system installation.

Erosion Control.—Terracing work was carried on in 23 agent counties and 5 non-agent counties. A total of 35 terracing demonstrations were given with an attendance of 693 farmers or an average of about 20 per demonstration. At the demonstrations 682 acres were terraced and the agents report 72 farmers practicing terracing on 1076 acres. Farmers attending were given instruction on the use of the home-made terracing frame and also the engineer's level for locating terraces and running the terrace lines.

ANIMAL HUSBANDRY EXTENSION

Extension teaching of more profitable practices in livestock management was continued in 1928 in hog feeding and hog sanitation demonstrations, hog production contests, beef herd and cattle feeding demonstrations, sheep improvement campaigns, and the instruction of 4-H club members engaged in livestock projects.

During the year 77 hog feeding demonstrations were completed with 1098 farmers reporting as having adopted the practices recommended. These cooperators averaged a saving of \$6 per head from proper feeding methods, and this saving applied to the 40 spring pigs per farm on all the 1098 farms would mean a total saving on these farms of \$263,520. Coupled with this saving is a total of 38,000 hogs reported as raised under the sanitation plan carried on throughout the State by extension workers in 51 demonstrations and reported as having been adopted by 956 farmers.

In the hog production contest 13 men out of 50 entries made the necessary weight as compared to the 6 men out of 52 entries in 1927.

Reports on the 1928 beef herd and cattle feeding demonstrations indicate an increased interest in this phase of animal husbandry extension, with 46 demonstrations completed compared to 24 in 1927. The practices taught in the demonstrations are reported as having been adopted by 295 men.

Sheep improvement work reports indicate that the Missouri plan of sheep improvement is bringing distinct results. Compared to the 1927 program of extension work in 5 counties, 58 counties were reached in 1928 with 2290 men reporting as adopting the practices recommended.

Hog Feeding.—In addition to the 77 hog feeding demonstrations completed during the year, 32 demonstration meetings were held with an attendance of 1327, and 41 general hog meetings with an attendance of 2504.

Early spring pigs used in 42 demonstrations numbered 3006. The feed required per 100 pounds gain included 6.1 bushels of corn and 20.3 pounds of tankage, with an average daily gain of 1.28 pounds. The cost per 100 pounds gain was \$6.91 with corn at \$1 per bushel and tankage at \$4 per 100 pounds. The average Missouri farmer feeding straight corn on poor pasture uses 10 bushels of corn for each 100 pounds gain. At this rate the cost would be \$10 for 100 pounds gain, or approximately \$3 per hundred more than the gains cost on the demonstration herds. These demonstrations proved, therefore, that healthy spring pigs fed from three-fourths to a full feed of corn and tankage on good pasture can be made to gain 100 pounds with a trifle more than 6 bushels of corn and 20 pounds of tankage. A saving of \$6 per head, or \$,18,000, was actually accomplished with the 3006 demonstration pigs.

In most cases the corn and tankage were fed by hand, the tankage being given at the rate of $\frac{1}{2}$ gallon, or 3 pounds, for each bushel of corn.

It was exceedingly difficult to get feeders to follow the recommendations of pushing pigs in 1928 because of the high price of corn and the outlook for low priced hogs. Farmers who fed practically

a full feed as recommended sold their hogs for from \$12 to \$13 per hundredweight, while those who depended on growing their hogs on grass and waiting for new corn took from \$8 to \$9 per hundred pounds. This difference of \$8 per head meant another saving of \$24,000 on the 3006 pigs fed on demonstration.

In feeding the 732 fall pigs used in 13 demonstrations, good results were obtained by using a protein mixture of 2 parts tankage, 1 part oil meal, and 1 part alfalfa meal. A gain of 100 pounds was made on 6.87 bushels of corn and 29.9 pounds of the protein mixture. This amount of gain cost \$7.47 with corn at 90 cents per bushel and the protein mixture at \$3.25 per hundredweight.

Hog Sanitation.—In addition to the 51 hog sanitation demonstrations held throughout the year, and following which 956 farmers were reported as adopting the plan and raising 38,000 pigs, "Grow Thrifty Pig" Campaigns were carried on in Howard and Lafayette counties with good results. Following the example of these counties, Clinton, Holt, Monroe, and Johnson counties announced the undertaking of a similar campaign in 1929. The merits of the sanitation plan are shown in a comparison from Holt county which gives the average number of pigs raised per litter on clean ground as 6.44 while the average on old ground is 4.52.

Hog Production Contests.—Some of the results of extension work in hog feeding and hog sanitation are seen in the increased number of medal winners in the 1928 hog production contest. Compared to 6 medal winners in 1927, thirteen men made the required weights in 1928 and were awarded medals. These 13 men raised an average of 8.4 pigs per litter from 123 sows and made them weigh an average of 179 pounds at six months of age. The average feed cost per 100 pounds gain was \$7.25, including the feed for sow from breeding time to time the litter was weaned.

Max Darrow of Cass county was adjudged the champion of the contest because he exceeded the required weight of his class (1500 pounds per litter) by a greater percentage than any other entry. He marketed 8.5 pigs per litter from 10 sows, making them average 222.3 pounds when 180 days old. His feed for 100 pounds gain was 6 bushels of corn and 30.6 pounds of protein mixture. Darrow used purebred Duroc sows and a purebred Poland boar, and followed the plan of sanitation in detail.

George Tatman of Harrisonville, last year's winner, was the only one to qualify in Class A of 15 sows or over. He brought 191 pigs in 21 litters to an average of 1656 pounds per litter. Albert Schulckebier of Ely, in Class B of 10 to 14 sows, marketed 88 pigs in 10 litters at an average litter weight of 1815 pounds. J. E. Baker of Den-

ton, in the same class had 103 pigs in 12 litters that made a litter weight of 1772 pounds. In this same class, Lee Alvis of Knobnoster produced from 12 sows, 96 pigs that made a litter weight of 1584 pounds; C. A. Dibble of Dawn made a production record from 11 sows of 91 pigs that weighed 1565 pounds per litter; and George Graham & Sons of Magnolia raised from 13 sows 89 pigs that made a litter weight of 1529 pounds.



Fig. 4.—Reserve champion hogs, 1928 Hog Production Contest, belonging to R. N. Semon, Boone county.

In Class C, 6 to 9 sows, the records were as follows: R. N. Semon of Woodlandville had 7 litters averaging 1907 pounds each; the Northwest State Teachers' College at Maryville entered 6 litters averaging 1860 pounds; G. A. Callison of Holliday had 8 litters averaging 1872 pounds; and E. W. Mott of Armstrong had 7 litters averaging 1602 pounds.

In Class D, 3 to 5 sows, F. C. Whitman of Warrensburg entered 4 litters whose average was 2081 pounds, and McNulty Brothers of Mound City had 3 litters averaging 1971 pounds.

The entries in this contest made excellent hog sanitation and feeding demonstrations as a study of the amount of feed required to produce 100 pounds of gain.

Beef Herd Demonstrations.—A summary of records on 13 demonstration herds of cows, in which the calves were fed grain and sold before December 1, shows a net return of \$36.34 per calf after the cost of feed for the cows and calves and other overhead charges had been

deducted. This was a notable increase in profit from \$21.27, the figure given for the 1927 demonstrations. These records cover 409 cows as compared to records of 210 cows in 1927.

A total of 46 demonstrations were completed in 1928 compared with 34 the previous year. The practices taught in these demonstrations are reported to have been adopted by 295 farmers. Records on 656 cows kept in 1928 show that the feed cost of keeping a cow through the year was \$19.51 compared to \$21.27 in 1927.

Meetings were held at 13 demonstration farms to emphasize the advantages of feeding calves and marketing them as grain-fat calves or as fat yearlings. These demonstrations included 1927 calves and showed that calves can be finished into good beef at 580 to 700 pounds with a minimum amount of corn; that calves may be fed by allowing access to grain in self feeders placed in creeps in the pasture, or by keeping the calves away from their mothers and allowing them to nurse twice each day while feeding grain; and that calves are as easily fed as more mature steers.

Calves handled in this manner found ready sale at the various markets and sold up to \$15.50 a hundred. A communication from one of the leading St. Louis buyers stated that the grain-fat calf weighing 550 to 700 pounds supplies the kind of carcass that 90 per cent of the St. Louis butchers demand.

Twelve demonstrations were completed in counties in which no county or district agents are located. This work is opening up a new field for beef cattle extension.

Beef Production Contests.—During the year a beef production contest was started in cooperation with the Kansas City Chamber of Commerce, the Kansas City Stock Yards Company, and the Breeders' Associations. The purpose of this contest is to call attention to the possible profits and to create further interest in beef cattle production on Missouri farms with the view of utilizing rough feeds and improving the fertility of the soil. The rules of the contest stipulate that the calves are to be weighed and started on feed on or before June 15, and fed for at least 140 days. Awards are made on the basis of 50% on the average daily gain per animal, 25% on the economy of gain, and 25% on finish and quality as indicated by dressing percentage. The prize money in this contest, which runs from \$250 first prize to \$100 sixth prize, is required to be applied toward the purchase of purebred bulls. Twenty-six entries from 16 counties were made in this contest in 1928.

Cattle Feeding Demonstrations.—Forty-six cattle feeding demonstrations were completed during the year, including calves, yearlings, and mature steers. The results of these demonstrations, which were published at meetings held at or near the close of the operations, em-

phasize the possibility of fattening young cattle on a relatively small amount of feed and the ability of older cattle to use large amounts of roughage.

W. C. White in Montgomery county fed 64 cattle, weighing 342 pounds each, that made an average gain of 343 pounds in 177 days. The average feed consumption was 21 bushels of corn, 2650 pounds of silage, and 251 pounds of linseed oil meal at an average cost of \$37.47. Forty-five mature cattle fed by Houston Brothers in Saline county gained 273 pounds each in 174 days, and consumed 23.5 bushels of corn, 269 pounds of cottonseed cake, 3640 pounds of silage, and 755 pounds of hay at an average feed cost of \$49.70.



Fig. 5.—Baby beef herd of L. L. Woolery, Cass County, winner of second prize in 1928 beef production contest.

A tour and picnic was held in Saline county in July which more than 500 persons attended. Visits were made to five feedlots where records had been kept on the feeding operations. An exhibit of feeder and fat cattle was made at the Missouri State Fair in cooperation with the St. Joseph market interests and the State Fair Board.

Sheep Management.—The Missouri Plan of Sheep Improvement was carried into 58 counties during 1928 by animal husbandry extension specialists. In this campaign 117 demonstration meetings were held in which sheep men were taught methods of docking and castrating, drenching with bluestone, grading of lambs, and told of and shown the value of purebred rams. Practices recommended in this work are reported as having been adopted by 2290 farmers.

As a result of sheep extension work, 527 purebred rams were placed in 1928. These were placed partly as a result of auctions held in Monroe, Boone, Carroll, Laclede, and Linn counties, and partly as a result of local meetings in other counties. In addition to the benefits resulting from using good rams, the purchasers have had a desire to change their system of management so as to realize a profit on the increased investment.

During 1928, there were 59,880 head of lambs docked and castrated, and 17,910 creep-fed grain as a result of extension activities. This is more than double the number similarly treated in 1927. County-wide conferences in which these practices were emphasized were held with school district representatives in 12 counties with indications that such conferences will be held in twice as many counties in 1929.

A large percentage of the 117 demonstration meetings held during 1928 were method demonstrations on treating sheep for stomach worms. The 68,255 head of sheep reported as having been treated during the year for stomach worms, are evidence that these demonstrations were effective, especially in view of the fact that only 28,500 were similarly treated in 1927. Bluestone was recommended and apparently has proven more than 90 per cent effective in controlling this parasite. Stomach worm control meetings were held in 34 counties in the Ozark section as a preliminary step in introducing the entire plan of sheep improvement.

Lamb Grading.—Lamb grading, begun with six fat lamb shows in 1927, has probably held more interest to the sheep men of the State than any other one phase of the Missouri Plan of Sheep Improvement. There were 28 lamb grading days held throughout the State in 1928, with a total of 7880 lambs graded and sent to market as a result of these demonstrations.

Complete results on 22 of the grading days show that the average market top on the days these 22 shipments reached the market was \$16.10. The select or blue marked lambs, of which there were 1238 head, averaged \$16.95, or 85 cents above the average market top. The 3,412 head of standard or red marked lambs averaged \$16.15 per hundredweight, or almost exactly the average market top. The 703 head of fat buck lambs averaged \$15.35 per hundredweight, or \$1.60 per hundredweight less than the blue marked lambs. These fat buck lambs corresponded to the blue marked ones in finish and quality excepting that they were not castrated. The 170 head of cull lambs averaged \$9.85 per hundredweight.

The results of this grading work have been a factor in causing sheep men to realize that the practices recommended by the College of Agriculture are essential in the production of market topping lambs.

They have been shown that the select lambs were sired by purebred rams and out of ewes that have been kept free from parasites and given proper care during the winter. The better grades of lambs were docked and castrated, and in most cases had been creep-fed grain. In addition, grading work is teaching these men that they must handle their own lambs and know when the lambs are fat before bringing them into market.

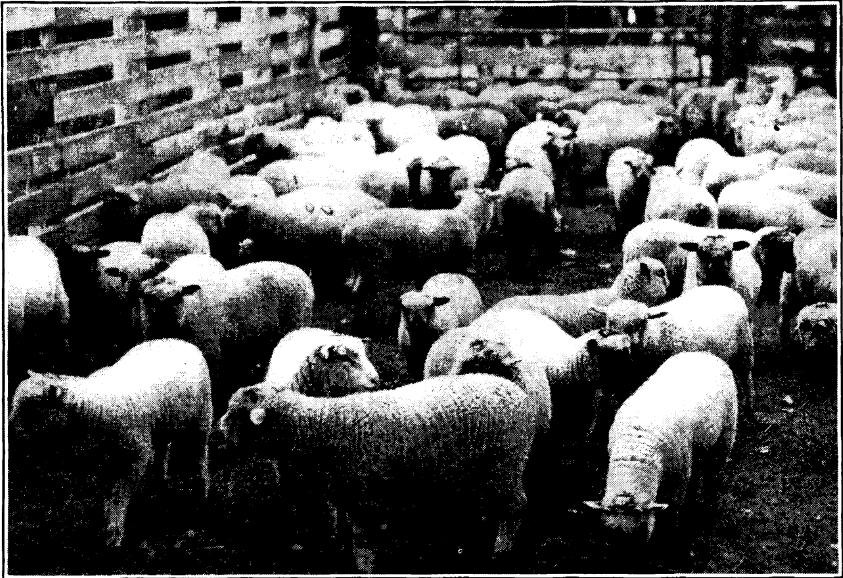


Fig. 6.—A bunch of Carroll County Lambs that were graded according to the recommendations of the Agricultural Extension Service.

Individual sheep producers who have followed the Missouri Plan of Sheep Improvement have found it profitable during the year. Frank Wingate of Monroe county sold \$21.65 worth of wool and lambs per ewe. Ernest Berry of Ralls county sold about the same, while W. H. Gardner of Boone county received a gross return of \$20.50 per ewe. These flocks contain about 40 ewes each and returned an annual income per flock of \$840.

