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Extension Results as Influenced by Varicus Factors

A Study of 312 Farms and Farm Homes
in Hamilton Co., Nebraska, 1929.

The University of Nebraska Agricultural College
Extension Service and The United States
Department of Agriculture Cooperating
W.H. Brokaw, Director, Lincoln

UNIVERSITY OF NEBRASKA-LINCOLN



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EXTENSION RESULTS AS INFLUENCED BY VARIOUS FACTORS

A Study of 312 Farms and Farm Homes in
Hamilton County, Neb., 1929.

M. C. Wilson and W. H. Brokaw

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EXTENSION RESULTS AS INFLUENCED BY VARIOUS FACTORS

A Study of 312 Farms and Farm Homes in Hamilton County, Neb., 1929.

M. C. Wilson¹ and W. H. Brokaw²

SCOPE OF STUDY

This study, conducted by the Office of Cooperative Extension Work, United States Department of Agriculture, and the Extension Service of the Nebraska State Agricultural College in cooperation, furnishes some data regarding the results of extension teaching as reported by representative farmers and farm women. Attention is given to the effectiveness of the various means and agencies (methods) employed in extension, and to the influence of such factors as land tenure, contact with extension agents, educational training, and age, on extension results. While recognizing that much other good results from extension activities, extension accomplishment for purposes of the study has been measured in terms of farmers and farm women influenced to accept as a part of their usual farm and home operations the improved practices taught by the cooperative extension service. For purposes of comparison data from the areas³ where similar studies have been made are also included in this report.

COLLECTION OF DATA

The data were collected by the survey method; representatives of the extension service calling at every farm within the areas selected, and obtaining the information direct from the farmers and farm women concerned. The field work was done by experienced extension workers who were thoroughly acquainted with the extension programs and activities in the areas studied over a period of years. The members of the survey party were trained in the use of the questionnaire card (Figs. 1 and 1a) before going to the field, and the schedules were carefully checked at headquarters each day, and any errors or inconsistencies corrected in the field. None of the data were collected by the local county extension worker, but this agent assisted in all other ways possible in expediting the field work and insuring completeness and accuracy of data. The definitions of extension terms approved by the Association of Land Grant Colleges and the United States Department of Agriculture, and published in the annual statistical report of county extension workers, have been closely followed throughout.

Information was obtained from 312 farms and farm homes in Hamilton county. This number is approximately 99 per cent of all the farms located in the areas studied. No records were included for persons living in the open country or in small villages, who were not actually operating farms. The field data were collected during May, 1929.

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³Similar studies have been made in Iowa, New York, Colorado, California, New Jersey, Georgia, Wisconsin, Arkansas, South Dakota, Illinois, Pennsylvania, Minnesota, Kansas, Rhode Island, and Michigan.

No. _____ Co. _____ FARM AND HOME SURVEY OF THE RESULTS OF EXTENSION WORK. Date _____

Name _____ Address _____ Community _____
Size of farm _____ Kind of road _____ Miles to agent's office _____
Years: Farming _____ This farm _____ Years owner _____ Years tenant _____
No. in family: Adults _____ Children _____ Phone _____ Radio _____ Get University radio
programs, A.M. _____ P.M. _____ Other stations from which useful agricultural and home
economics information is obtained _____ Member of what farmers' organizations _____
Member what homemakers' clubs _____
Leadership in extension work: Farm _____ Home _____
Number and kind of result demonstrations on farm _____ In home _____
Other extension activities on farm _____ In home _____
Extension activities attended or participated in away from farm: Agric. _____
H. Ec. _____ Nature of contact with Co.Agt. _____ H.D.Agt. _____
Club Agt. _____ Specialists _____
Have circular letters been received? _____ Bulletins _____

Farm and home	Methods largely responsible:	Extension agents involved:	Name of local
Practices adopted:	(see list below)	C.A.:H.D.A.:Cl.Agt:Spec'l:ldr. involved	
:	:	:	:
:	:	:	:
:	:	:	:
:	:	:	:
:	:	:	:
:	:	:	:
:	:	:	:

Fig. 1 - Observe side of questionnaire card used in collecting data.

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

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

How has your community benefited thru 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 Nebraska State College and of the United States Department of Agriculture cooperating.

Fig. 1a - Reverse side of questionnaire card used in collecting data.

