

THE EFFECTIVENESS OF EXTENSION WORK IN
DAGGETT AND STEPHENSON COMMUNITIES,
MENOMINEE COUNTY, MICHIGAN

by

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INTRODUCTION

Extension Work has had a phenomenal growth during the last fourteen years. The public has been liberal in providing funds for this rapid development. Individuals have given liberally of their time in advising with directors and supervisors and in serving on project committees, county executive boards, and agricultural councils in order that local extension activities might have the benefit of their experience and judgment. Congress is providing \$7,140,000 directly to this work for the fiscal year 1928-1929 and several departments of the Department of Agriculture are cooperating with state college departments by providing additional funds. This amount is being duplicated by the various state extension departments. The budget for the Extension Division of the Kansas State Agricultural College and the 65 county budgets for Extension Work in Kansas counties amounted to \$572,697.23 for the fiscal year 1927-1928.

Very few if any states are making a systematic effort to check the effectiveness of their extension organizations. Strong opinions on the effectiveness of different methods and different types of organizations are common but are

usually based on personal opinions and personal observation rather than upon an objective check-up.

Thirteen states cooperating with Mr. M. C. Wilson, in charge of extension studies, Office of Cooperative Extension Work, United States Department of Agriculture, have made studies similar to this in as many states. An effort has been made to profit by the experience gained by these states in making this study.

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Kansas State Agricultural College in offering many suggestions regarding the study and for criticizing the manuscript; and to Dr. W. H. Andrews for his assistance with the treatment of statistical data.

BRIEF HISTORY OF EXTENSION DEVELOPMENT

Agricultural Extension aims to make scientific and practical agricultural information and instruction available to farmer people generally. The present Cooperative Extension System is a product of evolution. Its development can be traced through a series of agricultural educational movements including farmers' institutes, cooperative experiments, and early college extension departments.

Farmers' institutes grew out of farmers' meetings held more or less irregularly by agricultural societies during the first half of the 19th century. They had their real beginning, however, soon after the establishment of the Land Grant Colleges following the passage of the Morrill Act which was approved by Congress in 1862. These institutions early felt the call of the people of the farm for assistance with the problems peculiar to their business. They furnished speakers for farmers' meetings

and soon took the initiative in organizing institutes. By 1908 all states except Louisiana and Nevada held farmers' institutes.

Instruction by this method, however, was too vague. Backward farm people and those living in inaccessible places were not reached. To overcome this the experiment stations arranged "cooperative experiments" with leading farmers. These were experiments so far as the farmer is concerned, but demonstrations from the standpoint of the college. They were more effective than the farmers' institutes and served to make clear the importance of the demonstration method in agricultural adult education.

The next step was the organization by the agricultural colleges of Extension Departments to carry on this work of the college with farm people . According to Wiest (1923) the Nixon Act passed by the New York legislature in 1904 was the first provision made for this work by definite legislative appropriation.

Extension Work as now organized, had its beginnings in the South. The full significance of the demonstration method was realized by Dr. Seaman A. Knapp of the United States Department of Agriculture. To him is generally given the credit for creating the organization which was destined to make this method of teaching so effective. Commissioned by the United States Department of Agriculture

to study and try to improve the agricultural situation in Texas brought about by the ravages of the pink boll weevil, Dr. Knapp had installed the first county agricultural agent by November 1906.

About the same time sentiment became more favorable to the establishment of a national extension system. This seems to be reflected by the report of the Roosevelt County Life Commission in 1908:

"We suggest the establishment of a nation-wide extension work. The first original work of the agricultural branches of the Land-Grant Colleges was academic in the old sense; later there was added the great field of experiment and research; there now should be added the third, coordinate branch comprising extension work, without which no college of agriculture can adequately serve its state. It is to the extension departments of these colleges, if properly conducted, that we must now look for the most effective rousing of the people on the land."

In 1911 states began making appropriation direct for county work. Congressional appropriations also grew rapidly as the effectiveness of the idea became apparent.

The idea spread rapidly through the South. At first agents were appointed to work in from 10 to 15 counties but the work was not effective over so large a territory.

Funds to support the work were first provided by the United States Department of Agriculture through the Bureau of Plant Industry, business men, and farmers in the boll weevil territory. About this time the General Education

Board of New York offered support outside of boll weevil territory. Their appropriations started with \$7,000.00 in 1907 and increased to \$187,500 in 1914. In 1909, Mississippi enacted a law making it possible for the county to pay part of the salary of the County Agent.

The first man to work exclusively in one county was W. C. Stallings of Smith County, Texas, appointed November 1, 1906.

In the North, the cooperative extension plan was first installed in Broome County, New York, March 11, 1911. At that time John Barron was appointed agent for that county through the cooperation of the Bureau of Plant Industry of the United States Department of Agriculture, the New York State College of Agriculture, the Binghamton Chamber of Commerce, and the Delaware, Lackawanna, and Western Railroad.

About this time the Grain Improvement Committee of Chicago offered \$1000 to each of the first 100 counties to organize County Agent work. Leavenworth County, Kansas, was organized in 1912 with this assistance and P. H. Ross was appointed the first County Agent, August 1, of that year.