Baby Beef Clubs.—Baby beef 4-H clubs were organized in 34 counties in 1928, with a total membership of 524 members for the year. Members of these clubs had entries in the following important shows this year: Missouri State Fair, St. Joseph Interstate Baby Beef and Pig Club Show, St. Louis Calf Club Show and Sale, and the American Royal Livestock Show.

At the St. Joseph Show 168 Missouri club calves sold in the auction.

These calves averaged 984 pounds and sold for \$17.81 per hundred pounds, or \$29,442. At the St. Louis show 88 head were sold and 80 calves sold at the American Royal. At the latter show, Charleene Moss of Princeton showed the grand champion calf in the club division, the same calf being the Champion Angus and reserve grand champion in the open show. This steer sold for \$1 per pound which was a record price in the history of the show.

Sow and Litter Clubs.—The sow and litter club work has been confined largely to the production of market hogs, although some clubs have produced breeding stock. At the St. Joseph show 220 hogs were exhibited each averaging 251 pounds and selling at \$12 per hundred or a total of \$6,626.40.

COOPERATIVE MARKETING EXTENSION

The extension program in marketing during 1928 was conducted under the following principal heads: (1) livestock marketing; (2) small fruit marketing; (3) cotton marketing; (4) organization, reorganization, and business set-up of cooperative marketing organizations; (5) prices and price movements. The steps followed in carrying out this program of marketing service included the following:

Short courses in the principles of cooperative marketing for officials of cooperative associations; method demonstrations in the grading, classification, and standardization of farm products; the adoption of recognized sound business practices by cooperative officials; assistance to cooperative officials and members in securing a better adjustment of production to market requirements through the discussion and dissemination of outlook information; and the recognition among farmers of the significance of the economic facts which affect the status of agriculture so they may reach sound conclusions regarding the merits of proposed measures affecting agriculture.

Livestock Marketing.—The income from the sale of livestock produced on Missouri farms during 1927 was about \$192,000,000. Slightly more than one-fifth of the livestock sent to market was handled by livestock shipping associations. There were 463 associations in Missouri, with a membership of about 95,000 farmers. The value of the livestock which they handled last year was about \$38,000,000. Average savings claimed by shipping associations, according to the records of the Missouri Agricultural Experiment Station, amount to 60 cents per 100 pounds or slightly more than 5 per cent of the value of the livestock shipped. Applying this to the volume of business handled by shipping associations in Missouri during 1927 and the direct saving to producers amounts to more than \$1,900,000.

The amount refunded to shippers who patronized cooperative commission associations at the central markets located at St. Louis, St. Joseph, and Kansas City for the years 1918 to 1926 amounted to a total of \$1,507,567.

While bringing about a reduction in the cost of marketing livestock is important, it is believed that by far the greatest benefits to producers have come through a correction of unsatisfactory trade practices, a better understanding of market demand, recognition of the factors affecting prices of livestock, the creation of machinery for the extension loans to feeders at favorable interest rates, and the impetus given the direct movement of cattle and lambs from the ranges to the feed lots.

Our records indicate that the leading livestock shipping associations in the State have been organized with the assistance of the Extension Service and that the principal improved practices which the associations are following were developed and carried out by extension representatives of the College.

The phases of work stressed this year have been as follows: (1) Develop the local shipping associations as efficient business institutions. (2) Interest the associations in an educational program designed to inform the membership more fully concerning the market functions and services, classes and grades of livestock, factors affecting livestock prices, the interpretation and use of market and price information, and to correlate marketing with production.

Past experience has demonstrated the difficulty of securing the adoption of approved practices by officials of livestock shipping associations. In order to overcome this difficulty, the plan for accrediting livestock shipping associations has been developed by the Extension Service. The plan in brief provides for the recognition by the College of Agriculture of such shipping associations as meet the standards required for accredited associations. The following standards have been adopted: (1) An approved set of books; (2) Manager under adequate bond; (3) Association incorporated; (4) Annual audit made and report published, or placed on file at office for inspection of members; (5) Adequate sinking fund maintained or commercial insurance provided; (6) Board must meet at least quarterly and preferably monthly; (7) Conduct annual election of directors; (8) Score not less than 450 out of a possible 600 points; and (9) Prepare and file regularly with the College or its extension agent, two copies of each monthly or periodical report as well as annual report of manager, on forms provided by the College.

An advisory committee composed of W. W. Fuqua, representing the Missouri Farm Bureau Federation and the Producers Livestock Com-

mission Association of St. Louis, Frank M. Scott, representing the Missouri Farmers Association and the Farmers Livestock Commission Company of St. Louis, and a representative of the Extension Service, was formed for the purpose of securing united effort of farm organizations back of the accredited plan. The tentative plan was discussed in a series of thirteen regional conferences which were attended by 295 officials representing 75 associations from 53 counties in the state. The final plan was developed following this series of conferences, and to date 12 associations have been scored out of a total of 34 which have applied for the work. Four associations have fully met the standards set and have been accredited. Four other associations are making the changes necessary to admit them to the accredited list.

The following changes have been adopted by the associations desiring to be accredited. Three associations increased the amount of the manager's bond. Four adopted the flat rate method of prorating, one adopted the practice of home prorating, five have installed agricultural outlook chart bulletin boards, two have added double decked loading equipment, three have incorporated, one has adopted the practice of making its annual report in accordance with the form suggested by the Extension Service, one association has increased its sinking fund, four have adopted the practice of making quarterly reports, two have adopted the mid-west system of marking, five have adopted the approved system of bookkeeping, and three have adopted the practice of issuing monthly market price information statements to their members.

A series of thirteen short courses were conducted during the year. Representatives from 75 associations received training in these short courses. A full day was devoted to each short course. The specialist took the leading part at each course, and was assisted by representatives of cooperative commission associations, general farm organizations, and at two points, by representatives of the U. S. Bureau of Agricultural Economics. A portion of the time was devoted to a discussion of the accredited plan, but most of the time was spent in a discussion of the records, reports, and business conduct of the shipping associations. These schools of instruction enabled 295 officials of local associations to study intensively for a day the best practices which are being followed by the leading livestock shipping association officers.

A series of four livestock grading short courses were arranged at the leading central markets to give officials of local shipping associations training in the market grades and classes of livestock. These short courses were attended by 110 officials representing 28 associations from 27 counties. Particular attention was given to the training of managers in the grading of lambs and vealers. The cooperation of

the head buyer of Swift and Company at each of the leading markets was secured and had charge of the actual training of the managers in the classification and grading work. Other cooperating agencies were the stockyards companies and cooperative commission associations. These managers took charge of the grading of lambs at a number of points, and have been of great help in pointing out to members animals which would grade low if sent to market. This has been beneficial in at least two ways, first the owner could judge as to the price which he would receive if the animal was shipped and decide whether it would be better to carry it longer on the farm to a better finish; second, in case the animal was shipped, the member was prepared in advance so as not to be disappointed in the proceeds from the sale of the animal.

A series of four livestock grading contests and demonstrations, designed primarily for members of livestock shipping associations, were arranged and carried out. At each of these demonstrations a salesman from the Commission Association took charge of the grading and classification work. The producer actually graded the animals, and this was followed by a demonstration in which the salesman from the commission firm classified the livestock and discussed his reasons. The Cape County Livestock Shipping Association conducted its third annual livestock marketing day with an attendance estimated at from 1,000 to 1,200 farmers. The growth in interest in this work may be judged by the increased attendance, as follows: In 1926 the attendance was 300, in 1927 the attendance was 700; and in 1928 the attendance was 1000.

Small Fruit Marketing.—There are 108 cooperative small fruit marketing organizations in the state. These organizations handle from 500 to 2000 car loads of small fruit annually. In 1927 Missouri produced 22,270,000 quarts of strawberries having a farm value of \$3,912,000. In 1928 the acreage of strawberries was slightly more than 27,000 acres, as compared with about 11,000 acres in 1925. There were 36 new strawberry associations which handled strawberries for the second time this year. With the tremendous increase in acreage in Missouri and other intermediate producing states, coupled with the inexperience of both officers and members of the large number of new associations, it was anticipated that, in the event of a favorable season, prices would be very low and returns generally unsatisfactory. The Extension Service has not encouraged increased acreage but has constantly called the attention of representatives of local associations, sales agencies, the railroads, and chambers of commerce to the danger of over-expansion in strawberry acreage. The efforts of extension specialists have been devoted to helping the local associations perfect their local organizations by assisting them in the adoption of modern by-laws, incorporating, and in providing instruction and training to the officers

and membership in the proper picking, grading, packing, loading, inspecting, and shipping of strawberries. Each of the new associations, as well as many of the old organizations, have received this assistance.

The program for 1928 was inaugurated by a two-day short course in strawberry marketing conducted at Monett, March 5 and 6. The following organizations cooperated in presenting an effective program. Missouri College of Agriculture, Arkansas College of Agriculture, Missouri State Marketing Bureau, U. S. Bureau of Agricultural Economics, central and local strawberry associations and representatives of the railways. In all, 145 officials representing 42 local associations and two sales agencies enrolled and were in regular attendance at all sessions of the short course.

Extension Service representatives personally visited 69 small fruit marketing associations during the year. Federal-State shipping point inspection was inaugurated by eight local associations. The system of pan grading strawberries was adopted by 25 local associations. Fifteen method demonstrations were given on the picking, grading, packing and handling of berries. The proper loading and bracing of strawberry crates was demonstrated to 42 managers. The complaints from improper loading and bracing, according to representatives of the carriers, was the smallest this year it has ever been in the history of the industry. Special training has been given to 50 managers in the relationship between acreage, production, quality, variations in demand, and price. This has had the effect of interesting the officials of most of the local associations in an effort to bring about a better adjustment of production to market requirements so that a more satisfactory price may be received by the growers.

Cotton Marketing.—The production of cotton in Missouri for the year 1927 was 115,558 bales having a farm value for the seed and lint of about \$13,830,590. Most of the Missouri crop is marketed in the seed, so that the value is difficult to determine, which usually results in the producer receiving a lower price than would be received if marketed on its merit in the bale, where the grade and staple length can be determined. Research studies in other states indicate a gain in price of from \$5.00 to \$10.00 per bale through selling cotton in the bale on its merit. This gain, if applied to a crop equal in size to the 1927 Missouri crop, would make possible an increase to growers of \$500,000 to \$1,000,000.

For the last four years extension work in cotton marketing has emphasized (1) The relation of grade, color and staple to market value; (2) difficulty of determining value of cotton in seed; (3) special training in determining grade, color, and staple; (4) teaching of producers to

sell cotton in the bale; and (5) information of farmers on factors affecting the general levels of the cotton price.

A series of 12 cotton marketing schools were conducted in eight Southeast Missouri counties with a total of 281 producers completing this special training. At each of these schools farmers passed judgment on the grades, staple and color of samples from ten bales of cotton. They selected the sample having the highest value and indicated the price per pound and also selected the sample having the lowest value and indicated the price per pound. Following this contest, the official cotton classer for the Arkansas Cotton Grower's Association, conducted a demonstration in the classification of cotton and acted as judge of the contest. A complete set of the official cotton grades of the U. S. Department of Agriculture were displayed at each school and used in the contest and demonstration. The extension specialist discussed the cotton price situation at each school, making use of special charts prepared for the work.

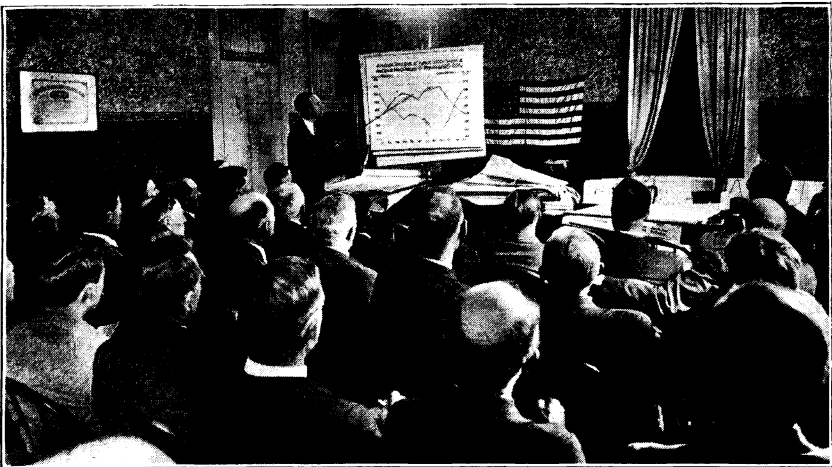


Fig. 7.—An Outlook Conference Group, 1928.

Outlook Conferences.—The extension specialists in marketing and in farm management, assisted by members of the Experiment Station staff, jointly conducted 41 outlook conferences in 1928, with a total attendance of 3384 delegates. These conferences were held at convenient centers throughout the state. Two series of conferences were held, including a series of general outlook conferences soon after the release of federal outlook information in early spring, and a fall series on the beef cattle outlook in September.

Delegates to the conferences were representatives of the following organizations in the area; directors of general farm organizations, agricultural committees of community associations; agricultural committees of business men's clubs, county extension agents, vocational agriculture teachers, and others engaged in similar work. This gave a list of delegates ranging from 100 to 300 for each area where the conferences were held.

The attendance and interest at these conferences has been so great that each additional year counties or areas have been added to the original list. There is a demand for more conferences and also for the conferences to be held oftener. Quarterly conferences have been proposed in one or two of the areas by representatives attending the conferences. So the idea of conducting major conferences in the late winter followed by a minor conference in the late fall is the result. In the meantime an agricultural outlook chart service has been worked out and some 200 bulletin boards provided by local organizations on which monthly reports on the price situation are posted. The monthly mimeographed publication prepared by the Extension Service reaches a mailing list of one thousand farm leaders each month.

Set-Up of Cooperative Marketing Organizations.—Missouri now has approximately 1,100 cooperative marketing organizations. The locals alone, of which there are 1,068, do an annual volume of \$130, 000,000 and have over 250,000 patrons. While there will be a good many exceptions to the rule, it appears that in the future the work of the Extension Service should be mainly that of rendering assistance to associations which find themselves in difficulty, and in securing the adoption of approved practices by others, rather than in connection with the organization of new units. The Extension Service has in the past assisted in the technical details of organization and in the later management problems of a large number of these organizations.

Special assistance was given during 1928 to 12 cooperative organizations through survey and analysis of the factors involved in the business of each, and in the problems of administration.

FARM MANAGEMENT

The objectives of extension work in farm management during the last year have included the following: (1) To make intensive surveys and analyses of the farm business in restricted areas; (2) to render state-wide service by supplying assistance in farm accounting to farmers anywhere in the State; and (3) to convey and explain to as many farmers as possible the best current information on prices and price movements.

Profitable farm management in any particular locality must be based on accurate detailed knowledge of local conditions and practices. Changes cannot be recommended until records have been laboriously accumulated and analyzed. Surveys, farm accounts, summaries, and analyses must precede general recommendations.