AREA STUDIED

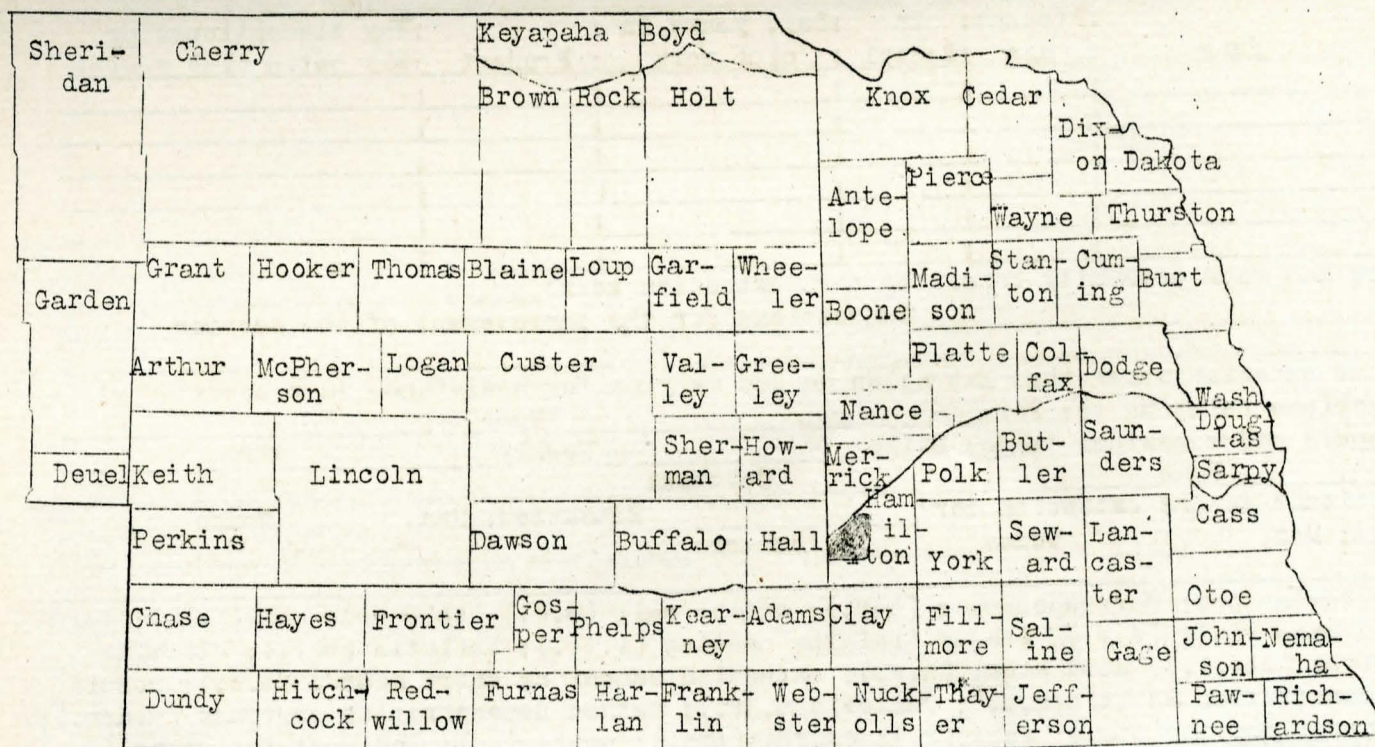
Hamilton county is located in east central Nebraska and is typical of a large portion of the State. The area included in the study comprised a block of contiguous farms covering about $3\frac{1}{2}$ townships extending from the county seat, situated in the geographical center of the county, to the Platte river which marks the county line. (Fig. 2.)

A county agricultural agent was first employed for Hamilton county in December, 1917. Outside of short breaks due to changes in personnel, an agent has been employed continuously ever since. The present agricultural agent took up his duties in the late summer of 1925. (Table 1.)

A club agent was employed on war emergency funds for a few months during 1918. Most of the club work, however, and all of the home demonstration work has been carried on by specialists from the state extension service working through the county extension office.

Table 1. Extension Agents Employed in Hamilton County

<u>County Agent</u>	<u>Appointment</u>	<u>Termination</u>
L. A. Wickland	12-1-17	1-31-19
C. E. Quin	11-16-19	12-31-21
R. H. Camp	2-1-22	4-23-25
J. P. Ross	8-15-25	
<u>Club Agent</u>	<u>Appointment</u>	<u>Termination</u>
W. C. Eloe	4-16-18	9-15-18



Area in Hamilton county where study was made.

Fig. 2. - Map of Nebraska showing location of area included in study

GENERAL INFORMATION RELATING TO FARMS STUDIED

Nearly one-half (46 per cent) of the farms included in the study were operated by owners. (Table 2.) The average size of farm was 204 acres and the average distance to the county extension office was 10 miles. Telephones were found in 94 per cent of the homes and radios in 60 per cent of them. In both of these respects this area is considerably above the average of the areas studied in other States. Children of club age (10 - 20 years) were found in 42 per cent of the farm homes, which is 5 per cent less than in the other areas studied. The number of children 10 - 20 years remaining on the farm was also considerably less than in the other areas.

Table 2. - General Information Relating to Farms Included in Study

Item	Nebraska area: 16 Other areas			
	Number	Per cent	Number	Per cent
Farm and home records obtained.....	312	--	10421	--
Farms operated by owners.....	143	46.	7115	68.
Farms operated by tenants.....	169	54.	3306	32.
Farms with children 10 to 20 years of age..	131	42.	5303*	47.*
Children 10 to 20 years of age.....	246	--	11528*	---
Average size of farm (acres).....	204	--	144	--
Homes with telephones.....	292	94.	5103**	52.**
Homes with radios.....	187	60.	1060***	32.***
Farms located on surfaced roads.....	43	14.	:	:
Farms located on graded roads.....	228	73.	:	:
Average distance to county extension office (miles).....	10	--	12	--

* 17 Areas

** 15 Areas.

*** 7 Areas.

PARTICIPATION IN EXTENSION ACTIVITIES

Some member of the farm family was serving as a voluntary local leader of an extension project or had previously served in this capacity in the case of 15 per cent of the farms studied in this area. This was true of 11 per cent of the farms in the other 16 areas which have been studied. Four per cent of the farms in this area contributed agricultural leaders while local home economics leaders came from 12 per cent of the farm homes.

Some formal extension activity relating to agriculture, such as conducting a result demonstration, holding a field meeting, or a boy in club work had been held on 26 per cent of the farms. Corresponding activities relating to home economics were held on 30 per cent of the farms. An additional 45 per cent of the farms and 15 per cent of the homes were represented in extension activities

held on other farms or at community centers. In the case of approximately one farm in four a boy or girl either was enrolled in 4-H Club work or had conducted a club project previously. (Table 3.)