The work was placed on a sound financial basis with the passage of the Smith-Lever Act by Congress in 1914. This act clearly defines the purpose and scope of the work as follows:

"That cooperative agricultural extension work shall consist of the giving of instruction and practical demonstrations in agriculture and home economics to persons not attending or resident in said colleges in the several communities, and imparting to such persons information and said subjects through field demonstrations, publications, and otherwise."

By this act the sum of \$480,000 was appropriated for the ensuing fiscal year, to be divided \$10,000 to each state. This was to be increased by \$600,000 the following year and each year for the following seven years this was to be increased by \$500,000 until the total appropriation reached the sum of \$4,100,000, exclusive of the original \$480,000. The latter amounts were to be pro-rated among the states according to agricultural population.

Extension Work proved so effective in agricultural production that during the World War large emergency appropriations were made by Congress in order that the work might be extended to every agricultural county in the United States. These appropriations lapsed June 30, 1919 with the close of the war but supplementary appropriations were made in order that the work might not lapse in those counties where the local people desired it to continue. For the fiscal year 1928-1929 the supplementary appropriations amount to \$1,580,000 pro-rated to the states according to agricultural population. Extension Work will be further extended through the Capper-Ketcham Act which was passed by

the 70th Congress and which will become effective July 1, 1928. This act is closely modeled after the Smith-Lever Act but expressly states that 80% of the funds must be used in payment of salaries of county workers. By this act \$980,000 will be available for the fiscal year of 1928-1929 in the amounts of \$20,000 to each state and each year thereafter an additional \$500,000 to be pro-rated according to agricultural population.

Organization for administration varies among the different states but all agree on the types of work done by the four principal classes of workers. County Agricultural Agents are the most numerous. As their name clearly shows, the County Agricultural Agent is an agriculturally trained man devoting his full time to the development of the agricultural industry in the county. County Club Agents similarly devote all of their time to work in a single county by devoting their time and effort to work with boys and girls between the ages of ten and twenty years. The County Home Demonstration Agent devotes her time to the interests of the farm and village home. A trained corps of Specialists is maintained with headquarters usually at the agricultural college to assist in directing the county workers in their various programs in agriculture and home economics. Specialists keep in close contact with the experiment stations and are the direct go-between between

the college with its experiment station and subject matter departments, and through the county workers with the people of the various counties.

OTHER EXTENSION STUDIES

Until very recently, Extension Work has been dependent upon other educational and commercial agencies for its technique in method. Mr. M. C. Wilson, in charge of Extension Studies for the Office of Cooperative Extension Work of the United States Department of Agriculture, inaugurated a series of studies in various states with studies in Iowa and New York in 1923. This series has been extended until studies have been made in Iowa, New York, Colorado, California, New Jersey, Georgia, Wisconsin, Arkansas, South Dakota, Illinois, Pennsylvania, Minnesota, and Kansas. Special features of Extension Work have been studied in New Jersey, Massachusetts, South Dakota, Wisconsin, Pennsylvania, and Ohio. Reports of each of these studies have been made by Mr. Wilson cooperating with the Extension Departments of each of these states. These publications will be found listed in the bibliography.

Mr. A. F. Turner of the Extension staff of the Kansas

State Agricultural College has made studies of the results of the extension program in various Kansas counties. Mr. Turner used as a basis of comparison crop yields and value of poultry and dairy products. His statistics were taken from the Biennial Reports of the Kansas State Board of Agriculture. He compared counties in similar locations before either had employed a County Agent and again after County Agents had been at work in one of the areas for a number of years.

SCOPE AND PLAN OF THIS STUDY

This study was conducted in cooperation with the Office of Cooperative Extension Work of the United States Department of Agriculture and the Extension Department of the Michigan State College, in Menominee County, Michigan. It furnishes some data relative to the results of methods and agencies used in Extension Work as given by farm men and women living in a representative area in this county. A special effort was made to have the farmers and their wives indicate the various agencies or methods which were responsible for causing them to adopt on their farms and in their homes, practices recommended by the United States Department

of Agriculture and the Michigan State College. The effect of such conditions as type of road, land tenure, size of farm, cleared area, participation in extension activities, and contact with extension workers are given careful attention.

The area studied consists of slightly over a township lying east of highway U. S. 41 and south of the county road running east and west through the village of Daggett in the county of Menominee, Michigan. The eastern boundary is a swamp area totally unsuited for agricultural purposes. The southern boundary extends to the county road running east and west, one mile north of the village of Wallace. The survey cards, Figures 1 and 2, were developed by the Extension Division of Michigan State College and Office of Cooperative Extension Work of the United States Department of Agriculture. The information was secured by a survey party of nine members who interviewed both the farmer and his wife whenever possible. In a few cases information relative to the home was secured from the farmer and information relative to the farm was secured from the farmer's wife. Records were secured from every farmer in the area who could be found at home during the three days the survey party were working. The definition of extension terms approved by the Association of Land-Grant Colleges and the

Name _____ Address _____ Community _____

Size of farm _____ Kind of road _____ Miles to agent's office _____

Years: Farming _____ This farm _____ Owner _____ Tenant _____

No. in family: Adults _____ Children _____ Phone _____ Radio _____ No. tubes _____

Get WKAR program: Noon _____ Evening _____ Time of evening program preferred _____

Other stations from which useful agric. and home econ. information is obtained _____

Member of what farmers' organizations _____

Member of what homemakers' clubs _____

Leadership in extension work: Farm _____ Home _____

Number and kind of result demonstrationson farm _____ In home _____

Extension activities attended or participated in away from farm: Agric. _____

H. Econ. _____ Nature of contact with C. Agt. _____ H.D.Agt. _____

Club Agt. _____ Specialists _____

Have circular letters been received? _____ Bulletins? _____

T

List below members of family of club age (10-20 yrs.), or who have carried on a junior project.

