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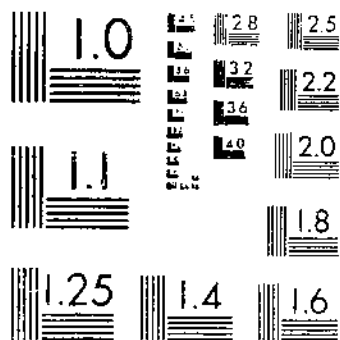
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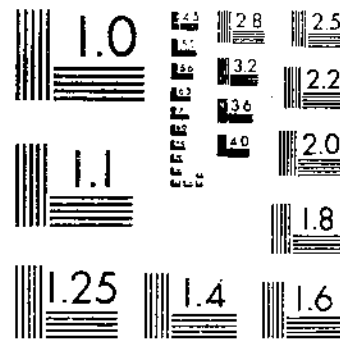
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NATIONAL BUREAU OF STANDARDS 1963-A



UNITED STATES DEPARTMENT OF AGRICULTURE
WASHINGTON, D. C.

EXTENSION METHODS AND THEIR
RELATIVE EFFECTIVENESS

By M. C. WILSON¹

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INTRODUCTION

In an educational sense extension is teaching, but in a business sense it consists of selling ideas. During the early period of the establishment and development of a nation-wide system of cooperative extension work, administrative and supervisory officers have been guided largely by the experience of the teaching profession and by the salesmanship practices of the commercial world. After 14

¹The author is indebted to C. E. Smith, Chief of the Office of Cooperative Extension Work, for assistance in planning the studies and in interpreting the data; also to the members of the office staff, to the extension directors of the several States, and to the members of the State extension services who made possible the collection of such a large volume of field data.

years of experience in the conduct of extension under the Smith-Lever Act, and more than 20 years of extension activities in some States, it is possible to study extension methods and accomplishments for the purpose of obtaining information that will be peculiarly applicable to the conduct of extension.

Although extension is teaching, there are certain differences between classroom teaching and extension. The schools deal primarily with children; extension deals with adults as well as children. Classroom and laboratory exercises are conducted under controlled conditions as contrasted to extension activities, which are carried on in the field where natural forces have free play and under conditions as they are found to exist. School attendance is largely compulsory, whereas the contacts of farming people with extension work and workers are entirely voluntary.

Many of the methods employed in good salesmanship are applicable to extension. There are, however, certain marked differences: The salesman deals with physical goods, the extension worker with new ideas; the one is a business transaction, the other an educational process.

The success of classroom teaching is measured by the number of children who pass the various tests and examinations given. Volume of sales is tangible evidence of the success or failure of the efforts of the salesman and has a close relationship to his financial reward. Several measures of extension accomplishment have been suggested:

- (1) The adoption of improved practices by farmers and farm women.
- (2) Improvement in standards of living on farms.
- (3) Assumption of leadership by rural people.
- (4) The number of farm boys and girls brought into direct touch with extension and given training and inspiration in their life work.

The extent to which improved practices have been adopted by farmers and farm women is the most satisfactory single measure of extension accomplishment and is the unit of measurement used throughout this bulletin. Over a period of years the number of local leaders developed and the number of future farmers trained will directly affect the number of improved practices adopted as a result of extension effort. The adoption of improved practices is also closely associated with a higher standard of living.

METHOD OF COLLECTING DATA

The data upon which this study is based were obtained in connection with studies of the effectiveness of extension work during the period 1923 to 1928 made in cooperation with the extension services of 14 States: New Jersey, New York, and Pennsylvania in the northeast; Illinois, Iowa, Kansas, Minnesota, Ohio, South Dakota, and Wisconsin in the north central group; Arkansas and Georgia in the South; and California and Colorado in the West. The data were collected by the survey method, all the farms in representative areas, usually comprising two or more townships each, being visited by representatives of the State and Federal extension offices, who obtained comparable information regarding the use made of the cooperative extension system by the farm family. Previous to the survey, effort was made to acquaint those taking part in the field survey with the past and present extension programs and activities

in the areas studied. The questionnaire cards were checked at the headquarters of the survey party each day for errors and inconsistencies, and the necessary corrections were made or additional information obtained. (Figs. 1 and 2.)

No. 309. Co. Fr.