Considering all extension activities 80 per cent of the farmers in this area were involved as compared to an average of 66 per cent for the other areas which have been similarly studied. About the same difference exists in the percentages of farms making contact with representatives of the Extension Service, -- 88 per cent as compared to 76 per cent. The county agricultural agent had been in touch with 87 per cent of the farms. Subject-matter specialists from the College had been in contact with 39 per cent of the farm families. Circular letters from the extension office had been received by 90 per cent of the farms, and bulletins by 88 per cent.

Table 3. - Participation in Extension Activities and Contact With Extension Workers

Item	:Nebraska area :		:16 Other areas :	
	:Number :	Per : cent :	:Number :	Per : cent :
Farm and home records obtained.....	312	-	10421	-
Farms and homes contributing local leaders.....	48	15	1178	11
Farms contributing local leaders (agriculture).....	13	4	405*	7*
Homes contributing local leaders (home economics)....	36	12	401	7*
Farms or homes represented in any extension activity:	248	80	6802	66
Farms on which extension activities were conducted...	80	26	1793	17
Other farms represented in extension activities.....	139	45	1445***43***	
Homes in which extension activities were conducted...	92	30	1382	13
Other homes represented in extension activities.....	48	15	526***16***	
Farms with boys and girls in club work (ever).....	74	24	2022**	18**
Farmers or home makers reporting contact with:				
Any extension worker.....	273	88	7882	76
County agent.....	271	87	7029	67
Home demonstration agent.....	1#	.3#	3299	32
Club agent.....	-	-	563	5
Subject-matter specialist.....	123	39	3195	31
Local extension leader.....	87	28	2321	22
Farms receiving circular letters.....	280	90	-	-
Farms receiving bulletins.....	276	88	-	-
	:	:	:	:

* 11 Areas

** 17 Areas

*** 7 Areas

In another county, as Hamilton county has never had a county home demonstration agent.

FARMERS AND FARM WOMEN ADOPT EXTENSION PRACTICES

In the case of 90 per cent of the farms included in the study it was learned that either the farm operator or the farm woman was making practical use of information obtained through the Extension Service. (Table 4.) The average number of practices reported changed was 5.4. The corresponding figures for 16 other areas studied, are 79 per cent of the farms influenced by extension to adopt an average of 3.8 practices.

Agricultural practices were reported changed on 88 per cent of the farms and home economics practices in 40 per cent of the farm homes. A detailed list of all the practices reported changed is given in Table 5.

Table 4. Farms and Homes Adopting Practices

Item	Nebraska areas : 16 other areas			
	Number	Per cent	Number	Per cent
Farm records obtained.....	312	--	10421	--
Farms on which some practice had been changed....	282	90	8249	79
Average number practices changed per farm.....	5.4	--	3.8	--
Farms on which agricultural practices had been changed.....	276	88	7808	75
Average number agricultural practices changed per farm.....	4.5	--	3.1	--
Homes in which home economics practices had been changed.....	126	40	3287	32
Average number home economics practices changed per home.....	2.3	--	2.3	--

Table 5. -Agricultural and Home Economics Practices
Reported Adopted

Practice	: Number of farms : or homes : involved	: Percentage of all : farms : or homes
<u>Agricultural</u>	:	:
Poultry culling.....	143	45.8
Hog cholera.....	130	41.7
Swine sanitation.....	80	25.6
Oat smut.....	63	20.2
Tuberculosis testing.....	61	19.6
Wheat smut.....	57	18.3
Poultry feeding.....	50	16.0
Wheat.....	49	15.7
Oats.....	47	15.1
Sweet clover.....	42	13.5
Poultry disease.....	34	10.9
Rodent control.....	32	10.2
Corn.....	30	9.6
Hessian fly.....	30	9.6
Farm Forestry.....	30	9.6
Poultry (general).....	26	8.3
Potatoes.....	22	7.0
Legumes.....	20	6.4
Barley smut.....	18	5.8
Pruning.....	16	5.1
Barley.....	15	4.8
Landscaping.....	15	4.8
Dairy feeding.....	15	4.8
Big hitches.....	14	4.5
Alfalfa.....	13	4.2
Tattooing hogs.....	13	4.2
Agricultural engineering.....	13	4.2
Swine disease.....	12	3.8
Swine feeding.....	11	3.5
Seed corn testing.....	11	3.5
Poultry housing.....	10	3.2
Gas engine.....	10	3.2
Livestock feeding.....	9	2.9
Farm accounts.....	9	2.9
Purebred livestock.....	8	2.6
Bindweed.....	7	2.2
Poultry equipment.....	6	1.9
Poultry brooding.....	6	1.9
Seed selection.....	6	1.9
Hog pasture.....	6	1.9
Livestock disease.....	6	1.9

Table - Agricultural and Home Economics Practices Reported
Adopted (continued)

Practice	Number of farms or homes involved	Percentage of all farms or homes
Poultry sanitation.....	5	1.6
Caponizing.....	5	1.6
Spraying.....	5	1.6
Insect control.....	5	1.6
Miscellaneous livestock.....	9	2.9
Miscellaneous crops.....	8	2.6
Miscellaneous agriculture.....	2	0.6
<u>Home economics</u>		
Hooked rugs.....	28	9.0
Interior decoration.....	23	7.4
Refinishing furniture.....	21	6.7
Clothing.....	21	6.7
Foods.....	18	5.8
Canning.....	18	5.8
Kitchen file.....	16	5.1
Kitchen equipment.....	14	4.5
Home beautification.....	14	4.5
Sewing.....	13	4.2
Kitchen arrangement.....	12	3.8
Meal planning.....	12	3.8
Walls and floors.....	11	3.5
Furniture arrangement.....	11	3.5
Convenient kitchens.....	11	3.5
Cleaning kit.....	9	2.9
Food preparation.....	8	2.6
Child feeding and care.....	6	1.9
Cooking.....	6	1.9
Clothing construction.....	6	1.9
Soap making.....	5	1.6
Home nursing.....	4	1.3
Miscellaneous home economics.....	7	2.2