Name	: Present: age	In : school:	Cal. yrs. in: club work	Project :	Why discontinued or why not a club member
	:	:	:	:	:
	:	:	:	:	:
	:	:	:	:	:
	:	:	:	:	:
	:	:	:	:	:
	:	:	:	:	:

How has your community benefited through extension work?

Suggestions for the improvement of the service

What agencies other than Extension do you rely on for assistance in connection with problems relating to: Farm _____ Home _____

Papers and magazines taken: Daily _____ Weekly _____ Farm _____
Home _____ Cultural _____

Attitude toward extension work _____ Education: Man _____ Woman _____

Age: Man _____ Woman _____ Remarks: _____

Abbreviations: Correspondence (cor.); office call (o.c.); telephone call (tel.); farm and home visit (f.v.); leader training meeting (l.tr.); bulletin (bul.); circular letter (cir.l.); news story (n.s.); extension school or short course (e.s.); result demonstration: Adult (dem. a.); Junior (dem. jr.); method demonstration meetings (m.dem.); general meeting (mtg.); radio (r.); exhibit (exh.); poster (p.); indirect influence (ind.)

Extension Services of the Michigan State College and of the United States Department of Agriculture cooperating.

Figure 2.

(Reverse side of questionnaire)

United States Department of Agriculture and published in the annual statistical report of county extension workers has been closely followed throughout. The term farm is used as including the activities of the home.

The survey party consisted of: M. C. Wilson, Office of Cooperative Work, United States Department of Agriculture; C. V. Ballard, R. G. Carr, and E. G. Amos, District Agents, Extension Division, Michigan State College; L. R. Arnold, Poultry Specialist, Michigan State College; C. P. West, Earl Roberts, and C. E. Skiver, County Agents of Luce, Iron, and Menominee Counties, Michigan, respectively; and Karl Knaus, Superintendent, Upper Peninsula Agricultural School, Menominee, Michigan.

The reports were checked by Miss Iva M. Sinn, Office of Cooperative Extension Work, United States Department of Agriculture and Mr. Wilson, each evening and obvious errors corrected and missed data supplied by the field men while fresh in their minds.

HISTORY OF EXTENSION WORK IN MENOMINEE COUNTY

County Agents have been employed in Menominee County continuously since July 1, 1916, except for short intervals until vacancies could be filled. A Home Demonstration Agent was employed for slightly over one

year during the war period. Part time club agents have been employed during the summers of 1924, 1925, 1926, and 1927.

County Agricultural Agent:

E. B. Hill, July 1, 1916 - January 15, 1919.
 E. G. Amos, February 16, 1919 - August 31, 1919.
 Irving Kirschman, December 1, 1919 - November 30, 1922.
 Karl Knaus, June 16, 1923 - June 30, 1927.
 C. E. Skiver, October 16, 1927 -

County Club Agent, Part Time:

John L. Bumbalek, May 1, 1924 - October 31, 1924.
 Gus A. Thorpe, July 1, 1925 - December 31, 1925.
 Guy P. Williams, July 1, 1926 - December 31, 1926.
 Gus A. Thorpe, July 1, 1927 - September 30, 1927.

Home Demonstration Agent:

May E. Foley, May 25, 1918 - June 30, 1919.

The agricultural program has been built around the dairy industry. Much effort has been made to improve the quality of the cattle kept and to improve feeding methods. Alfalfa has been featured as a dairy feed and potatoes and sugar beets as cash crops. The poultry project has been developed since 1923. The Boys' and Girls' club program has consisted of clothing, handicraft, and hot lunch clubs conducted in the rural schools in the winter months, and calf, poultry, garden, and canning clubs conducted by a part time club agent in the summer months. The effect of this program is quite apparent from the large percentage of farms reporting practices changed in their dairying, in the production of alfalfa and potatoes and with their poultry. (See Table V).

GENERAL INFORMATION REGARDING THE AREA

Practically every farmer in the area keeps dairy cattle. There are three creameries and six cheese factories besides several cream shipping stations in the area. Of the 223 farms surveyed, it was found that 212 or 95.07% were operated by owners. The average size was 92.38 acres. The average cleared area 51.05 acres. One hundred and thirty-three or 59.6% of the farms had telephones. One hundred and forty-four or 64.5% lived on gravel or paved roads. One hundred and twenty-eight or 57.4% had children between the ages of ten and twenty years and of these farms seventy-five or 58.6% had children who had been or were at present members of Boys' or Girls' Clubs. Twenty-seven or 12.1% had radios. One hundred and seventy-three or 77.57% had not had farming experience before coming to this farm. They had been farming an average of 20.32 years and had been on their present farms an average of 17.61 years. The average age of the farmers was 51.58 years. (See Table I on following page.)