Farm Business Surveys.—The farm business survey, which was first undertaken in five Missouri counties in 1926 and extended to eight counties the following year, was placed on the working programs of ten county extension agents in 1928. The procedure adopted for these counties included the accumulation of farm account records by mail and by personal visits, an inquiry into the problems uppermost in the minds of local farmers, a statistical analysis of all problems lending themselves to this method, and the utilization of collective data and analyses in the solution of both individual and mass problems. It also included the training of men to keep their own farm accounts and to collect records in their neighborhoods, the training of extension agents to check up farm records, as well as to discuss them and apply their disclosures to the farm management practices on individual farms in their counties.

The work was especially productive of results in six counties; Howard, Cole, Cass, Ralls, Marion, and Callaway. In these six counties alone the survey was extended to 98 farms.

Enterprise Mail Survey.—By mail, a survey of farm enterprises was conducted in 1928 in the six counties named in the foregoing paragraph. The total number of separate enterprise surveys made was 707. In each case the status of the enterprise was determined as closely as possible from information received by mail. An analysis of the enterprise was made and returned in every case to the farmer with simple recommendations for increasing its efficiency. With each analysis of an individual enterprise the farmer received a statement of the high, low, and average figures for all cases in the same enterprise group. The purpose of such returns was to lead the record keepers into analyzing their own practices, comparing them with those of the most and least successful individuals, and adopting corrective measures.

At method demonstration meetings high profit farm records are contrasted with other farm records, differences in organization are illustrated and comparisons are made in terms of efficiency factors. At result demonstrations, farm operations recorded for two or more years on the same farm are analyzed to illustrate changes made in organization and administration and the resulting changes in income, where they may be clearly correlated with corrective steps.

Orchard Farm Accounts.—Orchard accounting work was given especial emphasis in 1928 in three Missouri counties; Jackson, Cass, and

Lawrence. In each of these three counties records were kept on 12 representative orchards, 36 in all. In each county a method demonstration meeting was held early in the year to outline clearly the purposes of the work and to familiarize the cooperators with the methods to be followed. Result demonstrations were held near the close of the year. The total attendance was 565. Practically all orchardists in Jackson and Cass counties attended the result demonstration at Harrisonville, April 12, and the results of accounting proved of great interest to those present.

The most significant results of the orchard farm accounting work were as follow: (1) It established a sound basis for the horticultural program in illustrating that relatively high production costs per acre (due to consistent use of fertilizer) resulted in low production costs per bushel (due to heavy yield) and in relatively high average prices because of the large proportion of No. 1 apples resulting. (2) It brought to the attention of local bankers and merchants the value of the orchard enterprise to the community by measuring the relative investment, payroll and value of produce per acre of apples as compared with general farm crops.

Local bankers present remarked that they were particularly impressed with this point of view and orchardists expressed the belief that the attitude of the local bankers and business men would be favorably affected by the comparisons drawn and that this is of importance to the orchard industry since the nature of the enterprise often requires heavy advances of credit over a longer period by bankers and merchants.

Outlook Conferences.—To inform farmers on prices and price movements the Extension Service in 1928 held 41 outlook conferences with a total attendance of 3384 delegates. The state was divided into regions consisting of from four to six counties for the purpose of placing an outlook conference in each division of the state.

A spring series of outlook conferences was held from February 13 to March 10, following closely the release of the Federal Agricultural Outlook Report. A fall series of beef cattle outlook conferences was held from September 19 to October 1. In each series two conferences were held daily, each specialist being assisted by one resident staff member.

At six additional meetings in widely separate localities, the farm management specialist discussed the dairy outlook. Four radio broadcasts were given on various phases of the agricultural outlook.

At all outlook conferences the attendance was made up of delegates pledged to act as local leaders and chosen because of their positions of influence, demonstrated business ability, and leadership.

Economic Chart and Circular Service.—An economic chart service was supplied to all local community and local farm leaders who agreed to set up adequate public bulletin boards and display thereon the material sent them periodically. Such a leader is supplied with printed streamers which are attached to the bulletin board and which will call attention to the economic charts and written matter supplied for dissemination. The material supplied for display consists of the separate sheets of a monthly mimeographed circular of the current agricultural situation issued under the title "Livestock Marketing Notes". Copies of this issue are also mailed to the officers of agricultural cooperatives and associations, to extension agents, and to selected local farm leaders.

DAIRY HUSBANDRY EXTENSION

The adoption of better dairy practices, under the extension leadership of the Missouri College of Agriculture, has been directly responsible for increased returns from dairying throughout the State. An analysis of dairy returns in Missouri for 1928 shows that the average cow of the state returns yearly a profit above feed cost of \$37.20, while the average cow in the dairy herd improvement association herds returns a profit of \$138.89. This is a difference of \$101.69 in favor of the cow that is bred, selected, and fed according to the teachings of the College.

In terms of butterfat and total feed cost the average cow produces 140 pounds of butterfat per year at a total feed cost of \$50, while the average cow in the dairy herd improvement association produces 283.4 pounds of butterfat at a total feed cost of \$78.55. This is a production cost of 36 cents per pound for the average cow and of 27.6 cents for the average cow in the dairy herd improvement associations.

Extension work in dairy husbandry in Missouri is carried on with the solution of three major problems in mind, these problems being the efficient production of butterfat, the caring for and marketing of dairy products with minimum waste and maximum returns, and helping boys and girls who are interested in dairy farming to make it a more efficient, more prosperous, and more enjoyable occupation.

The solution of the first of these problems is being sought in the development of dairy herd improvement associations, and the organization of bull block associations. The second problem is finding its solution in the presentation of information regarding the production of quality dairy products. And a solution of the third problem is being sought in the development of 4-H dairy clubs among the farm boys and girls of the State.

Dairy Herd Improvement Associations.—There are now 37 dairy herd improvement associations in the State, covering 63 counties, and

including 862 members owning 16,000 cows. This is an increase of 12 in the number of associations over 1927, while the number of cows included is almost doubled over 1927.

Taking dairy herd improvement association results as a basis, the profit now made on Missouri's 825,000 dairy cows could be made on only 214,500 cows if the methods that bring those results could be generally applied. Such an application would mean the elimination of feed, labor, and taxes on 611,500 cows.

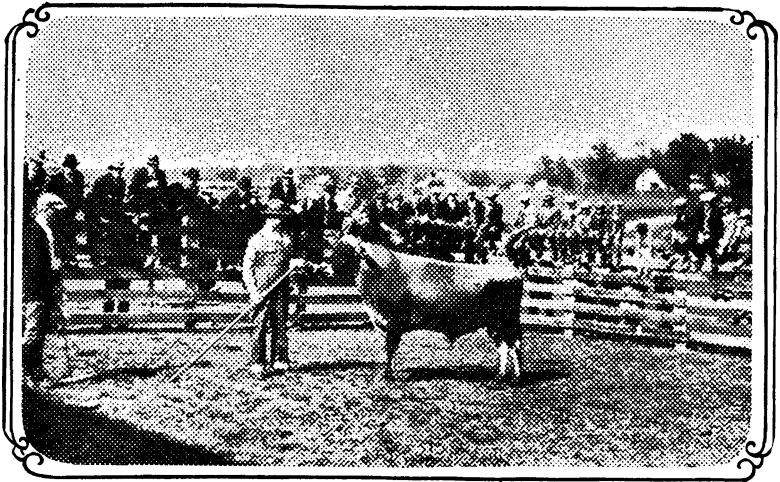


Fig. 8.—Approved Missouri type bull pen used by bull associations.

The improvement in methods has given good results not only in comparison with the general state average, but there has also been considerable increase in returns within the associations. Ten years ago the average production in Missouri associations was 229.7 pounds of fat and 5184 pounds of milk. The profit above feed cost for the year was \$88.21. In 1928 the production was 283.4 pounds of fat and 6732 pounds of milk, with a profit above feed cost for the year of \$138.89.

The dairy herd improvement association program, as ordinarily conducted, includes not only a checking up on milk production, but a practice of feeding methods that will give the highest possible production. Included in this program is an effort to achieve high production through the use of accredited sires and high production dams.

Some of the results obtained by associations in the State in 1928 included the sending to the block of 1362 boarder cows, the remodeling of 51 barns, the building of 48 silos by owners who were using silage for the first time, the erection of 42 permanent bull pens, the installa-

tion of 15 tank heaters, the placing of 162 purebred bulls, and the purchase of 224 registered herd foundation females.

Reports from some of the counties where dairy herd improvement associations are maintained emphasize the value that membership in the associations returns to owners of dairy herds. Two herds of dairy cows in Randolph county are returning a sum of money, after paying for their feed, that is large enough to have purchased the entire herd before they were put in the improvement association a year ago. The value of a good cow as compared to an average one is shown by one month's testing records of this county. The 10 highest producing cows produced butterfat at a feed cost of 14.9 cents a pound, while the average of the 302 cows on test showed a cost of 29.8 cents per pound. The highest herd produced 35 pounds of fat per cow at a cost of 17 cents per pound.

In Jackson county one herd of 11 cows was first tested in April, 1927, when the average production was 644 pounds of milk and 21.6 pounds of butterfat. By February, 1928, with the same herd but only 8 cows, the average production was brought to 952 pounds of milk and 37.6 pounds of butterfat. This totaled 7,617 pounds of milk and 300.8 pounds of fat, or 532 pounds more milk and 13.7 pounds more butterfat than with 11 cows in the more favorable month of April the year before. Increased production in the herd is not attributed to culling only, as the same cows were being milked, but was due to the better knowledge of what cows to keep and what rations to feed as suggested by the tester who knew the cows and could see their needs.

Bull Associations.—Bull association work in the State now includes 40 associations in 26 counties. These associations are made up of 150 blocks or communities with 725 members. The average yearly records back of all bulls owned by these associations is nearly 600 pounds of butterfat. No organization of less than three blocks is included in this report so that all of the Missouri associations are reasonably permanent and are forming strong community breeding centers.

Organizations for the cooperative ownership of bulls of less than three blocks are designated as bull clubs. Sixteen such clubs, in six counties were organized in 1928. Since the greatest progress can be made in dairying by using sires of known ability for transmitting capacity for production of milk and butterfat, a special effort has been made to obtain sires of proven production and getting exchanges of sires within the State that will retain such animals for a maximum period of usefulness.

Bull associations are proving the best and most practical means of establishing community breeding centers in Missouri. In counties where they are operating, the surplus purebred bull calves are rapidly

taking the place of scrubs. In 1928, there were 309 purebred bulls placed, 219 of these replacing scrub bulls. This report does not include replacements in nine counties which have bull associations but do not have county agents and from which no reports are available.

The number of members in bull associations has had a growth of from 502 in 1927 to 723 in 1928. The total cost of bulls purchased in 1928 was \$33,465, as compared to \$21,725 in 1927. The average investment of each man in the associations in 1928 was \$46.28, and the

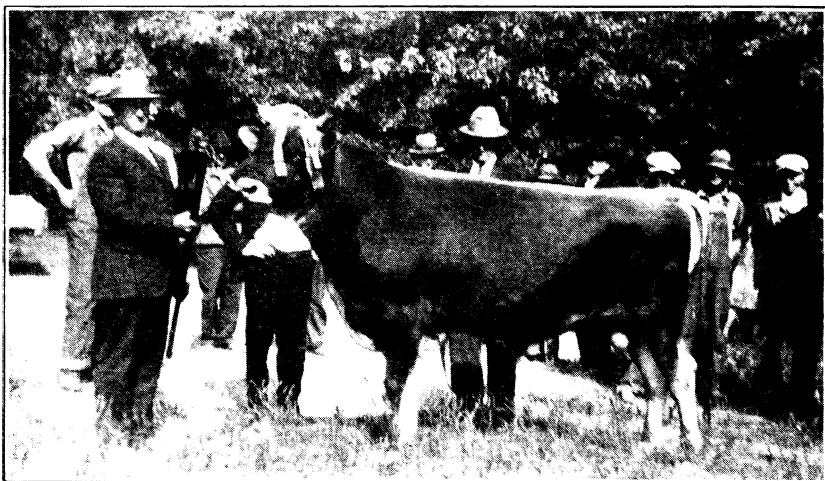


Fig. 9.—First Prize Bull at the Annual Show and Roundup of the Dent County Bull Association.

average investment per cow was \$6.61. For this nominal investment per man the members have the use of high class bulls for 6 to 8 years since these bulls are exchanged between communities every two years.

Marketing of Products.—Following the rapid growth of dairy production in Missouri in the last few years is the corresponding growth of dairy manufacturing plants so that many avenues for marketing dairy products have been opened. At present there are in the State 142 ice cream factories, 88 creameries, 34 cheese factories, 3 condensaries, 3 milk powder plants, approximately 40 city milk distributing plants, and carlot shipments of sweet cream go regularly from this state to eastern markets. All of this presents the problem of quality product, and some work is being done on this project through demonstrations on the care of the product in communities where there is a demand for a good product and a premium offered for it.

Four-H Clubs.—The work of developing the younger generation so that they may become more efficient, more prosperous, and make of

dairy farming a more enjoyable occupation is being done through 4-H clubs. In 1928, there were 33 4-H dairy clubs in the State, operating in 21 counties and having a membership of 259. These clubs owned 158 animals valued at \$18,943, but whose original cost was \$13,065, thus leaving a profit of \$5,877.

The dairy judging team from Wright county represented Missouri at the National 4-H dairy judging contest at Memphis where it placed thirteenth out of twenty-eight teams. The demonstration team from Jackson county represented Missouri in this contest and placed fourth in competition with 17 teams. The showings made by these teams in the national contests shows that time given to developing dairy work among the junior farmers is well spent.

EXTENSION IN FIELD CROPS AND SOILS

For the first time in the history of Extension Service activities, specialists working in soils and field crops projects during 1928 carried the influence of the College of Agriculture into all the 114 counties of the State. Direct aid on soils and field crops problems was given to 49,859 individual farmers in 168 field demonstration meetings, 67 general meetings, and 529 personal conferences. Most of the counties were reached by the specialists several times as a result of a definite plan of follow-up.

The information conveyed by these specialists to every section of the State covered the growing of legumes, corn, wheat, cotton, grain sorghum, and soil and crops management. Results from the high-type field demonstrations carried on substantiate the idea that demonstrations of the new type form a solid basis upon which the other activities in the long-time extension service program can be carried forward.

The location and development of local leaders in those counties not served by county agents continued, during the past year, to be part of the work of the specialists. Teachers of vocational agriculture, county secretaries of the Missouri Farmers' Association, county judges, bankers, business men and leading farmers were enlisted and are now serving as local leaders. In South Missouri and in the northeastern part of the State this work has progressed to the point where specialists have contact with local leaders in every non-agent county.

The service of vocational agriculture teachers has been especially effective at 35 towns in the following counties: Adair, Audrain, Caldwell, Cedar, Christian, Clark, Cooper, Dade, Daviess, Franklin, Grundy, Harrison, Henry, Lewis, Macon, Moniteau, Osage, Pulaski, Putnam, Shannon, Shelby, Sullivan, Texas, and Webster.