HOW FARMERS AND FARM WOMEN WERE INFLUENCED TO ADOPT BETTER PRACTICES

In connection with each improved farm or home practice adopted, careful inquiry was made regarding the means and agencies employed in extension teaching which the farmer or farm woman thought had in any way been responsible for the acceptance of the better practice. In many cases the incorporation of the new practice in the regular routine of the farm or home was due to the cumulative influence of several means and agencies. In other cases the influence of a single means was outstanding. In Table 6 are listed the percentages of practices changed credited to the influence of the various teaching methods. To better bring out the relative influence of the individual means and agencies the data have been computed to the basis of total influence of all methods equals 100 per cent. In actual practice of course the adoption of a single practice may involve two or more means or agencies.

On the basis of all practices adopted the method demonstration meeting was reported most frequently, being mentioned in connection with nearly 17 per cent of the practices. Indirect spread of information from one neighbor to another was mentioned in connection with 16.4 per cent of all practices. The extension news story was credited with having influenced 16.3 per cent of the practices changed. Next in order are farm or home visits 13.3 per cent, office calls 10 per cent, bulletins 9.4 per cent, and general meetings 7.2 per cent. Leader-training meetings which should be considered along with method demonstrations accounted for 3.3 practices. Circular letters influenced 2.2 per cent of practices. Result demonstrations including those conducted by both adults and juniors were reported as having influenced less than 2 per cent of all the practices changed.

Considering agricultural practices separately the means and agencies which were credited with large percentages of practices are indirect influence, news stories, farm visits, office calls, method demonstrations, bulletins, and general meetings, arranged in order of influence.

In the case of home economics practices the method demonstration and the leader-training meeting were the outstanding means of imparting information, together being credited with nearly 60 per cent of the home economics practices reported changed. The bulletin, general meeting, indirect influence, and the news story are the other means and agencies credited with a considerable percentage of practices.

Comparing the influence of the different means and agencies as brought out by this study, with the data from other studies, it will be noted that news stories, farm visits, office calls, and bulletins were credited with slightly higher percentages of practices in the Nebraska area. This is offset by the lower influence of general meetings and result demonstrations.

The possible interrelationship of the various means and agencies must be kept in mind at all times. The junior result demonstration is primarily a by-product of training boys and girls through 4-H club work. The result demonstration conducted by a farmer or farm woman is concerned with the building of confidence in the recommendations of the extension service and does not reach many people directly. The local proof established through the result demonstration however may

make possible the effective reaching of people through such means as meetings, bulletins, news stories, and circular letters. The bulletin may supplement the meeting or office call. Personal contact with agents through farm visits may stimulate attendance at meetings, more office calls, and a wider reading of news articles. It is believed, however, that the above percentages are indicative of the relative contribution of the means and agencies commonly employed in extension teaching, toward directly influencing farmers and farm women to make use of the information made available by the extension service. These percentages are not a true quantitative measure of the effectiveness of the different methods of extension teaching.

Table 6 - Relative Frequency with which Extension Methods were Reported

Method	Percentages of practices adopted ¹					
	Nebraska area			15 Other areas		
	: Agri- : Home ec-:			: Agri- : Home ec-:		
	: Total:	: culture:	: onomics	: Total:	: culture:	: onomics
Method demonstrations.....	16.9	11.7	42.6	15.2*	7.8*	43.4*
Indirect influence.....	16.4	18.4	6.4	21.0	24.4	8.8
News stories.....	16.3	18.4	5.5	10.1	11.6	5.0
Farm visits.....	13.3	15.9	.3	12.2	14.3	4.5
Office calls.....	10.0	11.7	1.4	6.6	8.2	.8
Bulletins.....	9.4	8.8	13.0	6.8	6.4	8.2
General meetings.....	7.2	6.8	9.4	14.3*	14.2*	14.0*
Leader training meetings.....	3.3	.6	17.1	1.0	.2	3.8
Circular letters.....	2.2	2.5	.2	1.8	2.1	.8
Radio.....	1.3	1.3	1.2	1.4**	1.4**	1.4**
Junior result demonstrations.....	1.2	1.0	2.3	2.5	1.9	4.2
Telephone calls.....	.9	1.0	-	.4	.4	.1
Exhibits.....	.7	.8	.6	.6*	.4*	1.0*
Adult result demonstrations.....	.6	.7	-	3.9*	4.2*	2.9*
Correspondence.....	.2	.3	-	1.2	1.5	.3
Extension schools.....	.1	.1	-	.8	.8	.6

¹Percentages computed to basis of total influence of all methods equals 100 per cent. In practice the adoption of a single practice frequently involves two or more means or agencies.

* 13 areas

** 7 areas

FARMS AND PRACTICES INFLUENCED BY EXTENSION AGENTS

In addition to ascertaining the teaching method responsible for each change in practice, information was obtained regarding the extension worker involved. (Table 7.)

Some credit was given to the county agricultural agent for bringing about the adoption of better practices by 85 per cent of the farm families reporting changed practices.

In the case of nearly half (47 per cent) the farms making use of extension information, assistance from the subject-matter specialists was reported. Assistance from local extension leaders was reported from 28 per cent of the farms.

On the basis of practices changed 80 per cent were credited to the county agent, 25 per cent to subject-matter specialists, and 12 per cent to local leaders. In many instances the influence of more than one extension worker was reported. The relatively larger influence of subject-matter specialists in the Nebraska area as compared to the other areas previously studied is doubtless due to the fact that all of the home demonstration and 4-H club work was carried on by the agricultural agent with the assistance of state specialists, since no special county workers were employed for these two lines of work. In many of the other areas studied county home demonstration agents were employed, and in a few of them boys' and girls' club agents as well.