FARM AND HOME SURVEY OF THE RESULTS OF EXTENSION WORK

Date: Aug. 11, 1926.
 Name: _____ Address: Fayetteville. Community: Guilford. Owner: Yes. Tenant: _____ Phone: Yes. Radio: _____ Size of farm: 150 A. Years on farm in county: 33; on this farm, 20. Kind of road: Dirt. Type of farming: Dairy, poultry, cash crops. Miles to agent's office: 8. No. in family: Adults, 2; children, 7. Months hired help: F., 2; H., _____. No. children (10-20 yrs.): 4. No. in school (10-20): 2. Member of what farmers' organizations: Interstate Milk Producers. Member what home makers' clubs: _____ Leadership in extension work: Farm, _____; home, _____. Extension activities on farm: Adult, _____; junior, _____.
 In home: Adult, _____; junior, _____. Other ext. act's att'd or participated in: Farm: Dairy, crops, plant diseases, mg., and dem. Home: Canning dem. Contacts with Co. Agt.: Yes. II. Econ. Agt.: Yes. What specialists? Agronomy, dairy, plant pathology. If no contact, have circular letters or bulletins been received: _____. Names of local extension leaders from whom assistance has been received: _____

Farm and home practices adopted	Methods largely responsible (see list below)	Extension agents involved			Lac. ldr. involved
		C. A.	H. E. A.	Spec'l	
Better corn variety	Mtg., dem. (a), f. r.	✓		✓	
Better potato variety	Dem. (a), n. s., mtg.	✓		✓	
Dairy feeding	Bul., n. s., mtg.	✓		✓	
Alfalfa growing	F. o. c., n. s., mtg.	✓		✓	
Poultry feeding	Bul., mtg.	✓			
Cold pack canning	M. dem.		✓		

FIG. 1.—A typical record obtained from a Pennsylvania farm family: Obverse side

List below names of members of family who have carried on a junior project.

Name	Present age	In school	Years in club work	Project	Why discontinued
a. _____					
b. _____					
c. _____					
d. _____					

How has your community benefited through extension work? *More of a business type of farming has been developed.*

Suggestions for the improvement of the service: *Carefully planned demonstrations on crops and livestock.*

What agencies other than extension do you rely on for assistance in connection with problems relating to: Farm: *Farm papers, and milk marketing assoc.* Home: _____

Attitude toward extension work: *Favorable.*

Remarks: *A good prospect for a local extension leader.*

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 (a. s.); result demonstration—Adult (dem. a.), junior (dem. jr.); method demonstration meeting (m. dem.); general meeting (mg.); radio (r.); exhibit (exh.); poster (p.); indirect influence (ind.).

Extension services of the Pennsylvania State College and of the United States Department of Agriculture cooperating.

FIG. 2.—A typical record obtained from a Pennsylvania farm family: Reverse side

Two hundred and one representatives of the State extension services and ten members of the extension service of the United States Department of Agriculture participated in the collection of the field data, thereby obviating the possibility of the data being colored by the personal views of a few people. To insure uniformity in data, the terminology approved by the Association of Land-Grant Colleges and the United States Department of Agriculture was followed in

all the surveys. In addition, the writer directed all the survey parties, and personally took part in the field work in every area. The data were tabulated and summarized by the Federal extension service. The basic information relating to the effectiveness of extension work in influencing farm and home practices was collected on 9,287 farms in 27 counties of 13 States.

AREAS VARY GREATLY IN EXTENSION ACCOMPLISHMENT

From the information obtained from the farmers and farm women on 9,287 farms it is evident that, although the percentages of farmers and home makers influenced by extension to adopt improved practices are relatively high in all of the areas studied, the range from 64 to 97 per cent represents a 50 per cent difference in accomplishment. (Table 1.) In agricultural practices only, the percentage of farmers influenced varies from 59 to 96. For home-economics practices there is a variation of over 600 per cent in the homes definitely influenced, the range being from 10 per cent in area L to 65 per cent in area K.