Officials of chambers of commerce, city clubs, bankers' associations, and other civic organizations have been interested in the soils and field crops projects and have cooperated in some definite manner the past

year at the following points: Marshfield, California, Versailles, Jefferson City, DeSoto, Kansas City, Independence, Lees Summit, Harrisonville, Pleasant Hill, Butler, Nevada, Ava, Hartville, Union, Hannibal, Edina, Lamar, Carthage, Neosho, Joplin, Granby, Wheaton, Fairview, Brookfield, New London, Shelbina, Kirksville, Anderson, Cassville, Monett, Mt. Vernon, Aurora, Greenfield, Lockwood, Eldorado Springs, Osceola, Warrensburg, Higginsville, Marshall, Salem, West Plains, Grandin, Lewistown, New Cambria, Sedalia, Moberly, Linneus, Troy, St. Charles, Clayton, Center, Palmyra, Carrollton, Charleston, Liberty, Platte City, St. Joseph, Jackson, Belton, Warrenton, Bridgetown, Wellsville, Mound City, Bolivar, Humansville, Dunnegan, Springfield, Fulton, Fayette, Shelbyville, Noel, Webb City, Golden City, Maysville, Maryville, Keytesville, Chillicothe, Mexico, Kahoka, Paris, Bowling Green, and Garden City.

Officials and members of the Missouri Farmers' Association have aided the extension work in the following counties: Benton, Polk, St. Clair, Henry, Greene, Moniteau, Osage, Dade, Howell, Crawford, Adair, Shelby, Dent, Cedar, Morgan, Douglas, Webster, Audrain, Lawrence, Ozark, Warren, Clark, Maries, Gasconade, Dallas, Wright, Lewis, Franklin, St. Genevieve, Phelps, Sullivan, and Scotland.

The high standard of the results aimed at and of the work actually accomplished by the Missouri Agricultural Extension Service is seen in the fact that for the last four years a Missouri county extension agent has won first place in the Middle West zone of the National Soil Improvement Contest. These contests are conducted by the National Fertilizer Association cooperating with the American Society of Agronomy. The Middle West Zone includes Iowa, Kansas, Nebraska, Oklahoma, Minnesota, Wisconsin, and Missouri. Two of the Missouri programs have won sweepstakes for being the best in the United States, one of them having been submitted last year by O. E. Allen from Cass county.

These winning programs have been similar in the main since the methods used in attaining the results have been those outlined in the project plan for the State. It has been demonstrated four times in the last four years that if an extension agent in an average Missouri county will take the state soils and crops plan and apply its principles, he can make a report superior to any in the section and 50 per cent of the time have the best one in the United States. This argues well for the high standards not only aimed at but achieved by those responsible for outlining the state project and those who executed it.

Results of the work done in soils and field crops extension during 1928 are summarized briefly in the following pages.

Legumes.—As a result of demonstrations, related meetings, and the publicity regarding them, county and district extension agents alone report 6387 farms adopting improved practices relative to legume growing in 1928. Similar figures from non-agent counties, which could not be obtained, would increase this number considerably. This work has been accomplished through the use of high-type field demonstrations of the soil treatments and cultural practices necessary, on the various soil types and conditions of the entire state, for the successful growing of alfalfa, sweet clover, red clover, alsike clover, clover mixtures and soybeans.

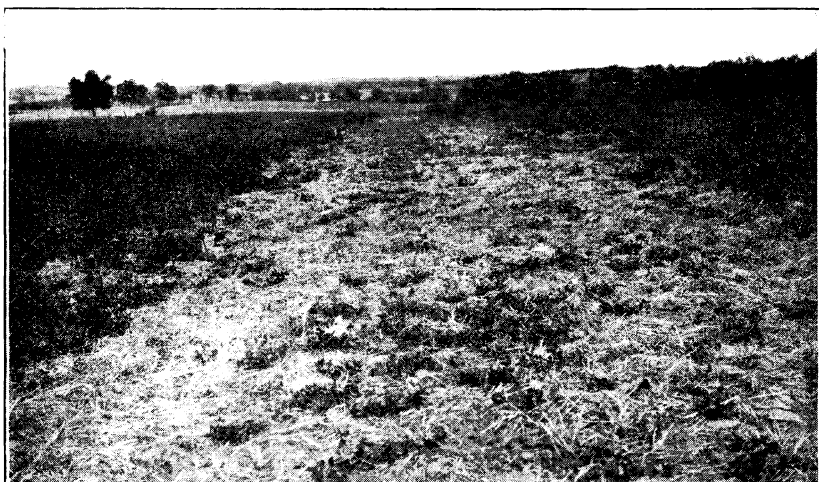


Fig. 10.—This check strip in a clover field contains phosphate but no lime, and shows the effect of lime deficiency.

That the Extension Service is achieving results in its campaign for legume growing is seen in a comparison of legume acreage figures over the State for a ten-year period. These figures are as follows: soybeans in 1919 were grown on 9,955 acres, in 1928 on 336,000 acres; alfalfa in 1919 on 165,965 acres, in 1928 on 192,310 acres.

The practice of inoculating legumes to insure thrifty growth of the crop, as well as maximum production of protein feed for livestock and nitrogen for the soil has had a steady growth throughout the State through the efforts of extension specialists. In 1919 the soils department of the Missouri College of Agriculture sold inoculation cultures enough to inoculate 16,000 acres, while in 1928 enough cultures to inoculate 200,000 acres were sold. In counties having agents, 3415 farmers inoculated legumes for the first time in 1928.

Figures on the increased use of agricultural lime further substantiate this trend in the increased legume acreage. In 1919 there were applied to Missouri soils 9,020 tons of limestone, while in 1928 there were 141,202 tons used. This increase in tonnage was not only caused by farmers who used lime for the first time, but also came from repeated applications by those who had already learned the benefits derived from lime.

Special Lime Trains.—One of the significant indications in the use of limestone is seen in the service of delivery offered by running of special lime trains. Seven special limestone trains were run during 1928, from six of which the lime was dumped directly along the right-of way near the land upon which the lime was to be used. These six trains contained a tonnage of 4,525 tons of lime and the resultant saving to farmers in hauling this amount was considerable. The work of organization of these trains fell directly upon extension specialists who worked in cooperation with the railway companies, the limestone companies, and the farmers getting the material.

Lime Storage Bins.—Efforts to encourage the year-round use of limestone have been continuous, with 50 new limestone storage bins established during the year. This makes a total of 170 lime storage bins now in the State, this number handling a total of 18,380 tons of lime in 1928.

The Use of Fertilizer.—Another significant factor in the growing of crops is the increased use of high grade fertilizers. In 1918 over half of the fertilizer used by Missouri farmers was low grade, containing 10 units or less of plant food, while in 1928 less than 2% was this same grade of material. In 1918, only 45% of the fertilizer used in the State was of recommended grades, while during the last year 98% was of those grades recommended by the soils and crops specialists.

Educational Train.—The work begun by the running of a Clover and Prosperity special train over the lines of the Burlington system in Northeast Missouri, in 1927, was continued the past year when 21 “clover and prosperity” days were held in this territory. These meetings had a total attendance of 7,225 persons, and at them 334 soil tests were made for 153 men. These meetings were all held in counties not having extension agents and where but little extension work had been done previously. Wherever possible the meetings were held on the farms where a demonstration was established as a result of the clover and prosperity special in 1927. A summary of this work shows that during the past year 16 counties held first Clover and Prosperity conferences, 6 held second conferences, 16 held third, and 37 held their fourth conferences.

In April a soil-testing trip was made over the Quincy, Omaha,

and Kansas City Railroad. The car making this trip was met by 429 farmers, and 535 soil tests made for 184 persons.

Corn Production.—During the past year the corn production sub-project has been concerned mainly with a series of demonstrations of the use of phosphate fertilizers on corn ground, and the use of such fertilizers together with the plowing under of legumes. Cooperators who used the standard recommendation of 200 pounds of phosphate fertilizer per acre reported an average increase of 7.3 bushels per acre at a cost of \$2.80 per acre for the fertilizer. Cooperators who used fertilizer on land where sweet clover was grown and plowed under as green manure reported an average increase of 9.11 bushels per acre.

Wheat Production.—The use of the varieties of wheat recommended by the Missouri Experiment Station has come to be a generally adopted practice. Extension workers in soils and field crops are lending their services in the securing of good seed of these varieties.

Cotton Production.—During 1928 nineteen demonstrations in cotton growing were conducted in Southeast Missouri. This was a revival of the program first begun in 1924-25, which suffered a lapse during the flood conditions of the area in 1927. This program includes the use of an approved early variety of cotton, the use of phosphate fertilizers, and the thick spacing of cotton.

Erosion Control.—While the extension work in terracing has been taken over by the agricultural engineering department, erosion control through the growing of sod-forming legumes and the planning of rotations which will keep the land covered during the winter, continues to be one of the major sub-projects of extension soils and crop specialists.

Soil and Crop Management.—To teach the more advanced farmers of the state the practices involved in a complete system of soil and crop management the Extension Service of the Missouri College of Agriculture maintains several community soils and crops management demonstrations. Several of these demonstrations have been in progress for the last five years. In each case a specialist works out a detailed plan to cover a 10-year period, these plans including the use of the proper rotation, adapted varieties, lime, fertilizer, manure, erosion control, kind of seed, method of seeding, and cultural methods.

EXTENSION IN HORTICULTURE

Horticultural extension work in 1928 was carried on in 49 Missouri counties. The subjects covered were orchard management, strawberries, grapes, potatoes, tomatoes, cabbages, sweet potatoes, melons, and peaches. Especial emphasis was placed on the economics of horticulture, for the marketing problem was paramount in 1928.

The season was conducive to large yields of the major crops and excellent quality prevailed in practically all cases. Excessive amounts of such products finding their way to the major markets at the same time caused an alarming situation accompanied by excessively low prices for strawberries, early cabbage, beans, potatoes, tomatoes and other horticultural crops in general. With such conditions existing marketing and distribution loomed large upon the horizon of the orchardist and truck grower.

In most counties horticultural extension work along production lines is yet in the demonstration stage and emphasis has been laid on the result and method demonstration to form the background work for meetings and publicity. This field work included 13 field meetings and tours, with an attendance of 376 persons, 17 method demonstration meetings attended by 307 persons, 35 conferences with agents and committees in which 246 persons participated, 4 fruit growers' schools with 204 in attendance, and 32 miscellaneous meetings with an attendance of 2883. The total number of persons reached in all these meetings was 4016.

Orchard Management.—Orchard management work has continued to be the more important work in 1928. Special stress was given thinning in those counties where the unfavorable pollinization weather did not interfere with the set of fruit. In most cases, however, the set of fruit was light but well placed on the limbs and good sized fruit has been found in most producing sections.

Codling moth control has not been the problem that it was in 1926-27, due perhaps to the unfavorable winter conditions and the weather during the emergence of the first brood. In Buchanan, Jackson, Lawrence, Newton, and Lafayette counties codling moth traps were run to assist growers in becoming acquainted with the life history of this insect and to time their sprays or supplement dusts so as to be most effective.

Pruning young trees has been given some attention in pruning method demonstrations and fruit farmers schools held during the winter months. The fruit schools in Buchanan, Jackson, Lafayette and St. Louis counties have become working conferences of fruit growers and should be continued as such.

The young orchard demonstrations have been utilized in new sections as a headquarters for meetings and method demonstrations of cultural practices essential to the economic development of the orchard.

Strawberry Growing.—The ultimate goal of all strawberry extension work in Missouri is to have at least 90% of Missouri's strawberry crop move into the markets as a graded product, with costs of production reduced to a minimum by having at least 75% of the growers

adopt the recommended practices of cultivation, renewal, fertilization, harvesting, and grading. Much stress was placed, during the year, on the renewal of the strawberry beds following the removal of the crop. Fifteen renewal and fertilizer demonstrations were established in six counties. Method demonstrations of the operations involved in renewal and fertilizing were given at new shipping points.

Grading and packing demonstrations were given in points where such operations were new. Assistance was given new managers of local associations in the loading of berries and the proper bracing of the load.

Grape Production.—The acreage of grapes in Missouri has not increased materially over that of 1927 and probably will not increase as much in the next few years as it did in the last five years. Quality production has been the problem in the grape industry. This is closely related to disease control; hence, the extension work placed particular stress on spraying. Pruning demonstrations were given by county agents in the winter and early spring months. In the older sections demonstrations of the four-cane kniffin system were established. Complete vineyard demonstrations were maintained in several counties and stations where method demonstrations were studied by growers.

Potato Production.—Potato production remains the more important phase of the truck crop extension work, due to the fact that it involves a large number of people producing them and the acreage



Fig. 11.—Relative yields of Buchanan county potatoes ranging from 160 bushels per acre from fertilized, treated, and certified seed, as recommended by Extension specialists, down to 90 bushels per acre from home grown seed that was neither treated nor fertilized.

and total value is more than that of other truck crops. Result demonstrations have been the more important means of teaching the essentials of potato production, with 30 result demonstrations established in 9 counties. Winter conferences and meetings of growers in the commercial producing sections were held to plan the work and have it carried on through committees where possible.

The use of certified seed was greatly increased this year through the publication of a list of available sources of northern grown certified seed potatoes. County agents arranged with local established dealers to handle the certified seed and in many cases actually pooled orders for such dealers. Seed treatment also was given wide publicity, and county agents held method demonstrations in communities not acquainted with the procedure. Making seed treatment materials available was stressed as essential to the successful adoption of the practice by a large number of people. In the commercial shipping points—central treating vats using hot formaldehyde were used again in 1928 treating at a cost of 5c per 100 pounds.

Miscellaneous Horticultural Extension Work.—Other work included a number of demonstrations in anthracnose control on raspberries in two counties. These are to be carried through a period of at least three years. Tomato wilt resistant variety demonstrations were conducted in the canning area and likewise in the trucking areas around St. Joseph, Kansas City, and St. Louis. Cabbage yellow resistant variety demonstrations were likewise carried on in these same areas. Sweet potato seed treatment demonstrations were conducted in four counties.

POULTRY HUSBANDRY EXTENSION

A saving of \$177.20 per farm was made in 1928 by 351 Missouri farmers as a result of applying the methods of breeding, feeding, housing, sanitation, and management of their poultry flocks advocated by the extension service of the Missouri College of Agriculture. In the 351 demonstration flocks this saving reached a total of \$62,229.60. With the State turning out nearly \$70,000,000 worth of poultry products annually, a state-wide application of the methods that these demonstration flock owners found so profitable would mean cutting several million dollars yearly from the cost of Missouri's poultry products.

The production of 342 flocks, enrolled by record keeping cooperators and demonstrators in 1928, amounted to 150 eggs per hen. The average income over feed cost on these farms amounted to \$384.79. This increase in production of eggs per hen in the correctly managed flocks is a direct result of scientific methods as shown by a comparison of egg production figures of ten years ago. In 1918, the production of demon-

stration farm flocks was only 100 eggs per bird⁷ and the income over feed cost was \$280.46 per farm. These figures apply only to those Missouri flock owners who follow the methods advocated by the Extension Service, the average yearly egg production for all Missouri flock owners in 1928 being only 90 eggs per bird.