Table 7 - Extension Agents Involved in the Adoption of Practices.

Item	Nebraska area		15 Other areas	
	No.	Per cent	No.	Per cent
Farms on which some practices had been adopted...	282	90	7817	79
Farms or homes influenced by:				
County agent.....	264	85	6190	63
Home demonstration agent.....	1	.3	2387	24
Club agent.....	-	-	255	3
Subject-matter specialist.....	148	47	2374	24
Local leader.....	88	28	1809*	28*
Practices adopted.....	1528	-	30183	-
Agricultural practices adopted.....	1234	-	23322	-
Home-economics practices adopted.....	294	-	6861	-
Practices influenced by:				
County agent.....	1221	80	18778	62
Home demonstration agent.....	2	.1	6318	21
Club agent.....	-	-	375	1
Subject-matter specialist.....	380	25	5905	20
Local leader.....	183	12	3210*	15*

*12 Areas.

INFLUENCE OF OTHER FACTORS UPON EXTENSION ACCOMPLISHMENT

Many other factors besides the means and agencies employed in extension teaching may affect the adoption of improved practices advocated by the Extension Service. Condition of land tenure, size of farm, distance from extension office, character of roads, educational training, age of farmers, participation in extension activities, and contacts with extension workers are some of the factors which should be considered.

LAND TENURE

Slightly more than half of the farms included in the study were operated by tenants. One per cent more of the tenants than of the owner-operators reported the adoption of improved practices. (Table 8.) The rate of adoption was slightly higher for the owner group however. From the Nebraska study as well as the studies which have been made in other States it is evident that the extension program is reaching owner and tenant-operators with equal effectiveness.

Table 8. - Condition of Land Occupancy in Relation to Adoption of Practices

Group	: Number :		Percentage :		Percentage of farms :			Number of practices	
	: of :	: of :	: of :	: of :	: changing practices :	: Agri- :	: Home :	: Any :	: changed
	: farms :	: all farms :	: all farms :	: all farms :	: Agri- :	: cul- :	: econ- :	: practice :	: per 100 farms
	:	:	:	:	: ture :	: omics :	:	:	:
Nebraska area:	:	:	:	:	:	:	:	:	:
Owners.....	143	:	46	:	87	:	41	:	90
Tenants.....	169	:	54	:	89	:	40	:	91
16 Other areas:	:	:	:	:	:	:	:	:	:
Owners.....	7115	:	68	:	77	:	31	:	80
Tenants.....	3306	:	32	:	71	:	34	:	76

SIZE OF FARM

The farmers living on the larger farms made somewhat greater use of extension information. (Table 9). This does not seem to have been so true of the farm women living on the larger farms. The percentage of farms changing agricultural practices increased from 80 per cent for the small farm group to 89 per cent for the medium-sized group and 91 per cent for the large farm group. The corresponding percentages for farm homes adopting home economics practices were 43, 36 and 43. Considering all practices the small farm group changed practices at the rate of 341 per 100 farms, as compared to 463 for the medium, and 559 for the large-sized farm group.

Table 9. - Relation of Size of Farms to Number of Farms Changing Practices

Group	Number of farms	Percent- age of all farms	Percentage of farms changing practices			Number of practices changed per 100 farms
			Agri- cul- ture	Home econ- omics	Any prac- tice	
Nebraska areas:						
0-159 acres.....	49	16	80	43	82	341
160 acres.....	115	37	89	36	90	463
Over 160 acres...	148	47	91	43	93	559
16 Other areas:						
Small.....	3499	34	68	26	74	235
Medium.....	3870	37	76	32	80	307
Large.....	3052	29	81	38	85	381

DISTANCE FROM THE EXTENSION OFFICE

Distance from the extension office does not seem to have been a very important factor in the adoption of practices either in the Nebraska area or in the other areas where similar studies have been made. (Table 10.) Fully as high a proportion of the farms located more than 10 miles away reported the adoption of practices as was true of the farms closer by. The rate of adoption of practices is a trifle higher for the farms less than 10 miles away from the office.

Table 10. - Relation of Distance of Farms from Extension Office
to Change of Practices

Group	Number of farms	Per cent farms	Percentage of farms changing practices			Number of practices changed per 100 farms
			Agri- cul- ture	Home econ- omics	Any prac- tice	
Nebraska area:						
0 - 10 miles.....	173	55	86	43	87	517
Over 10 miles.....	139	45	92	37	94	455
16 Other areas:						
0 to 10 miles.....	4708	45	74	31	78	318
Over 10 miles.....	5713	55	75	32	80	293

CHARACTER OF ROADS

The farmstead was situated on a hard-surfaced road in the case of but 14 per cent of the farms included in the study, -- 73 per cent were on graded roads, and the remaining 13 per cent on ungraded roads. As the quality of the roads decreases the higher is the percentage of farms adopting practices. (Table 11) It is probable that other factors than roads are partly responsible since the studies in other areas bring out the fact that character of roads is of almost no importance in bringing about the spread of extension information. It is interesting to note however that practically as high a percentage of the farmers located on the unimproved roads at a distance from the extension office have been influenced to change practices as is true of the farmers living on the improved roads near the office.