TABLE I

General Information Relative to Farms
Included in This Study.

	No.	Per Cent
Farm Records obtained	223	100
Farms operated by owners	212	95.07
Farms operated by tenants	11	4.93
Average size of farms (acres)	92.38	
Average cleared area (acres)	51.05	
Farms having telephones	133	59.6
Farms having radios	27	12.1
Farms on improved roads	144	64.5
Farms on unimproved roads	79	35.5
Farms with children of club age (10-20 yrs.)	128	57.4
Farms with children in Junior Clubs	75	58.6
Average age of farmers (yrs.)	51.58	
Average number of years farming	20.32	
Average number of years on this farm	17.61	
Number of farmers with farming experience before this farm	50	22.42
Number of farmers without farming experience before this farm	173	77.57

TABLE II

Participation in Extension Activities.

	No.	Per Cent
Farm records obtained	223	100
Farms or homes represented by committeemen or project leaders	20	8.97
Farms on which extension activities were conducted	66	29.59
Farms with children participating in junior club work	75	33.63
Farms participating in extension activities away from their own farm	175	78.47
Farms not participating in any extension activity	37	16.59

Table II shows the manner in which the 223 farms surveyed, participated in the various extension activities. Twenty farmers or their wives or 8.97% were reported as committeemen or project leaders. Sixty-six or 29.59% of the farms had conducted extension activities on the farm or in the home. Seventy-five or 33.63% of the farms had children participating in junior club work. One hundred and seventy-five or 78.47% participated in extension work off their own farms while thirty-seven or 16.59% had taken no part in any extension activities.

TABLE III

Contact with Extension Workers.

	No.	Per cent
Farm records obtained	223	100
Farms reporting contact with some member of the Extension Service	187	83.86
Farms reporting contact with County Agricultural Agent	183	82.06
Farms reporting contact with Specialists	122	54.70

Table III shows that one hundred and eighty-seven or 83.86% of the farms surveyed had made some contact with Extension Workers. One hundred and eighty-three or 82.06% had made contact with the county extension agents while one hundred and twenty-two or 54.7% were reported as having come in contact with Specialists from the Michigan State College.

TABLE IV

Nature of Contacts with County Agr'l Agent.

	No.	Per cent
Total number of contacts reported	279	100
General meetings	126	45.16
Farm visits	94	33.69
Correspondence	28	10.03
Method demonstrations	17	6.09
Office calls	14	5.02

Table IV shows the distribution of 279 contacts reported made with the County Agent. One hundred and twenty-six or 45.16% were made at meetings, 94 or 33.69% were

farm visits, twenty-eight or 10.03% were made by correspondence, fourteen or 5.02% were made by office calls, and seventeen or 6.09% by method demonstration. It is probable that many farmers did not differentiate between meetings and method demonstrations in reporting contacts as the technical differentiation is usually not understood by farm people. This would indicate that the contact through meetings might be smaller and the contact through method demonstrations larger than here reported.

TABLE V

Distribution of Practice Changes Reported with Method Responsible.

Project	Practices adopted	Personal Service				Object Lesson				Publicity							Indirect
		Corres.	Office calls	Telephone	Farm visit	Leader Tr.	Dem. a.	Dem. jr.	M. Dem.	Bulletins	Circular letters	News stories	Meetings	Radio	Exhibits	Trains	
Agr'l Engineering *(Gen.)	4								2	1							1
Building	5				2					2							1
Land clearing	31	1			1		1		18	1	8	6	2				3
Bees	5				1				2	1	1	1	2				
Crops *(Gen.)	12						1		1	2		1	4				5
Alfalfa seeding	92	2			10		7			4	4	18	62				26
Alfalfa inoculation	30	5		2	3				2	1	1	7	13				6
Barley	19				2		2			2	1	5	9				5
Oats (Variety)	38				7		1			3		2	10				22
Oats seed treatment	18	2	1		1		1		5	3	1	2	6				2
Potato Variety	70	1			10		5		4	7	1	7	21		3		37
Potato seed treatm't	48	1			6				18	5	2	3	13				10
Quack eradication	4											1		1			2
Sweet clover	16	1			3		1					5	9				3
Dairy (Breeding)	57	1			23			3		1	1	7	31			1	9
Feeding	47	1			16		2	2	2	5	1	4	32				6
Records	4				3						1		3				
Diseases	2											2	1				
Home Management	3							1			1	1	1				
Canning	21							5	12	6			2				
Child Feeding	4									4							
Clothing	26					1		14	13	1			4				
Poultry (Breeding)	27	1			2				12	1		8	6				
Feed and Care	14								1	9	1	3	6				
Housing	9	3			2				1	5		4	1				
Soils Testing	6				1				3				2				
Fertilizers	19				3		1			2	1	1	8				5
All others	4				1					3							1
Total	635	19	1	2	98	1	22	25	96	69	25	88	248	1	3	1	144
Percentages		2.9	.15	.31	15.4	.15	3.9		15.1	10.8	3.9	13.8	39.1	.15	.47	.15	22.6

*Practices reported twice or less were grouped together under the head of "general" in each subject division.