The use of better breeding stock, persistent culling out of the low producers, proper housing, feeding and care of the laying flocks, brooding of chicks in movable brooder houses on fresh range, and the proper feeding and care of the growing chicks are some of the methods which the Extension Service is demonstrating year after year in all parts of Missouri. In the last year 46 county or district extension agents con-

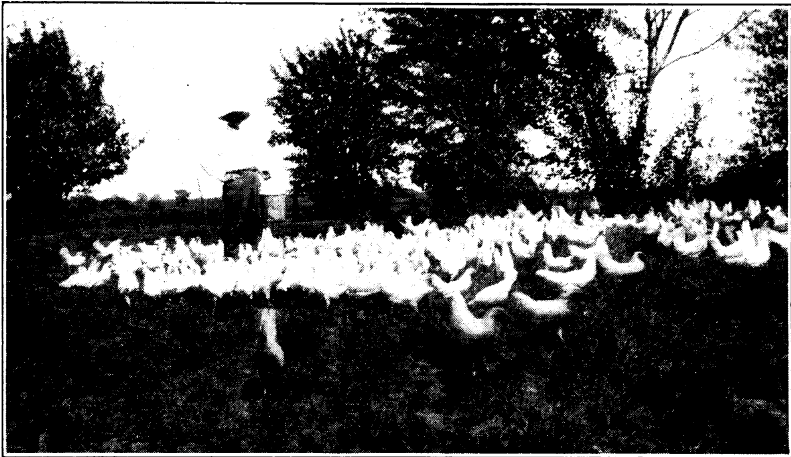


Fig. 12.—A total of \$62,229.60 was saved on 351 Missouri farms in 1928 by the Missouri plan of raising chicks.

ducted organized poultry work in 63 counties. During this period 297 meetings were held with a total attendance of 12,107 persons. These figures show considerable increase over those of 1927 when 269 meetings were held with an attendance of 5,565.

Grow Healthy Chicks.—The 351 poultry raisers who cooperated closely with the College of Agriculture in brooding chicks in modern movable brooder houses on fresh range placed a total of 161,856 chicks in brooder houses in 1928. Of this number, 90 out of every 100 were raised, which is 25 more chicks per hundred than are raised on the average Missouri farm. Pullets raised according to this plan laid more eggs, and gave a yearly net return of 80 cents each more than pullets raised the ordinary way. This increase amounted to an income of \$56,160 on these 351 farms. The initial value of the chicks saved, plus the extra

cash returns, made a total of \$62,229.60 saved on these farms by the Missouri plan of raising chicks.

Not only is the Missouri plan of growing healthy chicks effective in results in its beginning year, but increased success comes from a consistent following of the plan. At the close of the poultry record-keeping year, October 31, 1928, a detailed comparison was made covering 66 farms, 33 of which had followed the Missouri plan in 1927 as well as in 1928, and 33 of which had raised their chicks the ordinary way. On the farms following ordinary methods the egg production record was 147 eggs per hen while on the farms following the Missouri plan for two years the production was 165 eggs per bird, a difference of 18 eggs per hen.

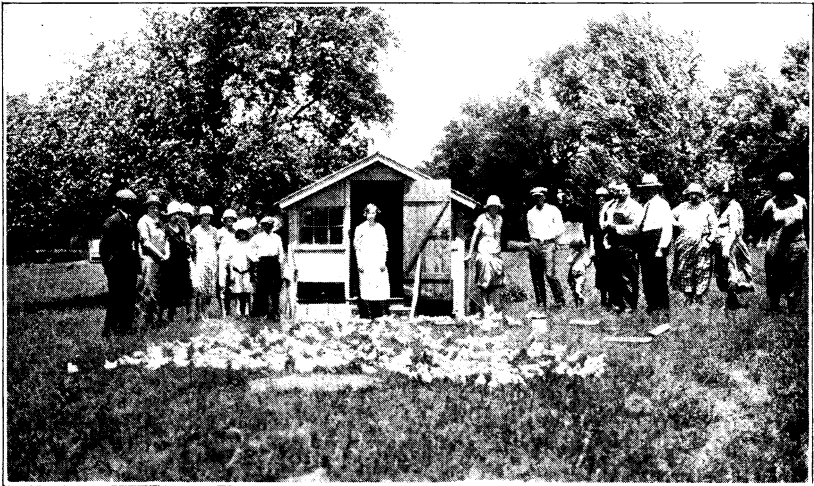


Fig. 13.—Missouri flock owners built 917 portable brooder houses in 1928.

The Missouri plan of growing healthy chicks was carried throughout the State by extension workers in poultry husbandry in 1928 in a series of meetings and demonstrations. In 144 such meetings there was a total attendance of 5,486 persons.

Summer Feeding and Culling.—In 33 counties, 1259 farm flock owners were trained by specialists and extension agents in the art and science of poultry culling. In addition to the culling schools, 13 summer feeding and culling demonstrations were held in 10 different counties with an attendance of 303 farmers.

During the year, trained leaders examined 113,000 hens for egg production and discarded 38,080 low producers as unprofitable. Within

the last five years, 1,313,504 hens have been handled in Missouri and 383,476 birds removed as poor producers by representatives of the Extension Service. This reduction in the number of hens on farms did not lower the number of eggs produced but made a saving of \$287,607 in the value of feed used.

Housing the Flock.—As a result of extension work on proper housing of the farm flock, 917 portable brooder houses and 843 laying houses and 343 brooder houses were remodeled to meet the requirements of correct housing. This work was encouraged by extension specialists through the distribution of blue prints, publications, posters, and the holding of 38 meetings in 32 counties with an attendance of 1295 persons. Press articles on housing were made more effective by the extensive use of mats that illustrated the type of house recommended by the Missouri College of Agriculture.

Feeding for Winter Production.—With the best methods of feeding for winter egg production receiving more and more attention from Missouri flock owners, this sub-project was given considerable added impetus in 1928. While the subject was discussed in connection with housing in some demonstrations, there were 42 meetings held in 32 counties given over entirely to this phase of the work. These meetings had a total attendance of 2446 persons.

Certified Breeding.—While the Certified Poultry Breeders' Association is self supporting and does not require any assistance from specialists, yet many extension agents give valuable assistance in the inspection work. The project is encouraged since certified flocks serve as a source of superior hatching eggs, baby chicks, and breeding stock.

A total of 44,003 birds were handled by inspectors in 1928, with 31,056 being passed as certified. This number included 14,080 hens, 8,324 hens recertified, 463 cocks recertified, 1,126 cockerels, 1,905 pedigree cockerels, and 5,158 pullets.

Record Keeping.—In 1928 an average of 342 farmers kept complete monthly records on their flocks and mailed duplicate copies to the Agricultural Extension Service. For this number of farms the average number of hens per flock was 172, the average egg production being 149.8 eggs per hen. The average poultry income over feed cost per farm was \$384.79.

Poultry record keeping is believed to furnish a basis for thorough study of the poultry industry within the state and to indicate whether or not efficient poultry keeping is stable. It furnishes material that aids greatly in working out county poultry extension programs and provides a basis for determining the value of various management methods used in the industry.

General Statistics.—The value of poultry extension work is perhaps most strongly emphasized by the fact that 6,390 farms were reported as adopting improved practices in 1928. This is an appreciable increase over the figures for the preceding year when 4,221 farms are reported as adopting improved practices. Among the better practices adopted in 1928 were the moving of 1602 brooder houses to fresh range, 181 farmers using electric lights, 2939 farm owners culling for the first time, 1,565 feeding better rations for the first time, and 104 breeders using trapnests.

RURAL SOCIOLOGY EXTENSION

Seventeen new standard community organizations were started in 1928. They are Stet Community of Carroll county, Black Jack of Crawford, Willow Springs of Howell, Arcadia of Iron, Buckner of Jackson, Middle Grove and Granville of Monroe county, Brewer of Perry, New Hartford and Ashley of Pike, Rennselaer, Center and Ocean Wave of Ralls, Farmington of St. Francois, Irondale and Belgrade of Washington, and Norwood community of Wright county.

First steps toward organization were made in eight other communities for the organization meeting as soon as the agent and new specialist reached them. This applied to the Ballard Community of Bates county, the Weston Community of Buchanan, Neelyville of Butler, Lee's Summit of Jackson, Horine of Jefferson, Monroe City of Monroe, and Thayer and Thomasville of Oregon.

It was necessary for the state specialist to give assistance in only ten of the seventeen new associations now working. The remaining seven were started entirely by county agents.

The extension work in rural sociology this year has included the training of six new county agents in the development of community groups and the use of committees representing these groups. Six general conferences were held also for the training of community leaders. Two conferences were held for the training of leaders of recreational activities.

Increased Size of Community Centers.—By the beginning of 1928 the organization of standard community associations had progressed far enough in the smaller community areas with towns of about 250 inhabitants to justify an attempt to demonstrate the practicability of a similar scheme in larger areas and larger town centers having active business men's organizations. Accordingly the proposition was presented to the leaders of four such communities and acted upon favorably in each case. In the Farmington community of St. Francois county, with a county seat town of more than 6,000, the work was started about the middle of the year and is progressing very nicely. With a town

center of this size the regular monthly mass meetings are replaced with monthly meetings of the officers and committeemen with quarterly meetings of the entire community group.

Record Charts and Meeting Programs.—Emphasis was continued this year on the constant and effective use of the record charts at the monthly mass meetings or the meetings of the officers and committeemen in the large town centers. The efficiency of the organizations has been greatly increased by this device. Each community is supplied with a wall chart listing all work planned. Stickers have been supplied for use on these charts showing the progress of all work from month to month.

Agents Using Community Extension Committees.—The objective this year was to have a few counties in which all the work was carried on through community extension committees. These were to serve as demonstrations of the efficiency of this method. Nine agents have been using this method exclusively. They are located in Holt, Livingston, Jefferson, Butler, Cole, Howard, Lincoln, and St. Charles counties, and in the Wright-Douglas district. Seventeen others have been using this method largely including Atchison, Platte, Lafayette, Clinton, Callaway, Pike, St. Francois, Pemiscot, Dunklin, Stoddard, and St. Louis counties and the Wayne-Bollinger, Ripley-Oregon, Benton-Hickory, Carter-Reynolds and Polk-St. Clair districts. This makes a total of twenty-six agents who have definite results to report on the use of their committees.

General Community Leaders' Conferences.—As the total number of organized communities in the state increases the need for community leaders' conferences has increased. Conferences have been held in various places, some of them for the members of community extension committees and others for the officers and committeemen of Standard community associations. Three conferences of the Standard community officers and committeemen have been held in Pettis and Pike counties and in the Washington-Iron District. Three conferences have also been held in Holt, Jefferson and Butler counties for community extension committeemen.

Special Recreation Leaders' Training Schools.—Two special training schools for the training of leaders of recreational activities were held with the assistance of Mr. John Bradford and Mr. John Martin of the Playground and Recreation Association of America. One was held at Sedalia and one at Hannibal. An average of 50 people attended each of the four nights and all who came were enthusiastic about the training received. They have made good use of it in their home communities since.

HOME DEMONSTRATION WORK

The work of the home economics section during the last twelve months has been directed toward the objective of assisting Missouri farm families in obtaining the fullest possible benefits of comfortable and becoming clothes, a properly varied supply of well prepared food, attractive homes, conveniently arranged work rooms, good health, and time for recreation. The number of counties served by resident home economics agents was increased in 1928 from 9 to 14. The state home demonstration agent also did extension work in 13 counties not having local agents.

In addition to the regular work of the home economics section in clothing, food and nutrition, home management, more attractive homes and health, the state-wide service included the organization of 212 neighborhood women's clubs, conducting of 5 farm women's vacation camps, and the holding of 39 child training meetings.

Home Economics Agents.—Fourteen Missouri counties were served by home economics agents in 1928, this being an increase of four counties when compared to the record of the preceding year. The four new counties are Greene, Pettis, Holt, and Carroll, in all of which appropriations for home economics extension work were secured and agents appointed during the year. Appropriations were also secured in Nodaway county and Perry county, but agents had not yet been appointed at the close of the year.

The appropriations made by the county courts of the foregoing counties were as follow: Greene, \$1600 for one year; Pettis, \$1600 for one year; Holt, \$1200 annually for three years; Carroll, \$1500 for one year; Nodaway, \$1200 annually for three years; Perry, \$1200 annually for three years.

Organizations of farm women in these counties were largely influential in securing appropriations for local extension work. In Holt county 22 neighborhood clubs of farm women sent representatives to present their appeal to the county court. These women, in their presentation of their needs, acted as the official representatives of a membership totalling 393. In Perry county about 75 farm women went before the county court and told why they wanted a home economics agent. In Nodaway county 33 neighborhood women's clubs sent a delegation to present to the court their need of a home economics agent and it was said by one member of the court afterwards that the court had never had a matter presented more convincingly.

The other counties in which home economics agents continued work during the year were Buchanan, Callaway, Cass, Jackson, Lafayette, Lincoln, St. Louis, Saline, and two districts comprising Mississippi, New Madrid, and Dunklin.

Cooperating Organizations.—Agencies and organizations that cooperated with the Extension Service in conducting home economics extension work in the state in 1928 included the following: State Board of Health, Missouri Library Commission, Missouri Farm Bureau Federation, Missouri Women's Progressive Farmers Association, Missouri Home Economics Association, The Federation of Women's Clubs, and the Neighborhood Women's Clubs.

The Child Health Division of the State Board of Health was active in child health clinics in Carroll, Callaway, and Oregon counties. In St. Louis county a County Health Bureau was formed to carry on cooperative health work in which different organizations were interested. The county home economics agent organized Health and First Aid 4-H Clubs, worked to install hot lunches and did child feeding work. The Tuberculosis Association furnished a health gypsy who visited the schools and told the health story. The County Health Unit made physical examinations and inspection and gave demonstrations on the making and use of bandages to Health and First Aid Club members.

The Missouri Library Commission has furnished books for all farm women's camps and for a few boys' and girls' camps. Miss Jane Morey, the secretary, has attended a number of the farm women's camps, read to the women and gone on nature hikes with them. In addition, the Library Commission has furnished loan libraries on the request of women's clubs or standard organization community committees. These loan libraries consist of 50 volumes and may be kept for a month or longer.

The Women's Progressive Farmers Association has been the cooperating agency for doing extension work in the following counties: Cooper, Grundy, Sullivan, Shelby, Daviess, Barton, Texas, and Franklin. In Pettis county, representatives of the Women's Progressive Farmers Association groups went with women representing the Standard Community Organizations to ask for the appropriation for a county home economics agent, and have been enthusiastic cooperators in the work. In many other counties the women in such organizations are sharing equally with women in other clubs in the work given by state specialists or county home economics agents.

The Farm Bureau has furnished local cooperation necessary to support home economics agents in Buchanan, Callaway, Carroll, Cass, Jackson, Lafayette, Lincoln, Saline, and St. Louis counties. This organization has also been responsible for much of the assistance given home economics specialists and state workers in counties employing only agricultural agents.

Neighborhood Women's Clubs.—The plan of organizing women's clubs in Standard Community organization areas and making this com-

munity the unit for planning programs, training leaders and holding achievements days, which was begun in the fall of 1927, proved so successful that this plan was continued. The appropriation in Holt county and those made in Perry and Nodaway counties the first week in December can be attributed largely to the Neighborhood Women's Clubs, and the interest in having such an agent which developed at the program planning meetings.