Table 11 - Nature of Roads in Relation to Change of Practices

Group	: Number :		Percentage :		Percentage of farms			: Number of practices			
	: of :		: of :		: changing practices :						
	: farms :		: farms :		: Agri-: Home : Any :						
	: :		: :		: cul- : econ- : practice :						
	: :		: :		: ture : omics :			: :			
Nebraska area:	: :		: :		: :			: :			
Surfaced roads.....	43	:	14	:	79	:	54	:	84	:	449
Graded ".....	228	:	73	:	90	:	40	:	90	:	512
Ungraded ".....	41	:	13	:	93	:	71	:	98	:	407
	: :		: :		: :			: :			
15 Other areas:	: :		: :		: :			: :			
Improved roads.....	5127	:	52	:	76	:	32	:	80	:	319
Unimproved " 	4745	:	48	:	75	:	29	:	79	:	291
	: :		: :		: :			: :			

EDUCATIONAL TRAINING OF FARMERS AND FARM WOMEN

In 95 per cent of the cases where the farmer had had some college training, use of extension information was reported. (Table 12) Where some high school but no college training had been received, 87 per cent adopted practices. Where the formal education received did not extend beyond the eighth grade, 88 per cent changed practices.

In the case of the farm women, 61 per cent of those having some college training made use of home econome extension information. (Table 13) This was true of 58 per cent of the women with only high school training and 32 per cent of those who did not attend school beyond the eighth grade.

The number of practices adopted per 100 farms was also much larger for the high school and college groups than for the common school group in the case of both farmers and farm women. The close relationship between educational training and the use of extension information is but natural. It is gratifying to note that extension teaching is also reaching such a high percentage of the farmers and farm women with limited schooling. In nearly every respect these data from Nebraska closely parallel similar data from other areas.

Table 12. - Education of Farmers as Related to Adoption of Agricultural Practices

Educational training	:	:	Percentage	:	Percentage	:	Number of agricul-
	:	Number	of all	:	adopting	:	tural practices
	:	:	farms	:	agricultural:	:	adopted
	:	:		:	practices	:	per 100 farms
Nebraska area:	:	:	:	:	:	:	:
Some college.....	:	19	6	:	95	:	731
Some high school but	:	:	:	:	:	:	:
no college.....	:	47	15	:	87	:	434
Common school or less.....	:	242	78	:	88	:	366
Six other areas	:	:	:	:	:	:	:
Some college.....	:	113	4	:	94	:	479
Some high school but	:	:	:	:	:	:	:
no college.....	:	376	14	:	89	:	382
Common school or less.....	:	2098	79	:	77	:	267

Table 13 - Education of Farm Women as Related to Adoption of Home Economics Practices

Educational training	:	:	Percentage	:	Percentage	:	Number of home
	:	Number	of all	:	adopting	:	economics prac-
	:	:	farms	:	home econom-	:	tices adopted
	:	:		:	ics practices	:	per 100 homes
Nebraska area:	:	:	:	:	:	:	:
Some college.....	:	28	9	:	61	:	164
Some high school but	:	:	:	:	:	:	:
no college.....	:	81	26	:	58	:	155
Common school or less.....	:	183	60	:	32	:	64
Six other areas:	:	:	:	:	:	:	:
Some college.....	:	101	4	:	65	:	215
Some high school but	:	:	:	:	:	:	:
no college.....	:	515	19	:	57	:	198
Common school or less.....	:	1870	70	:	34	:	81

AGE OF FARMERS AND FARM WOMEN

In Nebraska area and in the other areas where the data have been collected, it is evident that age is not a barrier to the acceptance and use of information made available through extension. From table 14 it is evident that fully as high a percentage of the farmers over 36 years of age reported the adoption of practices as of the farmers falling into the younger age groups. Exactly the same trend exists in the case of the farm women. (Table 15). though there does appear to be a more rapid decline in the use of extension information after the age of 61 has been reached in the case of farm women than in the case of the farm men.

The farmers in the older age groups doubtless have greater financial resources on the average than do the younger men. They have also learned from experience the advisability of making use of available agencies in solving new farm and home problems. On the other hand the younger farmers and farm women have the advantage of more educational training including 4-H club work. It would seem to be more a question of interest in acquiring information regarding agriculture and home economics than a question of age.

Table 14. - Relation of Age of Farmers to Adoption of
Agricultural Practices

Age group	Number	Percentage of all farms	Percentage adopting agricultural practices	Number of agricul- tural practices adopted per 100 farms
Nebraska area:				
30 years and under	49	16	86	331
31 to 35	46	15	83	435
36 to 40	57	18	91	403
41 to 45	51	16	96	443
46 to 50	34	11	88	435
51 to 55	20	6	85	375
56 to 60	31	10	87	420
61 and over	20	6	90	295
Four other areas:				
30 years and under	147	9	76	283
31 to 35	175	10	77	249
36 to 40	232	14	77	301
41 to 45	233	14	79	293
46 to 50	216	13	72	280
51 to 55	190	11	76	275
56 to 60	167	10	71	257
61 and over	276	17	66	217

Table 15. - Relation of Age of Farm Women to Adoption
of Home-Economics Practices

Age group	: : Number	: : Percentage : of all : farms	: Percentage : adopting : home econom- : ics practices	: Number of home ec- : onomics practices : adopted per : 100 homes
Nebraska area:	:	:	:	:
30 years and under.....	70	22	46	94
31 to 35.....	48	15	44	117
36 to 40.....	54	17	46	120
41 to 45.....	37	12	38	92
46 to 50.....	29	9	48	114
51 to 55.....	23	7	48	104
56 to 60.....	20	6	35	70
61 and over.....	16	5	6	6
Four other areas:	:	:	:	:
30 years and under.....	235	14	28	72
31 to 35.....	211	13	41	125
36 to 40.....	251	15	35	100
41 to 45.....	216	13	35	90
46 to 50.....	224	13	28	86
51 to 55.....	136	8	27	60
56 to 60.....	150	9	26	68
61 and over.....	144	9	17	63
:	:	:	:	:
:	:	:	:	:

PARTICIPATION IN EXTENSION ACTIVITIES

Factors like age of farmers, educational training of farmers, size of farms, distance from extension office, character of roads, and the like are after all largely outside the control of extension workers. The extent to which people are brought to participate in extension activities is largely determined by the methods employed by the extension workers.