PRACTICE CHANGES WITH METHODS AND
AGENCIES RESPONSIBLE

The distribution of practice changes reported by farmers and their wives and the method which they deemed responsible for the change is shown in the preceding Table V. Where two or less changes on any project were reported, they were grouped together under the head of "general" in each project subdivision. Note that the largest number of practice changes were reported in those projects which were definitely incorporated in the Extension program for the county as given on page 15. For example, of the 635 practice changes, 122 related to alfalfa, 118 related to potatoes, 104 related to dairy breeding and feeding, 50 related to poultry, and 47 related to the clothing and canning projects, as carried on through club work.

Meetings rank first among the methods responsible for practice changes, being reported in 39.1% of the cases. Indirect methods rank second with 22.6%. Farm visits and method demonstrations rank third and fourth with 15.4% and 15.1%, respectively. From the standpoint of the time required on the part of the county worker, the news story, the bulletin, and the circular letter are effective means

of reaching farm people. News stories were reported as responsible for 13.8%, bulletins in 10.8%, and circular letters in 3.9% of the practice changes. Wilson (1928) in his study conducted in Minnesota, Wisconsin, and Ohio find that 86.1% of the farmers receiving bulletins, read all or some portion of the bulletin, 61.8% adopt some practice or practices from the bulletin and 55.3% save the bulletin for future use.

Table VI on the following page summarizes these methods into four groups: Correspondence and office calls, telephone calls and farm visits were classified under the Personal Service group and were responsible for 18.89% of the practice changes. Adult result demonstrations, junior demonstrations, method demonstrations and leader training were grouped together in the Object Lesson group and were responsible for 22.67% of practice changes. Bulletins, circular letters, news stories, meetings, radios, exhibits, and trains were grouped together in the Publicity group and were responsible for 68.5% of the practice changes. Indirect methods or those which the farmers could attribute to none of the above mentioned classifications were responsible for 22.67% of the practice changes.

TABLE VI

Practice Changes with Methods and Agencies Responsible.

	Number	Methods Responsible				Agencies Responsible				
		Personal service	Publicity	Object lessons	Indirect	Co. Agt.	H. D. A.	Club Agt.	Specialist	Local leader
Agr'l Engr. *(Gen.)	4		1	2	1	2			3	1
Building	5	2	2		1	2				
Land Clearing	31	2	17	19	3	30			15	8
Crops *(Gen.)	12		7	2	5	8			3	2
Alfalfa Seeding	92	12	88	7	26	78			55	5
Alfalfa Inoculation	30	10	22	2	6	26			11	2
Barley	19	2	17	2	5	18			8	3
Oat Variety	38	7	15	1	22	23			8	16
Oat Seed Treatment	18	5	12	6	2	16			6	1
Potato Variety	70	11	39	9	37	47			15	25
Potato Treat'mt & Cul't	48	7	23	18	10	47			23	7
Quack Eradication	4		2		2	2				1
Sweet Clover	16	4	14	1	3	15			8	2
Dairy (Breeding)	57	24	41	3	9	50		2	28	7
Dairy Feeding	47	17	42	6	6	39			29	2
Dairy Records	4	3	4			4				
Dairy Diseases	2		3			2				
Home Management	3		3	1		3			3	1
Home Canning	21		8	17		8	7	1	8	2
Child Feeding	4		4			1	1			
Clothing	26		5	28		25	4		20	12
Poultry (Breeding)	27	3	15	12		26			8	2
Feed and Care	14		19	1		11			6	
Housing	9	5	10	1		5			2	
Soil Testing	6	1	2	3		6			4	
Fertilizers	19	3	12	1	5	15			4	
Bees	5	1	5	2	1	2			1	
All Others	4	1	3			1			1	
Totals	635	120	435	144	144	512	12	3	269	101
**Grand Totals	635				843					897
Per cent on basis of practices adopted	100	18.89		22.67		80.63	1.89	1.47	42.36	15.90
			68.50		22.67					

Percent on basis of methods or agencies respectively

14.23 17.08 57.08 1.33 .33 22.99 11.25
51.60 17.08

*All items mentioned twice or less were grouped together under the head of "general" in each subject division.

**Some records give two or more methods or agencies as responsible for a practice change.

TABLE VII

Methods and Agencies which Influenced Farmers to
Change Practices.

Item	No.	% of all farms	% of those changing practices
Farms from which records were obtained	223	100	
Farms on which some practices had been changed	190	85.2	100
Farmers influenced by Publicity	140	62.78	73.68
Farmers influenced by Personal Service	54	24.21	28.21
Farmers influenced by Object Lesson	68	30.49	35.78
Farmers influenced by Indirect Influence	94	42.15	49.47
Farmers influenced by County Agent*	169	75.78	88.94
Farmers influenced by Specialists	118	52.91	62.10
Farmers influenced by Local Leader	64	28.7	33.68

*Includes Home Demonstration Agent and Club Agents.

TABLE VIII

Method and Agencies Which Influenced Changes in Practice.

	No.	Per Cent
Farm and home practices changed	635	100
Agricultural practices changed	581	91.5
Home practices changed	54	8.5
Practices changed as a result of Publicity	435*	68.5
Practices changed as a result of Personal Service	120	18.89
Practices changed as a result of Object Lessons	144	22.67
Practices changed as a result of Indirect Influence	144	22.67
Practices changed due to influence of County Agent	512	80.63
Practices changed due to influence of Specialists	269	42.36
Practices changed due to influence of Local Leader	101	15.90
Practices changed due to influence of Home Demonstration Agent	12	1.89
Practices changed due to influence of Club Agent	3	.47

*In many cases more than one method or agency contributed to the change of practice.