There are indications that the plan of organizing Neighborhood Women's Clubs on a community basis will strengthen already existing Standard Community organizations and foster and stimulate interest in organizing them in the many places where they do not exist. The plan encourages a feeling of community consciousness as there are always two or more community meetings of the four or more clubs in the community.

One significant feature of the organization work this year was the increased number of the women's clubs. In all, there were 55 new clubs in eight counties that had had county home economics agents, 46 new clubs in two counties in which home economics agents were placed during the year, 106 new clubs in counties with only agricultural or district agricultural agents, and 5 new clubs in counties without an agent. In all, there were 212 clubs which the state staff assisted in organizing. In addition there were listed or reorganized 22 clubs in counties without agents and 98 clubs in counties with only agricultural agents. These added to the 129 old clubs in home economics agent counties makes a total of 458 clubs 212 of which were new, and three of which did not function, 2070 new women were received and 8169 were helped through club work.

The women have thoroughly enjoyed their club work. It has brought a new interest into their lives; they have learned to know and enjoy their neighbors, have gained new ideas to make their home-making better or easier, have had the joy of serving together to help their neighbors who are afflicted or needy and of making their neighborhoods and communities better places in which to live.

The Monthly News Letters and Other Publicity.—Beginning with January a Monthly News Letter has gone to each of the women's clubs of the state. The items in the news letter have been for the most part those which would stimulate better practices in the home or community, or improve club work. Observance of special weeks as Book Week, Education Week, Better Homes Week, Fire Prevention Week, Child Health Day, has been encouraged. The formation of boys and girls clubs, giving children sun baths, having the children examined for six-point children before the beginning of school, hot pack canning are

some of the points that have been emphasized. News notes of what other clubs are doing have been very stimulating and interesting to clubs and it is believed have fostered better club work. Radio programs and new circulars have also been announced in the news letter.

County home economics agents had a total of 749 news articles in their local newspapers. In addition there were 71 news articles prepared by the nutrition workers of Southeast Missouri. Seven counties with home economics agents reported a total of 11 exhibits that were county-wide and 8 counties had exhibits at 20 community fairs. This year, for the first time, two counties had full page newspaper spreads. These were in Buchanan and Carroll counties and were prepared with the help of the women who served on an editorial board.

Child Training Meetings.—In five counties 39 child training meetings were held with a total attendance of 848. These meetings were held in series, from 6 to 11 meetings in a series. The attendance represented 291 homes in which there were 540 children. Reports received from the mothers attending these schools stated that definite improvement in their children's behavior had been noted in the following number and variety of cases: 51 cases of temper, 54 of discipline, 73 of habit formation, 53 with reference to eating, 34 teen-age problems, 64 better understanding of child, and 65 increased reading on child training.

The work was very informal and followed no set procedure. At the first meeting the women were asked to list some habits which they were having difficulty getting their child to form. A general discussion of how habits are formed and what influences the ease or difficulty of forming a habit were discussed. Then the women were encouraged to discuss how these principles would be applied to the habits listed in an effort to help them try to work out methods and attitudes which would help the child to form the habits desired. Usually at the first meeting a chart was given to the mothers and they were asked to check it as a means of discovering problems on which they wanted help. The record of the number of mothers having problems was made to be used as a basis for discussion at further meetings. It was found that help in discipline was wanted by most of the mothers and that every group had a fairly large proportion of mothers who were having problems of temper, fear, and teen-age.

While it was not planned that there would be leaders, clubs had got into the habit of sending two to four or five women who would definitely bring back the material presented and did this in Cass and Saline counties in spite of there being no compulsion about it. A mimeographed sheet was prepared on the problems of fear, temper, habit, adolescence, and discipline, and enough of these were provided for not only the women

who attended the meeting, but for any of their friends or relatives to whom they wanted to take material.

Farm Women's Vacation Camps.—This year five Farm Women's Camps were attended by women from 13 counties. The home economics agents find it easier to manage a camp if they have the assistance of another home economics agent, so they favor the idea of having at least two counties combine. The farm women enjoy this also because it widens their circle of acquaintances and gives them a chance to compare notes on their work with women of another county. There were a number of counties represented at the Lafayette-Saline Camp because neighboring counties had been holding style shows and the prizes for these county style shows were usually a trip to the Lafayette-Saline camp.

At the Callaway-Lincoln camp 11 communities were represented by 28 full-time campers. At the Buchanan-Holt camp 8 communities were represented by 25 campers. At the St. Louis county camp 8 communities were represented by 8 campers. At the Pettis-Johnson camp 7 communities were represented by 19 campers. The largest camp of all was the Lafayette-Saline-Carroll Camp in which 68 women from these and five other nearby counties participated. At all these camps the total number of campers was 169, and visitors 719.

Home Economics Tour.—A representative of the home economics section accompanied the Clover and Prosperity tour this year in its visits to 13 north Missouri counties. A home economics exhibit was carried on this tour, its message being "The Missouri Farm Home at Its Best". At each stop in the tour the home economics specialist explained what the Extension Service had to offer the home-maker. The total attendance of men and women at these meetings was 7,225, including 2460 women who listened to the home economics section of the program.

General Statistics.—Home economics extension workers went into 59 counties with agricultural agents this year while last year 49 counties had work; in 27 counties with no agent, where last year work was done in 21 counties; and in 14 counties with home economics agents or resident nutrition workers where last year work was done in eight such counties. Some work was done in 100 counties this year while last year it was done in only 78 counties. Of these 100 counties, three counties, Atchison, Gentry and Clinton had only the organization of neighborhood women's clubs, while four counties, Worth, Mercer, Daviess, and Putnam only had the Clover and Prosperity meetings.

Local Leaders in Agent Counties.—One significant feature of the year's work was the development of new leaders. One thousand five hundred and forty-one women in county home economics agent counties served as leaders doing 1,888 jobs of leadership. Of these 757 were

trained to do some particular job and held 1,254 meetings. Undoubtedly this is not a complete report as there is a tendency for the home economics agents not to report regular club meeting days when leaders pass on the work they have received. Of the 1,541 leaders 428 were women who had never served before. County agricultural agents reported 248 new leaders. This makes a total of 676 women who for the first time gave home service in developing home economics extension work. The leadership of women in Home Economics projects summarizes the leadership work in all of the counties.

TABLE 6.—WORK DONE IN HOME ECONOMICS EXTENSION IN 1928

Counties with home economics agents.....	14
Counties conducting home economics work.....	100
Number of local leaders cooperating.....	4,088
Meetings held by local leaders.....	2,283
New leaders developed during year.....	676
Women trained as local leaders.....	1,917
Women reached by home economics work.....	
Homes visited by home economics agents.....	1,250
Meetings held by agents.....	1,184
Attendance at meetings.....	64,866
Clothing: Hats made.....	636
Silk or wool dresses made.....	288
Women taught easy methods of sewing.....	2,441
Pairs of gloves made.....	82
Home management: Rooms improved.....	2,194
Homes beautifying grounds.....	2,471
Women taught handwork.....	5,118
Demonstration Kitchens.....	166
Sinks installed.....	125
Power washing machines installed.....	95
Homes improving arrangement.....	525
Health: Health practices adopted.....	9,155
Women trained in home care of sick.....	2,050
Attendance at health meetings.....	8,625
Nutrition: Homes adopting better practices.....	1,932
Children induced to improve food habits.....	527
Women attending food meetings.....	1,289
Women's Camps: Full time attendance.....	169
Visitors at camps.....	719
Four-H Clubs: Members completing home economics club work.....	5,818
Articles of clothing made by members of 4-H home economics clubs.....	12,55

CLOTHING

Within the limits of the last twelve months the Extension Service has taught easy methods of correct garment making to 2441 Missouri women and more than 3000 girls. The use of guide patterns in designing and making dresses has been taught to 288 other women, the remodeling of clothes to 128, short cuts in sewing to 250, and the best methods of selecting and making children's clothes have been taught to 93 women. The results of the year's work also include teaching 317 how to make

hats and 22 women how to make their own kid gloves. In this work 668 hats and 82 pairs of gloves were made under the supervision of the Extension Service.

Garment Making.—In 58 first-year and advanced garment making classes 619 local leaders were trained, and these in turn taught correct and economical methods to 2441 other women in their home neighborhoods. Under the instruction offered by the Extension Service these women made 2016 patterns, 1589 dresses, and 215 undergarments. Their cash saving on patterns alone amounted to \$530.

First year garment making leaders' classes were organized in small groups making possible the maximum amount of personal training, each class containing only two leaders from each of four school districts or neighborhoods. These eight women came together for three days training, the days scheduled two to four weeks apart. In return for this training each woman pledged herself to help eight other women when she returned to her community. The first day was spent in making seams, hems, bindings, bound buttonholes, set-in pockets, etc. which would later be used in making a dress. On this day each leader selected a design and the material for a wash dress. The second day a commercial pattern was altered for each woman and a simple dress was cut and fitted to try out the pattern. From the fitted dress a guide pattern was made in heavy paper. On the third day decorative finishes for garments were made and a talk on combinations of colors and becoming colors was given by the specialist. On a fourth day an achievement day was held at which time the leaders as well as the women whom they had helped wore the dresses which they had made. At this time a program was given by the various communities and a dress contest was held.

Advanced garment making was organized the same way, except that four days were devoted to instruction, instead of only three. The first day finishes needed for wool garments were made by each member. The second day the guide pattern or a good fitting plain pattern was used in teaching design and designing individual patterns from magazines. The third day the pattern was used in cutting and fitting a wool or silk dress. The fourth day was spent in making accessories. Special emphasis was put on an accessory which would harmonize with the dress which was made. Flowers, scarfs, bags or purses, handkerchiefs and gloves were included.

Millinery.—Twenty classes in millinery were conducted at points so located that they were attended by women from 32 counties. In these classes 136 leaders were given intensive training and they in turn gave instruction to 317 others. As an immediate result of this work 668 hats were made at a total saving of \$1529. This is but the beginning of the

story, however, since each of these 317 women was taught to make becoming and inexpensive hats for herself and family.

Millinery work was organized in four-, two-, and one-day meetings. A four-day class was given to a group of eight local leaders representing four communities which had no previous training. A two-day class in millinery was given to groups of women who had had the work the previous season. In case the original class included spring millinery, the carry-on groups made fall hats. A one-day class in millinery was given to groups of women who had had two seasons work. This class was planned to give assistance in new styles to leaders who know how to make hats and used only the new styles in line and materials.

Short Cuts in Sewing.—In 13 classes 202 women were trained as leaders to teach their neighbors short cuts in sewing. As a result of this work there were 3915 adoptions of labor saving practices. This work was planned especially for counties which had had no work or practically no work in home economics. It was presented at group meetings so that all the women knew just what was being done. Each woman was trained to pass the benefits she had received to as many other as possible. In a one-day meeting the following subjects were covered: short cuts in using patterns, cutting, sewing processes, and trimming.

Children's Clothing.—To teach women the best methods of selecting and making children's garments 34 local leaders were given intensive training. The total number of women taught in this project was 86 and the number of correct practices adopted was 132.

Each class in children's clothing was organized with eight leaders from four to eight communities in two-day meetings given at intervals of two to four weeks. The first day was spent in a discussion of shoes and hose, materials and choice of designs for outer and under garments which enable the young child to dress and care for himself. On the second day there was a discussion of designs and materials selected for particular children. Decorative stitches and trimmings were made and commercial trimmings selected. There was also a discussion of hats for girls and boys.

Glove Making.—To teach women how to make their own gloves at less cost than they would pay for gloves, 31 leaders were trained in six training schools. They in turn taught 59 others, and 89 pairs of gloves were made at a total saving of \$115. Much interest is shown in this project by those who sew well and it answers the need of several groups of women to whom the expense of kid gloves is prohibitive. Because of the time and great care that must be used in making gloves, many women are afraid to attempt the construction, and the project has not been given except where considerable clothing work has been done.

Care and Renovation of Clothing.—In 11 classes 75 leaders were trained in the care and renovation of the family wardrobe. They in turn taught 128 additional women with the result that 46 garments were remodeled and correct practice was substituted for incorrect in 97 cases. In this work the women were given instructions in making over, mending, removing stains, dry cleaning, and dyeing. Many of these processes are familiar to most women, and an effort was made by the specialist to present shorter cuts and review methods in order to make these particular tasks easier.

Miscellaneous Work.—In seven counties the earlier work on making and use of dress forms was continued, with the result that 63 dress forms were made, effecting an immediate saving of \$189. In three classes in color and design instruction was given to 40 leaders, who taught 255 other women the principles they had learned. Selection of shoes and hose with especial reference to the needs of growing children was another very helpful project that received considerable attention in 1928. Style shows were held in several counties.

At the Annual Corn Show at Sedalia in Pettis county, a campaign called "Shoeing Foot Troubles Away" was launched with an exhibit showing desirable and undesirable features in shoes. This campaign will be carried into every community in the county during the coming year.

HEALTH

In 388 groups, organized for the purpose of learning and applying the essentials of better health, 5601 persons were instructed last year by the Extension Service in the subjects of home health and hygiene. In 751 meetings, also, with a total attendance of 8967, systematic instruction was given in health and home care of the sick. In 45 Missouri counties 4-H health clubs were organized among the boys and girls—total of 277 clubs with a membership of 3476.

These figures run into the thousands and reveal that this vital help has been extended to a very large number of farm homes in all parts of Missouri; yet mere figures are not adequate to tell the story of extension work in better health for the farm family. Possibly the significance of this work is best revealed by a statement of the outstanding problems in relation to rural health in Missouri.

A lack of knowledge of personal, home, school, and community hygiene and sanitation is found co-existent with inadequate provision of health educational agencies such as public health doctors, nurses, full-time county health units, hospitals, and practicing physicians. Missouri has 114 counties, but only 12 full-time county health units. There are but three county hospitals. There is a general reluctance to adopt the preventative practices of vaccination and immunization,

as well as indifference toward observance of quarantine. There is widespread indifference toward changing habits and conditions though they are known to be unhealthful. Missouri farm homes have poor and inadequate arrangements for the disposal of human organic wastes. More than 78 per cent of private rural water supplies in the state are heavily contaminated with *Bacilli coli*, and this condition is accompanied by a prevalence of intestinal diseases, including typhoid.

The scarcity of hospitals and competent nurses in the country assumes greater importance when it is remembered that 90 per cent of the sick in farm families are cared for in the home. This explains the demand for information and experience that will enable farm people to give better care to their loved ones when they are sick.

The aim of the health project is to prevent unnecessary illness, to increase the efficiency of the human body, and to present the matter in such a way that its value will be appreciated and the precepts will be practiced intelligently in the life of the individual, the family, and the community.

Health and Home Care of the Sick.—In 188 school districts located in 22 Missouri counties systematic instruction was given in home care of the sick. This work included 96 meetings in which the health specialists gave intensive training to 214 local leaders. These leaders, in turn, conducted 655 meetings in their home communities and trained 1780 persons in the care of the sick as well as in prevention of disease. The total attendance at all meetings held during the year for this phase of the health work was 8967, and the total number of persons trained was 1994.