Where the farm or home had been the scene of some formal extension activity such as a boy or girl in club work, a community meeting, or a field demonstration, the adoption of better practices followed in 99 per cent of the cases. (Table 16) Where there had been no activity on the farm or in the home but where members of the family had attended activities on neighboring farms or at community centers, 96 per cent of the families reported the use of extension practices. The families having taken no part in extension activities reported the adoption of practices in but 62 per cent of the cases. The rate of adoption of practices was also about three times as great where the farmers and farm women had been induced to attend meetings or otherwise participate in extension activities.

Table 16. - Participation in Extension Activities as
Bearing on Farms Changing Practices

Group	Number of farms	Percentage of all farms	Percentage of farms : changing practices			Number of practices changed per 100 farms
			Agri- cul- ture	Home econ- omics	Any practice	
Nebraska area:						
Farms having extension activities on farm or in home.....	142	46	96	65	99	664
Other farms participating in extension activities.....	106	34	94	31	96	442
Farms not participating in extension activities.....	64	20	62	2	62	181
16 Other areas:						
Farms having extension activities on farm or in home.....	2599	25	92	58	97	546
Other farms participating in extension activities.....	4293	41	84	33	89	308
Farms not participating in extension activities.....	3529	34	52	11	54	123

CONTACT WITH EXTENSION WORKERS

If, in addition to those families participating in extension activities there are added those families making contact with extension agents through farm and home visits, office and telephone calls, and personal correspondence, an even more striking comparison results. (Table 17) In those cases where some member of the family had been in touch with a representative of the extension service, improved practices were found adopted on 96 per cent of the farms as contrasted to 51 per cent where no member of the farm family had had contact with the extension service representative. Practices were reported adopted at the rate of 542 per 100 farms for the contact group and 157 per 100 farms for the no contact group.

In the case of both participation in extension activities and contact the results brought out by the Nebraska data are in accord with the data from other studies. It is highly important to so organize and conduct extension work that over a period of years a large percentage of the farming people will be brought into personal contact with extension workers through participation in extension activities or other wise.

Table 17. - Contact with Extension Workers as Related to
Change of Practices

Group	Number of farms	Percentage of all farms	Percentage of farms :			Number of practices changed per 100 farms
			changing practices	Agri- cul- ture	Home econ- omics	Any practice
Nebraska area:						
Farms having made contact with extension workers.....	273	88	94	45	96	542
Farms having made no contact.....	39	12	49	10	51	157
16 Other areas:						
Farms having made contact with extension workers.....	7822	76	87	39	91	376
Farms having made no contact.....	2539	24	38	8	41	81

RADIO

Radios were found in 60 per cent of the 312^{farm} homes included in the study. (Table 18.) Extension radio programs had been received by 86 per cent of those having radios. Of those getting the radio programs from the agricultural college, 10 per cent reported the use of this information in the practical operations of the farm and home. Considering all practices reported changed, two per cent of them were credited to the influence of radio extension programs. Of those having radios, 79 per cent reported the getting of useful agricultural and home-economics information from other stations than the one at the State agricultural college.

Table 18 - Influence of Radio on Adoption of Improved Practices

	: Nebraska	: Seven
	: area	: other areas
Number of farms with radio.....	187	: 1060
Percentage of all farms.....	60	: 32
Number getting extension programs from college over radio:	160	: 345*
Percentage of farms with radio.....	86	: 84*
Number influenced by radio to adopt improved practices...	16	: 114
Percentage of those getting radio extension programs.....	10	: 23*
Number of practices adopted due to influence of radio.....	26	: 232
Percentage of all practices adopted.....	2	: 1.8
Number getting useful information from stations other	:	:
than college.....	148	: 192**
Percentage getting useful information from stations	:	:
other than college.....	79	: 67**
Number getting extension program in morning.....	138	: --
Percentage getting extension program in morning.....	74	: --
Number getting extension program at noon.....	124	: --
Percentage getting extension program at noon.....	66	: --

* 3 Areas

** 2 Areas

FARM PAPERS AND HOME MAGAZINES

There were only 5 or less than 2 per cent of the farm homes where reading material did not come to the farm home regularly. Daily papers came to 87 per cent of the homes. (Table 19.) Local weekly papers were taken by 75 per cent of the families; 96 per cent of the farmers subscribed to farm papers, while 67 per cent of the farm women received corresponding women's magazines. Other magazines found their way regularly to 22 per cent of the farm homes. With such a high percentage of the farmers taking papers and magazines one readily understands the great influence of the extension news story throughout this area, 16 per cent of all the practices changed being credited to the influence of this means.

Table 19. - Homes Receiving Papers and Magazines

Kind of periodical	Nebraska area			5 other areas		
	Number	Average		Number	Average	
	farms	Percent-	number	farms	Percent-	number
	receiving:	age	received	receiving:	age	received
Daily papers.....	271	87	1.17	1913	76	1.16
Weekly papers.....	234	75	1.26	1029	41	1.20
Farm papers.....	298	96	2.50	2280	91	2.63
Home magazines.....	210	67	1.80	1356	54	1.67
Other magazines.....	68	22	1.31	-	-	-
Any papers.....	307	98	5.93	2427	97	4.83
	:	:	:	:	:	:

MEMBERSHIP IN ORGANIZATIONS

Approximately one-half of the farmers interviewed were members of some farmers' organization. (Table 20). The organizations enrolling a substantial number of farmers were, - The Cooperative Elevator 29.8 per cent, Farmers' Union 17.9 per cent, and the Cooperative Oil Association 17.3 per cent.