Of the agencies responsible for the changes, the County Agent was reported as being responsible for 80.63% of the changes; the specialist for 42.36%, and local leaders were responsible for 15.9% of the practice changes. In many cases, farmers stated that County Agent, specialist, and local leaders, all contributed to the change of practice.

Table VII and Table VIII compare the number of farms changing practices with the number of practices changed. Publicity influenced 62.78% of the 223 farmers to change practices while they influenced 68.5% of the 635 practices which were changed. County Agents influenced 75.78% of the farmers to change practices while they influenced 80.63% of the practices changed.

EFFECT OF DIFFERENT PHYSICAL CONDITIONS UPON THE NUMBER OF PRACTICES CHANGED

The effect of different physical conditions such as: condition of occupancy, size of farm, amount of cleared land, and type of road were studied to estimate their effect upon the number of practice changes per farm.

TABLE IX

Effect of Condition of Occupancy on Number of Practices Changed.

Group	No. of farms	% of all farms	No. changing practices	% of farms changing practices	No. practice changes	Average per farm	Average No. per farm changing
Tenant	11	4.93	*9	81.81	40	*3.63	*4.44
Owner	212	95.07	181	85.37	595	2.80	3.28
All farms	223	100.00	190	85.20	635	2.84	3.34

*One farmer in this group of nine reported nineteen practices changed. This makes the average quite high due to the small number of cases. If this one record was eliminated the averages would be 2.1 and 2.6 respectively.

Table IX shows the effect of condition of occupancy. There are 212 farm owners in the group of 223 farms studied. The small number of tenants in the group makes

the comparison of doubtful value. This is made especially true by the fact that one of the tenants reported the adoption of nineteen practices, the most reported by any one of the entire 223 farms. If this one tenant were eliminated from the tenant group, it shows that 85.37% of the owners adopted an average of 3.28 practices while 80% of the tenants adopted an average of 2.6 practices. This may indicate a slightly larger number of practices changed by the farm owner. Wilson (1923, 1927) found similar differences in twelve other states.

TABLE X

Effect of Size of Farm on Number of Practices Changed.

Group	Average sized farm	No. of farms	% of all farms	No. changed practices	% of farms changing	No. practices changed	Average no. per farm	Average no. per farm changing
Less than 51 acres.	38.58	53	23.77	45	84.90	119	2.20	2.64
51-100 acr.	80.19	101	45.29	84	82.18	310	3.07	3.69
Over 100.	154.74	69	30.94	61	86.96	206	2.98	3.43
All farms	92.56	223	100.00	190	85.20	635	2.84	3.34

The effect of the size of the farm was not great, as shown by Table X; the medium and larger sized farms adopted slightly more practices than did the smaller group. 84.9% of the farms of fifty acres or less reported an average of 2.64 practices changed per farm. 82.18% of the medium

sized group reported 3.69 changes per farm while 86.96% of the largest group reported 3.43 practice changes per farm. The correlation between size of farm and number of practices adopted is .066. This is insignificant.

TABLE XI

Effect of Amount of Cleared Land on Number of Practices Changed.

Group	Average size of farm	No. of farms	% of all farms	No. changed practices	% of farms changing	No. practices changed	Average no. per farm	Average no. per farm changing
Less than 31 acres.	22.80	60	27.90	48	80.00	146	2.43	3.04
31-60 acr.	46.65	104	48.37	91	87.50	343	3.29	3.77
Over 60.	87.12	51	23.72	45	88.23	138	2.70	3.06
*All farms	49.49	215	100.00	184	85.58	629	2.92	3.41

There is a similar range seen in the effect of amount of cleared land. 80% of the 60 farms of less than 31 acres adopted an average of 3.04 practices per farm while 87.5% of the group ranging from 31 to 60 acres adopted 3.77 practices per farm. 88.23% of the 51 farms with a cleared area of over 60 acres adopted an average of 3.06 per farm. There is only 215 farms included in this group due to the fact that cleared area was not secured on eight of the farms studied.

*This information secured on only 215 farms studied.

TABLE XII

Effect of Type of Road on Number of Practices Changed.

Group	No. of farms	% of all farms	No. changed practices	% of farms changing	No. practices changed	Average no. per farm	Average no. per farm changing
Improved roads	144	64.57	124	86.11	411	2.93	3.31
Unimproved "	79	35.42	66	83.54	224	2.83	3.39
All farms	223	100.00	190	85.20	635	2.84	3.34

The type of road upon which the farm is located, had very little effect upon the number of practices changed. (See Table XII.) Improved roads were those with pavement or gravel surface. 86.11% of 144 farms located on improved roads adopted an average of 3.31 practices while 83.54% of the 79 farms located on dirt roads adopted 3.39 practices.

EFFECT OF CONTACT WITH EXTENSION WORK

Contact with extension workers and participation in extension activities were much more significant than the physical features discussed in the preceding paragraphs. The farms were divided into four groups according to contact with extension workers as shown in the following Table XIII.