Some of the more interesting results of this training as reported by county and district agents are as follow: Improved methods of bed making were adopted in 940 homes, better ventilation in 893, individual drinking cups in 319, more hours of sleep in 508, increased drinking of water in 715, increased use of milk in 287 homes, and increased use of green vegetables in 628. Improved care of the teeth was put into daily practice by 476 persons, better posture by 135, and a daily period of rest by 261. The total adoptions of improved health practices numbered 9155.

Home Health and Sanitation.—In teaching home health and hygiene throughout the State, the Extension Service organized 388 study and demonstration groups, in which training was given to 5601 persons, including 1826 boys, 1850 girls, and 1925 women. The teaching involved 902 demonstrations, and resulted in the adoption of better practices in 1943 homes.

Among the improvements made among the health factors in these 1943 homes were the safeguarding of the water supply in 103 homes, the

safe disposal of waste water in 86, repairing of screens or installation of new screens in 152 and the use of fly traps in 254. Sanitary, fly-tight toilets were provided in 204 cases. The number of homes adopting sanitation practices was 1208.

A health score card was used by 2030 persons, good bodily posture by 1056, prevention of colds by 1158, care of the teeth by 1805, care of skin and hair by 984, regular elimination by 1175. First aid work was successfully put into effect by 2197 persons, home nursing by 509, and a health examination was taken by 1582. The total number of adoptions of better health practices by individuals was 8807.

Although no special campaign for fly control was carried on, 523 persons were given directions for making fly traps. In Buchanan county alone 77 fly traps were made and in the entire state 254 families made and used fly traps in 1928 for the first time.

Health for 4-H Clubs.—Health instruction was given to 4-H clubs in 45 Missouri counties in 1928. The total number of clubs organized was 277 with a total enrollment of 3476. Of this number 202 clubs finished as standard 4-H clubs, and 2659 boys and girls completed all requirements for the full year's work.

In their home communities and at local, district, and state fairs the 4-H health clubs gave 2931 individual demonstrations and 1270 team demonstrations.

Two types of health clubs were organized; health and first aid clubs, and health and sanitation clubs. In the former each member was required to know and practice the fundamental health habits of personal hygiene, food, rest, exercise, etc.; to know why such practices are beneficial and to keep a record of practices during specified periods. The prevention of accidents and emergency care was taught and practiced. The health and sanitation clubs have reemphasized the health habits and their daily use, the checking of such practices and have taught the fundamentals of sanitation, as proper and continuous ventilation, pure water supply, clean milk production and the way sanitation safeguards and promotes health.

A state health contest was conducted during the annual 4-H club round-up held at the College of Agriculture in August.

Assistance to Mothers.—The greatest number of requests reaching the specialist for any one type of health instruction, has been for work in connection with pre-natal, maternity and infancy care, such requests coming from individuals as well as groups. No regular project work has been carried on, but such matters have been included to a limited degree in the meetings on health and home care of the sick. One all-day meeting was held at Tebbetts, Callaway county, in response to the urgent request for it which came through the home

demonstration agent and based on a statement of an unusually high infant mortality rate. Accompanying a general talk on the subject, demonstrations were given in preparation of materials needed, home sterilization, etc.

As a result of even the limited amount of time given to this important matter 68 women have received a set of letters, one each month, on prenatal care, 49 have consulted a doctor during the prenatal period, 68 have received a bulletin on infant care, 53 have made better preparation for the home delivery, and 81 have given their babies more systematic care.

Child Health Day.—May 1 has been made Child Health Day in the extension health program for Missouri. The slogan for the May Day child Health Program is "Better Children for our Nation; a Better Nation for our Children". May Day has come to be recognized as National Child Health Day, the day on which communities large and small all over the United States celebrate the mental, spiritual and physical health of their children.

Missouri's program emphasizes the six-point child, giving a button to each "six-pointer"—one who has: (1) throat free of diseases, (2) teeth free of defects, (3) vision normal or corrected by glasses, (4) weight for height up to average normal, (5) hearing normal, and (6) correct posture.

HOME MANAGEMENT

The results of extension work in home management during the last year include the adoption of better home management practices in 525 Missouri homes, the continuation of 75 demonstration kitchens and the establishment of 91 new demonstration kitchens, the installation of kitchen sink, pump and drain in 125 kitchens, the installation of 95 power washing machines, and the improvement of storage equipment and working heights in 20 additional homes. In the line of general home improvement 70 women who were assisted in making money for this purpose in 1927 reported that they had continued this project successfully in 1928. Additional labor saving equipment was obtained in 359 homes.

Kitchens were planned and rearranged for greater convenience in 87 homes. Labor saving appliances installed included the following: 32 kitchen sinks, 95 power washing machines, 20 hand washing machines, 8 fireless cookers, 22 power vacuum cleaners, 63 kitchen cabinets, 46 electric or gasoline irons, 8 pressure cookers, and 272 miscellaneous items of equipment.

The number of farm dwellings constructed during the year in accordance with plans furnished by the Extension Service was 28, the number of dwellings remodelled was 50. The number of sewage systems

installed was 30, the number of water systems 51. The installation of lighting and heating plants in farm homes included 7 of each.

In 4-H club work under home management, 10 young housekeepers clubs were organized with a total membership of 103 boys and girls. Of this number 2 were boys and 101 were girls.

Demonstration Kitchens.—With 166 demonstration kitchens, new and old, in operation in the State in 1928 this project was made the chief interest of 26 county-wide tours of homemakers. By this means the advantages of more convenient kitchens were brought most favorably and convincingly to the attention of more than 300 farm women.

Within the last six years a total of 658 demonstration kitchens have been established in 37 Missouri counties. Many of these have continued to serve as demonstrations for two, three or more years. The numbers newly established each year during this period have varied from 79 in 1925 to 131 in 1927.

Problems in Home Management.—The many hours that the farm homemaker spends in maintenance work leave little time and energy for creating the type of home in which individuals may reach their best development, and for productive work. Surveys made by the Missouri College of Agriculture in cooperation with the United States Department of Agriculture have revealed the fact that the average working day of the farm woman in Missouri is about 11½ hours. The homemaker who has no children has about 1¼ hours more leisure time than the woman with children.

One of the big problems in home management work is to help the homemaker with children in the family and the homemaker without children to reduce the number of hours spent in maintenance work without lowering the standard of living in order that she shall have an opportunity to maintain a high standard for family living in the country.

In some sections of the state the problem is one of insufficient income which makes it impossible for the standard of living to improve to any great extent. This requires closer correlation of the agricultural activities that pay a larger return with the needs of the homes in the communities to be demonstrated.

The Young Housekeepers Clubs.—The 4-H club work carried on by the home management specialists, the young housekeepers club was planned especially for older girls and it has followed very closely the home management work in the community. The specialists met with each club leader twice to give subject-matter information and method demonstrations on phases included in the club work.

The ten 4-H young housekeepers clubs were organized in three county agricultural agent counties, Atchison, Bates, and Dunklin,

one home demonstration agent county, and three non-agent counties, Caldwell, Jasper and Lewis.

There were 2 boys and 101 girls enrolled. Two boys and 85 girls completed. Eight of the ten clubs completed as standard clubs. There were fifty-seven club demonstrations given, 70 judging contests, 112 exhibits, 45 team demonstrations. Thirty-six visitors attended club meetings and 27 adult practices adopted.

MORE ATTRACTIVE HOMES

A total of 2471 homes were improved, inside or outside, and 2194 rooms were made more attractive and comfortable during the year under the leadership of the Extension Service. The better practices involved were adopted by 2229 women. To assist the women of the State in making their home furnishings more attractive the specialist also gave instruction in refinishing furniture, making rugs, and making or repairing other furnishings, the total number of women thus taught being 5118. These women report a total of 5264 articles made or changed according to the instructions received.

Since a large part of the extension work done in this field centered about the training of local leaders to carry the assistance to groups of women in their respective communities, the statistics tell but a part of the story. At 39 leaders' training schools 272 leaders were taught how to teach others the handwork essential to economical improvement of home furnishings.

■ In this project 138 meetings were held with an attendance of 6158. Besides conducting these meetings, the specialist personally visited 116 homes in 21 counties, giving individual assistance in planning home improvements.

Results in Yard Improvement.—The teachings of the Extension Service for the exterior improvement of the farm home were adopted in 2471 homes during the year. This involved the adoption of 9782 practices in yard improvement including the following: building 44 new homes, remodeling 160, and the painting of 313; the construction of 184 new outbuildings, the repair of 173, the painting of 334, and the moving of 122; the building of 247 new fences, the repair of 220, and the painting of 105; the clearing of 957 yards, grading 160, seeding 205, and mowing 1105; removing 278 chicken coops, 305 flower beds and 313 scattered shrubs from yards; building 128 walks and 39 driveways; and planting 757 foundation plantings, 432 corner plantings, 511 borders, and 363 screen plantings.

Result demonstrations and tours in yard improvement were productive of widespread interest and the adoption of the recommended

practices by many families in Marion, Ralls, St. Charles, St. Louis, St. Francois, Cape Girardeau, and Henry counties. The tours visited 77 homes where the demonstrators had successfully completed their plans of exterior improvement.

Contests were used with good success in Linn, Cass, Jackson, Buchanan, Saline, and St. Louis counties, being instrumental in arousing widespread interest in yard improvement. One such contest in Linn county was open to school children and consequently influenced



14.—First year plantings on the home grounds of Mrs. Will Wangler, Moberly.

a very large number of homes. In Saline county 308 yards owned by members of 22 women's clubs were scored in a contest which has been continued as an annual affair. In Cass county three groups at Belton, Mound Valley and Creighton carried on their work through contests.

In St. Louis county the editor of *The Watchman-Advocate* became interested in yard improvement for the county and offered a trophy cup as a prize for the most beautiful farm grounds. He later enlarged the contest by adding two other county prizes and fifteen township prizes. The grand three prizes were loving cups, while the township prizes consisted of shrubs and plants. Of the 65 contestants who entered the *Watchman-Advocate* contest 63 completed their undertaking with careful adherence to the principles taught by the Extension Service. This contest also has become an annual affair.

The Significance of Yard Improvement.—The significance of this work in the life of the farm family is well described by Mrs. J. C. Ballard of St. Francois county. She writes as follows:

"I shall go back to the beginning. All my life I have wanted an attractive setting for my home, but when I had a nursery suggest plans for landscaping my place, the price was prohibitive. The longing still persisted, and when I heard the specialist from the Missouri College of Agriculture tell of the many inexpensive things that could be done toward beautifying one's place, I took heart and began to work.

"I asked my husband to fence the poultry out of the yard, putting up the kind of fence that he could afford. When this was done a poultry house was moved out of the yard. Grading and seeding came next. In the process of grading it was necessary to dig out much gravel from in front of the front door. This I did, having the youngest boy haul the gravel in his small wagon to the driveway. Then I had the grown sons haul in several loads of good dirt to fill up the hole left by removing the gravel. Then I started my foundation planting, buying as many shrubs as I could afford and using some native ones along with bright annuals. Native shrubs, perennials and annuals were used along the back fence to screen the poultry yard; also along the side fences and in the corners.

"There was an old stone chimney standing out in the middle of the side yard. I said if I only had those stones I could lay some flat stone walks as recommended. One of my sons said he could take it down in a half an hour, which he did. I started laying a walk from the front door to the front gate, when it began to rain, and the boys came in from the fields. I told them to finish the walk while I prepared dinner. This they did and in addition, they used several of the large slabs to make stone seats under the hard maples. The boys and my husband built a gravel drive from the road to the garage, a distance of one-eighth of a mile.

"I am proud of what has been accomplished, but prouder still of the fact that every one in the family has contributed his part in this work."

Mrs. Ballard's place, according to the neighbors, has been completely transformed in one season. The experience of this family is typical of the influence of this work in thousands of Missouri homes.

Handwork and House Furnishings.—In the classes in handwork organized to teach economical methods of improving the interior furnishings of the home, 3076 women were enrolled and 2119 completed the courses offered. This involved the giving of 151 method demonstrations.

Final reports on this work show that these meetings led to the to the adoption of improved practices as follow: 621 in selection and arrangement of furniture, 1046 in repairing and remodeling furniture, and 942 in finishing walls, woodwork and floors. The total number of

rooms improved was 2194, the total number of homes adopting improved practices was 2229, and the number of practices adopted in this phase of the work was 2589.

Instruction given in handwork covered a wide range of articles. The number of women taught this work and the number of articles that they made were as follow: In rug making 901 women were instructed and 423 rugs were completed; in basketry 1325 women made 2202 baskets; in making lamp shades and other small articles 398 women made 81 lamp shades and 824 women made 924 miscellaneous articles; in furniture repairing and refinishing 357 women resealed 366 chairs, 349 women upholstered 67 chairs, and 569 women refinished 1196 pieces of furniture. The total number of approved practices adopted was 5255.

To make this phase of the work effective, 39 training schools for leaders were held in 13 counties with a total attendance of 272 leaders. These schools were held for the purpose of instructing in color and color combinations; selecting, framing and hanging pictures; making lampshades, small articles such as footstools, wall shelves, and magazine holders; refinishing and upholstering furniture; and reseating chairs. Other types of handwork were used to vary the work, to interest new groups, and to give practical application of the principles involved in the use and combination of colors. This method was used successfully in Cape Girardeau, Marion, Linn, St. Francois, St. Charles, St. Clair, Polk, and Henry counties.

Where groups of women desiring this instruction were located so far from a central point that leaders felt they could not get to the training schools a different plan was used, involving method demonstrations and illustrative talks. This form of assistance was given to women in St. Louis, Randolph, Boone, Holt, Carroll, Ralls, Polk, St. Clair, St. Francois, and St. Charles counties.

Miscellaneous Activities.—The maintenance of a bulb, seed, and shrub exchange by each group of women interested in this work has been very helpful. These exchanges usually serve best during March. Buchanan county women made such an exchange a feature of the early April meeting of their Federation, and in this every club in the Federation took an active part. In the same county 50 neighborhood groups of women, not members of federated clubs, held a similar exchange.

Achievement days were used successfully in a number of counties. Bates City, in Lafayette county, had an achievement day with 20 exhibits and an attendance of 400 persons. Similar events were held in Cape Girardeau and Saline counties.

A flower show with prizes offered by each of the 20 clubs partici-

pating brought out an impressive exhibit of the results of home improvement work in Saline county.

Girls' 4-H clubs were another means of reaching persons with the work. There were six clubs, one each in Cape Girardeau, Cass, Jackson, Lafayette, Carroll and Saline counties. Five of these completed as standard clubs. There were 46 members enrolled, 37 of whom completed the work. They gave 28 individual demonstrations, 31 demonstrations by teams, and made 37 exhibits.

NUTRITION

Extension work done in 1928 under the general subject of nutrition included food selection or meal planning, child feeding, food preparation, fruits and green vegetables for health, milk campaigns, and 4-H club work in meal planning, baking, canning and hot lunch. The purpose of extension work in nutrition is to give all members of the farm family a working knowledge of the value of foods and their relation to health, and to have as many persons as possible put this knowledge into daily practice.

A compilation of the results of the year's work shows that 923 families improved their methods of food preparation, 1145 children improved their health through the adoption of better eating habits, 218 women learned to make wiser selection of foods with resultant benefits to their own and their families' health, and in the 4-H club work 50 clubs completed their year's work in nutrition subjects.