One-third of the farm women belonged to a woman's organization which in nearly all cases was the club organized for the purpose of carrying on extension work in home economics, or a general woman's club which was cooperating with the extension service.

Table 20 - Membership in Farmers' and Home Makers' Associations

Organization	Number	Per cent
Farmers		
Member any organization.....	152	48.7
Farmers' elevator.....	93	29.8
Farmers' Union.....	56	17.9
Cooperative oil association.....	54	17.3
Farmers' telephone association.....	16	5.1
Livestock shipping association.....	8	2.6
Creamery association.....	7	2.2
Other.....	32	10.3
Home Makers		
Member any organization.....	106	34.0
Home demonstration clubs.....	102	32.7
Other.....	11	3.5

4-H CLUB WORK

Fewer farms reported children of club age (10 to 20 years) than is usually the case. (Table 21) The number of children of club age was also proportionately smaller than in the other areas from which similar data are available. Children from 24 per cent of the homes either were or had been in club work as compared to 18 per cent from the other areas. The number of boys and girls reached through club work was equal to 42 per cent of the boys and girls of club age at the time the data were collected. Twenty-four per cent of the eligible boys and girls were enrolled in club work at the time of the study and these boys and girls averaged 12.5 years of age. While not measuring the entire value of club work it is interesting to note that 1.6 per cent of all the practices reported changed was credited to the influence of result demonstrations conducted by juniors.

Table 21. - Farms and Children in Junior Project Work

Item	Nebraska area	17 other areas
Farm and home records obtained.....	312	11277
Percentage of families with children of club age (10 to 20 years).....	42	47
Number of children of club age.....	246	11528
Number of families with boys and girls in 4-H clubs (ever).....	74	2022
Percentage of families with children in club work (ever):	23.7	17.9
Number of boys and girls in 4-H clubs (ever).....	102	3215
Percentage of boys and girls (10 to 20 years) in club work (ever).....	41.5	27.9
Percentage of boys and girls (10 to 20 years) in club work 1929.....	24.4	12.4
Average age of club members - 1929.....	12.5	13.6
Percentage of all practices adopted due to influence of junior result demonstrations.....	1.6	3.5

AGENCIES OTHER THAN EXTENSION RELIED ON FOR ASSISTANCE

Some information was obtained regarding the sources of information other than the extension service used by farmers and farm women in meeting their farm and home problems. (Table 22) Papers and magazines head the list being reported by 43.9 per cent of the farmers and by 26.9 per cent of the farm women. Nearly one farmer out of four stated that experience was a good teacher. Seventeen per cent mentioned the commercial radio and eleven per cent neighbors as helpful sources of information in connection with agricultural problems. The radio and "own experience" were the only other important sources of helpful information reported by the farm women.

Table 22. - Agencies Other Than Extension Relied on for Assistance

Agency	Number	Per cent
In connection with the farm:		
Papers and magazines.....	137	43.9
Own experience.....	73	23.4
Radio.....	53	17.0
Neighbors.....	33	10.6
Banker.....	11	3.5
Miscellaneous.....	26	8.3
In connection with the farm home:		
Papers and magazines.....	84	26.9
Radio.....	43	13.8
Own experience.....	17	5.4
Miscellaneous.....	8	2.6

ATTITUDE TOWARD EXTENSION

Following the interview with each farm family an estimate was made of the attitude toward extension. Slightly more than four out of every five were recorded as favorable and but one out of 50 opposed. (Table 23) The remaining 17 per cent were reported as indifferent,- not particularly interested in the work either for themselves or for their neighbors. The slightly better attitude toward extension found in this area as compared to other areas studied is in keeping with other information brought out by the study.

Table 23. - Attitude Toward Extension

Item	Nebraska area		15 Other area	
	Number	Per cent	Number	Per cent
Farm records obtained.....	312	:	9872	--
Families reported favorable.....	252	81	6888	70
Families reported indifferent.....	53	17	2291	23
Families reported opposed.....	7	2	436	4
	:	:	:	:
	:	:	:	:

SUMMARY

The study is based on information obtained from 312 nonselected farm families in a typical central Nebraska area.

In the case of 9 farms in every 10 studied, either the farmer, the farm woman or both reported specific changes made in farm or home practices, as the result of information obtained from the extension service.

The teaching means and agencies most frequently reported in connection with practices adopted were method demonstrations, indirect influence, news stories, farm visits, office calls, bulletins, and general meetings. In the case of home-economics practices only method demonstrations and leader training meetings were outstanding influences having been reported in connection with three practices out of every five.

The percentages of farmers and farm women reporting changes in practices increased slightly with increased size of farm.

Educational training of farmers and farm women also seems to have had some influence upon the extent of use of extension information. Age of farmers and farm women, however, has had little bearing upon the adoption of practices.

The very great importance of so organizing and conducting extension work as to bring a large proportion of the rural people into contact with extension workers through attendance at meetings, personal calls, or otherwise is clearly brought out by the close association between participation in extension activities and contact with extension workers and the adoption of improved practices.

Only two per cent of the farm families were recorded as opposed to extension. Only 17 per cent were indifferent. Eighty-one per cent were in favor of extension agents and the work they do.

Material contained in this temporary circular will be illustrated and printed in permanent form within the near future. The supply will be sufficient to take care of requests for the circular. Letters should be addressed to

THE AGRICULTURAL COLLEGE,
LINCOLN, NEBRASKA.