TABLE XIII

Effect of Contact with Extension Workers on Number
of Practices Changed.

Group	No. of farms	% of all farms	No. farms changing practices	% of farms changing	No. practices changed	Average no. per farm	Average no. per farm changing
Contact with Co. Worker only.	60	26.90	52	86.67	120	2.00	2.30
Contact with Specialist only.	1	.45	0	0	0	0	0
Contact with both Co. A. & Specialist.	121	54.26	120	99.18	484	4.00	4.03
No contacts with Ext. Workers.	41	18.38	18	43.90	31	.75	1.72
All farms.	223	100.00	190	85.20	635	2.84	3.34

Forty-one farms had made no contact with extension workers and only 43.9% of these adopted any practices. Those adopting practices averaged 1.72 practices per farm. 86.67% of sixty farms making contact with only the County Agent reported an adoption of an average of 2.3 practices per farm. 99.18% of 121 farms making contact with both the County Agent and specialists were reported as adopting an average of 4.03 practices per farm. As only one farm reported contact with specialist only, results were insignificant. This seems to indicate clearly that contact with

extension workers is a factor in getting farmers to adopt recommended practices.

TABLE XIV

Effect of Participation in Extension Activities
on Number of Practices Changed.

Group	No. of farms	% of total farms	No. changing practices	% of farms changing	No. practices changed	Average no. per farm	Average no. per farm changing
Activities on Farm.	66	29.59	66	100.00	298	4.51	4.51
Participating in activities off their own farm.	120	53.81	108	90.00	314	2.61	2.90
Not participating in any extension activity.	37	16.59	16	43.24	23	.62	1.43
All farms.	223	100.00	190	85.20	635	2.84	3.34

Table XIV shows conclusively the value of having a large number of farmers participating in extension work. 100% of the 66 farms with activities on the farm adopted an average of 4.51 practices per farm. 90% of 120 farms participating in activities off their own farm, but with no activities on their own farm, reported an average of 2.90 practice changes per farm. 43.24% of 37 farms not participating in any extension activity reported an average of 1.43 practices changed per farm.

TABLE XV

Effect of Having Children in Junior Club Work on
Number of Practices Changed.

Group	No. farms	% of total farms	No. farms changing practices	% of farms changing practices	No. changes	Average no. per farm	Average no. per farm changing
Farms with children in Junior Clubs (past or present)	75	33.63	72	96.0	249	3.32	3.45
Farms without children in Junior Clubs	148	66.37	118	79.73	386	2.60	3.27
Total number of records obtained	223	100.00	190	85.20	635	2.84	3.34

MEMBERSHIP IN BOY'S AND GIRL'S CLUBS

In Table XV, 96% of the 75 farms with children in club work reported 3.45 practice changes per farm while only 79% of 148 farms without children in club work reported 3.27 practices changed per farm. The difference in number of practices changed is not great but the per cent of farmers making changes is significant. This indicates the value of Boy's and Girl's club work as an approach to further extension work.

FARMERS' ATTITUDE TOWARD EXTENSION WORK

One hundred and seventy-three of the farmers or 77.6% openly expressed favorable opinion of extension work. Three or 1.4% were opposed and 39 or 17.48% were indifferent and three did not express opinions. The principal cause of indifference was lack of understanding of extension work.

COMPARISON WITH SIMILAR STUDIES IN OTHER STATES

Similar studies have been conducted in thirteen other states of which reports are available from twelve. Table XVI compares the results in the different states in which surveys have been made. Comparison is made on the basis of the number of practices adopted under various conditions. A survey in some states was conducted in counties that had employed Home Demonstration Agents for only part time or not at all, and as the comparisons are in terms of total practices, this should be taken into consideration in studying the table. Results on the effect of size of farm, type of roads, contact with extension workers, and participation in extension activities are quite comparable with those found

in Menominee County. There is considerable variation in methods and agencies responsible. This may be due to the methods used and type of organization effective in different states.

TABLE XVI

A Comparison of Results from Similar Surveys in Twelve Other States 1923-1927.