Food Selection and Meal Planning.—Food selection or meal planning, as it was called this year, was given to groups having already taken food preparation, as a logical sequence in gaining a fundamental knowledge of the nutritional needs of a family. The results of this work are shown by a compilation of reports from all counties served as follow: Families using more fruit 1009, using more milk 758, using less tea and coffee 287, using oranges or tomatoes 710, using more green vegetables 924, using more water 754, using more cereals 444, and using fewer sweets between meals 172. The number of persons weighed and measured in connection with nutrition work was 685, the number relieved of habitual constipation 173, the number bringing their weight more nearly to the normal figure 270, number of women improving food scores, 71, and the number making and carrying out meal plans 74.

Fruits and Green Vegetables for Health.—The work in fruits and green vegetables for health was given under a special plan in the flooded area of the state to meet their special needs. Following two years of crop failure, the nutritional condition of the people was poor. To show them how to quickly grow an adequate food supply, and how to preserve or store it seemed to be the essential program there, and this

has been done. The program of work included gardening work, vegetable preparation, yeast bread preparation (pellagra preventative) done through the county agents, the nutrition workers, and the specialist. The work was carried on with women's groups and 4-H club groups in three counties.

Food Preparation.—This work received special emphasis in seven Missouri counties; Howard, Monroe, Newton, Callaway, Cass, St. Louis, and Nodaway. In these counties 923 homes adopted improved practices relative to food preparation. The work was given to 83 groups, and the attendance at leaders' training schools was 1289. A total of 155 method demonstrations were given.

The adoption of improved practices in food preparation included a variety of changes as follow: Improved practices in bread making 240, in meat cookery 262, in vegetable cookery 568, in milk cookery 496, in fruit cookery 51, and in meal preparation and service 419.

The classes in food preparation are generally held as all-day meetings, preparation of the dishes preceding the dinner. During the demonstration, the principles of preparation of the particular type of food being demonstrated are discussed by the specialist, and following the dinner a review of the points made with additional nutrition information is given to these leaders. These meetings are held once a month for four or five months, according to the decision of the clubs. The leaders present the demonstration to their own community groups. The project leader, who remains the same throughout the series of meetings, is responsible for calling the meetings, arranging for supplies and utensils needed and making out reports. The two local leaders, who may be changed each time, prepare the dishes and give the talk the specialist gave.

Child Feeding.—Besides 29 child feeding schools previously started, 26 new ones were conducted by the Extension Service in 1928. In connection with this work 1941 children were weighed and measured. The number of children who raised their score and therefore improved their food habits was 1145.

Two plans used in the past for presenting this project have been used again. After the consent of the county superintendent has been gained under the first plan, the specialist, accompanied by the extension agent or county superintendent, visits each school, weighing and measuring the children, talking to both children and parents on correct food habits and scoring these habits in grades 3 to 8. The second plan trains the teacher in presenting the work instead of having the specialist meet the children. When conscientious teachers undertake the project this plan works well; otherwise it does not bring in results.

An Achievement Day in the spring bringing several classes together with the children's parents, completes the work.

4-H Nutrition Clubs.—Nutrition training was given to 79 boys' and girls' clubs in 1928, and of this number 50 completed the year's work as standard 4-H clubs. In the total number of nutrition clubs organized during the year the division among sub-projects was as follows: baking clubs 6, canning clubs 12, supper clubs 44, and hot lunch clubs 17. The total membership of these clubs was 703, including 109 boys and 594 girls. The number of counties represented was 35. A secondary result of this 4-H club work was the adoption of better nutrition practices by adults in 221 classes.

Special Campaigns.—In Carroll county a three-day nutrition clinic was fruitful of great benefits. Arrangements were made with the State Board of Health to hold these clinics during the Fall Festival. As their time was already taken, they provided the necessary literature and local doctors were asked to make the physical examinations. The home demonstration agent, Mrs. Lackey, and the assistant home demonstration leader, Miss Blanche Belknap, interviewed the mothers, weighed and measured the children and made a nutrition survey of the children's food habits. The specialist had had prepared in advance nutrition blanks for this purpose with space for recommendations of changes in food habits. The mothers found these very practical and were very glad to have definite recommendations.

PUBLICITY FOR THE EXTENSION MESSAGE

Work done during the year in giving publicity to the helpful information and organized assistance offered the farmer by the Extension Service including the editing and preparation of 323 extension news stories for the weekly news releases of the College and the establishment of a stereotype mat service for the press with distribution of 1546 mats of 51 pictures.

It also included the editing of 25 new circulars and seven other new publications in regular extension series, and the arranging of the radio broadcasting schedule of 87 talks during the year.

Assistance was given extension agents and newspaper men in the publication of sixteen special editions supporting extension campaigns.

Frequent and numerous individual conferences were held with extension specialists to give wider and more effective publicity to their projects, and one demonstration was given before a statewide conference of the home economics agents and specialists.

Personal visits were made to the agents serving 40 counties, a day being spent with each for the purpose of giving instruction in

the best methods of gathering and writing extension news stories. On these trips the project leader also visited 61 newspaper offices.

Conferences with Agents and Specialists.—At the annual extension conference at the College in December the publicity project leader spoke to the home economics agents and specialists on “How to Get Home Economics News into the Papers”. This problem has been especially difficult for the home economics agents during the year. An hour was spent in this conference session on the practical aspects of news writing from the viewpoint of the newspaper man as well as from that of the agent. Demonstration material and blackboard diagrams were used to visualize the points essential to success in this work.

Individual conferences with the specialists both in agricultural and home economics projects were frequent and numerous throughout the year. All specialists have been encouraged in every possible way to make full use of the several channels of publicity emanating from the agricultural editor’s office. They have been given help also in preparing articles for farm journals and magazines, in planning campaigns, coining slogans, and issuing special project publicity.

Visits to Extension Agents.—Personal assistance was given to county and district extension agents in their own offices in 40 counties during the year. The visits usually occupied a full day in each agent’s territory and carried to him not only criticism of his news stories but also demonstrations of the approved methods and help in the field in actually gathering story material and preparing it for the newspapers. This sort of help was given to 27 county agents, 6 district agents, and 5 home demonstration agents, serving altogether 40 counties.

A SCORE CARD FOR EXTENSION AGENTS’ PUBLICITY

		Perfect Score
I.	Use of Newspaper Style in Writing.—25 points	
	Big Idea First.....	10
	Summarize in First Paragraph.....	5
	News Combined with Extension Teaching.....	5
	Written in Third Person.....	5
II.	Recognition of Universal Interests.—25 points	
	Local News Appeal.....	10
	Dollars-and-Cents Appeal.....	15
	Pride Appeal.....	5
	Scare Appeal.....	5
III.	Coordination of Publicity with Projects.—25 points	
	As Work Starts.....	5
	While Work Is Under Way.....	5
	After Results Have Been Obtained.....	10
	Credit to Cooperators.....	5
IV.	Making Publicity Attractive to Editor.—25 points	
	Timeliness of News.....	10
	Appearance of Copy, Double-spaced.....	5
	System, Regularity.....	5
	Personal Contact with Editors.....	5
TOTAL	100

In helping extension agents with their publicity a score card was employed this year for the first time, serving as a basis for the discussion and supplying a measure by which the work of the agent could be impartially judged. This score card was first suggested by Mr. Gilbertson of the Washington Office, but was somewhat modified during the year. The form finally developed and found most effective is attached hereto.

Special Editions of Newspapers.—Special editions of country newspapers have been used with good effect by county and district extension agents during the last year to give the widest possible dissemination of announcements, result stories and subject-matter information throughout their counties or districts. In most instances these have been used to advance certain major projects or campaigns; notably soil improvement, legume growing, dairying, livestock raising, and home economics work. The part of the agricultural editor's office in the work of planning and preparing copy for these special editions has taken the form in most cases of assembling cuts, mats, and subject-matter material at the College and forwarding same to the agents. In other instances the project leader in publicity has spent a day in the agent's county helping him gather and prepare local stories for the special edition.

Special editions issued in this manner during the year were as follow: Columbia Herald-Statesman, ✓Clover and Prosperity, Feb. 2; Warrensburg Star-Journal, ✓Clover and Prosperity, Feb. 24; St. Joseph Gazette, Home Economics, Mar. 25; Higginsville Jeffersonian, ✓Clover and Prosperity, Mar. 8; Harrisonville Democrat, ✓Clover and Prosperity, Mar. 1; Fayette Democrat Leader, ✓Clover and Prosperity, June 22; Belton Star-Herald, ✓Lime, July 5; Holden Enterprise, ✓Lime and Prosperity, July 26; Harrisonville Democrat, ✓Clover and Prosperity, Aug. 2; Lathrop Optimist, ✓Legumes and Livestock, Aug. 9; Bowling Green Times, Legumes and Livestock, Aug. 15; Butler Weekly Times, Lime and Legumes, Aug. 16; Columbia Tribune, Lime and Legumes, Aug. 3; Carrollton Republican-Record, Lime and Legumes, Aug. 24; Lebanon Rustic, ✓Clover and Prosperity, Oct. 11; and Carrollton Democrat, Home Economics, Nov. 10.

News Stories Written by Extension Agents.—The news stories written, published, and clipped by Missouri extension agents and sent with their monthly reports to the Extension Office at the College have been turned over to the agricultural editor for his examination and criticism during the last eighteen months. Local news stories showing the results of extension demonstrations, announcements of meetings, reports of meetings, information stories on current problems and campaigns, and similar news items written by Missouri extension agents were printed in 11 state and sectional newspapers, 2 farm journals, and

293 community newspapers in Missouri during the year just closed.

Contacts with Newspaper Men.—Newspaper offices were visited in nearly all counties traversed during the year. The purpose of these visits was two-fold; to gain the viewpoint of the newspaper editors and the benefit of any criticisms or suggestions they might offer, as well as to help them understand the value of extension work to their own communities.

Articles for the Newspapers.—For the newspapers and farm journals of the state 323 stories of extension activities and teachings were prepared, printed, and distributed. Of this number 249 related directly to the work of the Extension Service in Missouri counties and districts, while 74 related to extension events at the College (including one extension conference and two sessions of Farmers' week). Accompanying these news releases were 255 stories relating to other divisions of the College; information stories prepared by station workers, student activity stories, and stories showing the value of agricultural education.

All of these articles were distributed throughout the state in the weekly news releases of the College, which are issued in the form of a printed clip-sheet entitled the Missouri Farm News Service. This clip-sheet is now in its eighth year in its present form and has grown steadily in popularity with the newspapers. No resort was made this year to a clipping service to check up on the use made of the clip-sheet, but the last previous test revealed that in its fifth year this service was regularly used by 270 Missouri newspapers.

The Newspaper Mat Service.—One of the most important publicity measures undertaken during the year was the establishment of the mat service. Forty-four photographs and drawings illustrating in large detail important practices as demonstrated throughout the state by the Extension Service were used as copy for newspaper halftones and zinc etchings. These were chosen and edited with special reference to the requirements of the newspapers of the state and the plans of extension project leaders. From each of these pictures one master cut and 30 to 75 stereotype mats were made. In many instances two mounted stereotype copies were also made of each cut for use in newspapers not owning casting equipment.

Each of these cuts was used with a news story describing a demonstration or practice, and was released to the press through the Farm News Service at the date most timely from the viewpoint of the project leader whose campaign or extension program that particular cut and story were designed to advance. The mats were not sent broadcast to newspapers but were sent only to newspapers requesting them or to extension agents who personally arranged for their use in local newspapers.

Two of the cuts used in the newspaper mat service are shown below.



Fig. 15. - Extension specialists advocate the use of alfalfa for hog pasture.

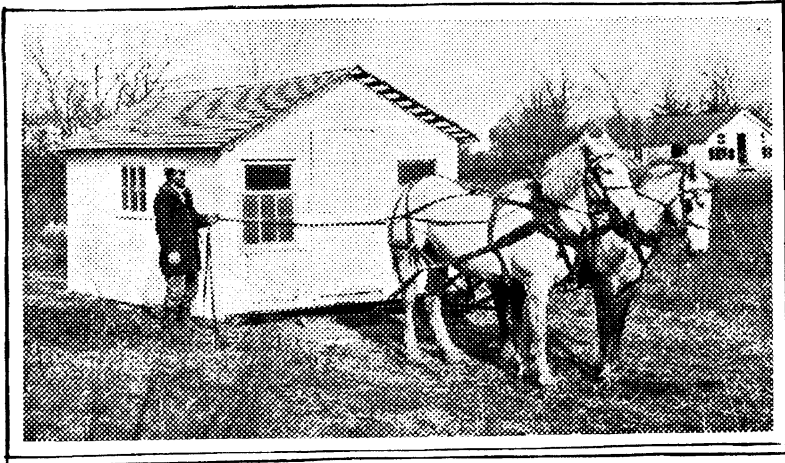


Fig. 16.—The Missouri-type portable brooder house whose use on clean range has materially reduced the loss of baby chicks on many Missouri farms.

Photographs of seven members of the extension staff were similarly used as copy for mats designed especially for use in the metropolitan papers of the state and in special editions of country dailies and weeklies.

The total number of mats purchased during the year for the dissemination of these 51 key pictures was 2645. At the close of the year 1546 of these mats had been sent to newspapers and agents in response to requests for them. Practically all of the pictures used were so chosen that they will continue to be serviceable in the pushing of extension projects each year at their appropriate seasons.

The mat service has assisted greatly in the publication of special editions, supplying many copies of the most popular and useful cuts at times when they were in demand simultaneously in several counties and districts.

Radio Broadcast Schedules.—The organization of all radio broadcasting schedules has been handled in the agricultural editor's office. Although the College has no broadcasting equipment of its own, arrangements were made whereby speakers from the College were assigned dates in a regular schedule at the broadcasting studio at Stephens College, at Columbia. This is a 500-watt station broadcasting prior to November 10, 1928 on a wave length of 497 meters.

During December, 1927, and January, 1928, the broadcasting schedule of the College of Agriculture included two talks a week, generally on agricultural subjects. Beginning February 1 the schedule was enlarged to include three talks a week; agricultural talks on Mondays and Wednesdays, home economics talks on Fridays. The time of broadcasting was 7:00 to 7:15 p. m.

By these arrangements 87 talks on problems and projects current throughout the state at the time of delivery were made by the extension specialists and other members of the College staff. Of the total number 63 were agricultural talks and 24 were on home economics.

State Fair Exhibit.—An exhibit of all current Extension Service publications and publicity material was prepared and set up in the University Building at the Missouri State Fair in August. This included not only a display of the circulars, leaflets, project announcements, and 4-H club circulars, but also the Missouri Farm News Service making especial display of the new mat service, and more than 150 newspaper headings indicating the Missouri newspapers that have been making most liberal use of the service. There was also a section showing all the special editions of newspapers issued up to that date in support of special campaigns and projects of the Extension Service.

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Scanner model	A300 Plus
Scanning system software	Book Pavilion
Optical resolution	600 dpi
Color settings	8 bit grayscale
File types	tiff
Notes	

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Color	grayscale
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Notes	Images cropped, straightened, brightened...