										Effect of Size of Farm			Ownership			Roads			
		No. counties	No. records obtained	Yrs. Co. Agt. employed	Yrs. Home Dem. Agt. employed	% having telephone	% adopting practices	Average practices adopted	Av. No. Agr'l practices adopted	Av. size of farm	No. practices adopted			% owners	Owners	Tenants	% on improved roads	Practices adopted	
											Small	Median	Large					Improved	Unimproved
Iowa	23	1	549	6	6		79	3.6	2.6	174	3.3	3.3	4.0	55	3.7	3.4			
New York	23	3	1225	12	7.6	61	82	3.6	2.9	116	3.2	3.6	4.8	79	3.7	3.2	57	3.4	3.0
California	24	2	1415	6.5	2.5	30	63.7	3.2	2.4	83	2.9	3.2	3.6	87	3.3	2.3	57.2	3.7	3.4
Colorado	24	1	765	12	6	46	75	3	2.4	355	2.5	2.9	3.5	57	3.3	2.5	32	3.2	3.0
Arkansas	25	2	713	16	8 w n	15 8	77	2.9	2.4	91 w n	2.5 2.6	2.8 3.1	3.3 4.6	57 w n	3.1 3.7	2.2 2.7	42 w n	3.0 3.3	2.6 3.1
New Jersey	25	3	621	11	8	50	64	2.6	2.3	101	2.4	2.7	2.7	81	2.6	2.7	60	2.7	2.5
South Dakota	25	1	439	6	2	60	89	3.6	3.0	284	3.3	3.8	3.8	49	4.0	3.2	75	4.7	3.6
Illinois	26	2	590	*9.5	8	89	92	5.3	3.6	175	3.3	4.4	6.0	44	5.5	4.4	43	5.8	4.1
Pennsylvania	26	2	673	9-10		64	96.6	4.3	4.2	97	3.5	4.5	4.5	77	4.3	3.4	28	4.0	4.2
Wisconsin	26	3	715	9-8-0	0		82	3.1	2.9		2.6	3.3	3.7	86	3.2	2.5	56	3.0	3.2
Georgia	26	4	886	16	10-12 w n	23 1	87	4.6	3.5	w154 n 54	3.9 3.1	4.8 3.9	5.4 5.5	55 10	5.4 5.7	3.8 3.5	40 32		
Kansas	27		532	8	6	85	89	5.6	4.2	201	3.7	4.9	5.9	60	5.6	4.1	71	5.2	4.5
Michigan	28	1	223	12	1	59.6	85.2	3.34	3.0	92.6	2.6	3.7	3.4	95	3.2	2.6	64.5	3.3	3.4

*Asst. Agent -- Av. 3.5 yrs.

w - white
n - negroF - farm
H - home

(Table XVI continued)

State	Contact			Extension activities		Club work		Farms influenced by:							
	Practices adopted			On farm	Off farm	No participation	% farms with children in clubs	Publicity	Personal service	Object lessons	Indirect	Co. Agent	Specialist	% favorable	% local leaders
	Co. worker only	Co. & state workers	No contacts												
Iowa	23	4.0	1.9	5.7	3.3	2.7	15	92	11	56		89	34		14
New York	23	4.1	2.1	5.7	3.7	2.4	19	51	21	50	71	40	12	61	14
California	24	3.4	1.3	5.2	2.9	1.5	4.2	82.8	32.4	79.6	20.6	84.9	33.6	70	10
Colorado	24	3.3	1.5	5.2	2.9	2.1	16	57	43	43	55	77	12	66	6
Arkansas	25	2.9	1.4	3.3	2.6	1.9	26	45	51	62	31	90	5	75	9
New Jersey	25	3.2	1.6	3.6	2.5	1.4	31	55	53	54	34	75	40	69	14
South Dakota	25	2.8	1.4	3.3	2.4	1.7	13	55	53	54	34	75	40	69	14
Illinois	26	3.8	1.3	5.1	3.6	1.8	13	47	39	32	78	74	22	58	14
Pennsylvania	26	3.8	1.7	4.4	3.8	1.9	25	78	33	53	74	79	28		18
Wisconsin	26	2.6	.6	3.4	2.0	.7	18	56	56	35	76	95	46	74	11
Georgia	26	4.5	1.5	7.0	3.7	1.8	5	80	26	23	49	65	57	75	7
Kansas	27	3.2	1.3	4.4	3.0	1.7	5	80	26	23	49	65	57	75	7
Michigan	28	5.0	2.2	6.2	4.2	2.6	37	60	50	50	66	92	5	77	10
		4.3	1.7	6.0	3.6	2.0	17	60	50	50	66	92	5	57	6
		5.6	1.6	7.7	4.4	2.1	18	58	58	50	65	80	45		23
	2.3	4.0	1.7	4.5	2.9	1.4	33.6	62.8	24.2	30.5	42.1	75.8	52.9	80.46	

CONCLUSIONS

1. There is a direct relation between the agricultural extension program and the agricultural practices improved in these communities.

2. Meetings are the most effective means of inducing a large number of farm people to adopt improved practices. Meetings are often used with other methods in finally securing adoption of a practice.

3. The farm visit and method demonstration are effective in securing the adoption of farm practices but not so effective as the general meeting.

4. Considering time and effort required of the county workers, news stories, bulletins, and circular letters are effective means of bringing about practice changes.

5. Indirect influences are responsible for 22.6% of the practice changes.

6. The County Agent is the most effective point of contact between the college and farm people.

7. The specialist and the local leader are effective agencies, working with the County Agent.

8. Ownership seems to stimulate interest in improved agricultural methods.

9. The medium and larger sized farms adopt slightly more practices than the small farms.

10. Condition of the roads exerts very little influence on number of practices adopted.

11. Contact with extension workers is a very important factor in the adoption of improved practices. Contacts with County Agent and Specialist resulted in the adoption of an average of four practices, with County Agent, only, two practices, while those making no contact with any extension worker adopted only .75 practices per farm.

12. The most important factor is participation in extension activities. The number of practices adopted are in direct relation with the participation of the farmer in extension work.

13. Boy's and Girl's club work is an important method of approach although not very effective as a means of securing adoption of practices.

14. The farmer is favorable to extension work.

15. Conclusions drawn from this study are quite similar to those from similar studies in other states in the effect of size of farm, ownership, improved roads, contacts with extension workers, and participation in extension activities.

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