TABLE 1. *Adoption of practices on farms and in homes*
PERCENTAGE OF FARMERS AND HOME MAKERS ADOPTING PRACTICES

Practices	Area											
	G	C	A	E	H	J	D	N	I	M	K	L
Agricultural practices ¹	59	69	72	71	77	82	82	87	86	89	86	96
Home-economics practices ²	15	31	33	47	36	17	42	40	34	36	65	10
Any practices.....	64	75	77	79	82	83	87	89	89	90	92	97

NUMBER OF PRACTICES ADOPTED PER 100 FARMS OR HOMES

Practices	Area											
	G	A	C	J	E	H	I	D	L	M	K	N
Agricultural practices ¹	138	169	170	222	183	220	250	289	403	359	309	368
Home-economics practices ²	30	56	56	27	98	76	66	168	10	55	177	131
All practices.....	168	225	226	249	281	296	322	397	413	414	486	499

¹ Agricultural practices include all practices relating to agronomy, horticulture, forestry, rodent control, entomology, plant pathology, animal husbandry, dairy, poultry, agricultural economics, and agricultural engineering.

² Home-economics practices include all practices relating to foods, nutrition, clothing, home management, house furnishings, and health and sanitation.

In these comparisons and in the similar comparisons of areas which follow, agricultural practices and home-economics practices are classified on a purely subject-matter basis. Agricultural practices include all practices relating to agronomy, horticulture, forestry, rodent control, entomology, plant pathology, animal husbandry, dairy, poultry, agricultural economics, and agricultural engineering. Home-economics practices include all practices relating to foods, nutrition, clothing, home management, house furnishings, and health and sanitation. No attempt has been made to compare county agricultural agent work and home demonstration work, because of the variation in the work handled by these agents in the different areas. In some counties considerable poultry and gardening work was carried on by the home demonstration agent, and in other counties

work in foods and home management was carried on by the agricultural agent with the assistance of home-economics specialists. In practically all of the areas women agents had been employed somewhat more recently than men agents. In some of the areas the low percentage of farm women influenced to adopt improved home-economics practices was due to the small emphasis placed upon the extension of home-economics subject matter.

The preceding data are for farms² and farm homes. A limited study of village homes in two States would seem to indicate that the percentage of village women who have adopted improved home-economics practices as the result of extension teaching is larger than that of farm women similarly influenced.

It might be assumed that in those areas where the lower percentages of farmers and farm women were influenced, a larger number of changes per farm would be made than in the areas where more people have been reached. This does not seem to be true, for on the basis of number of practices adopted per 100 farms, in which the number of improved practices adopted per farm and home is considered as well as the percentage of farms and homes involved, the areas remain in essentially the same order. (Table 1.) Apparently, in those areas where the higher percentages of farmers have been influenced to adopt practices, the more intensive work has also been done. The variation in extension accomplishment as measured by the number of practices adopted per 100 farms and homes is from 168 in area G to 499 in area N, or approximately 200 per cent. In the adoption of agricultural practices the range is from 138 to 403 practices per 100 farms. For home-economics practices the range is from 10 to 177 practices per 100 homes. The wide variation in adoption of home-economics practices is partly due to the small emphasis placed upon this phase of extension in some of the areas included in the study.

Organized extension work had been under way in the counties for varying lengths of time when the field data were collected. There is also considerable difference in the number of farming people per county. The number of resident extension agents in the counties studied varies from one to three or more. In some States more assistance by specialists from the college is available than in other States. In making up Figure 3 all these factors have been considered, as well as the percentages of farmers reached and the number of practices adopted. In addition some consideration has been given to the frequency of changes in county extension personnel. This comparison is only approximate, because of the difficulty of computing accurately the number of man-years of extension chargeable to the various counties. Although the order of areas is changed about somewhat in relation to the two previous comparisons there is an even greater variation in accomplishment in the different areas. The number of practices adopted per man-year of extension varies from 92 in area G to 938 in area J. The number of farms on which practices were changed varies from 34 per man-year in area G to 314 in area J. On the basis of farms reached and practices adopted per man-year, the larger counties have a natural advantage, since it is easier to reach

²The term "farm" as used in this and other similar connections throughout the bulletin refers to the farm operator and his family.

the first 50 per cent of the farmers and farm women than it is the remaining 50 per cent. The returns per agent are undoubtedly greater where one agent is employed in a county, since additional agents must of necessity work largely with the same farm families and be concerned with the adoption of additional practices rather than the influencing of additional families.

The foregoing comparisons bring out clearly the wide variation in accomplishment resulting from extension effort in different areas, regardless of the basis chosen for the comparison. In a previous

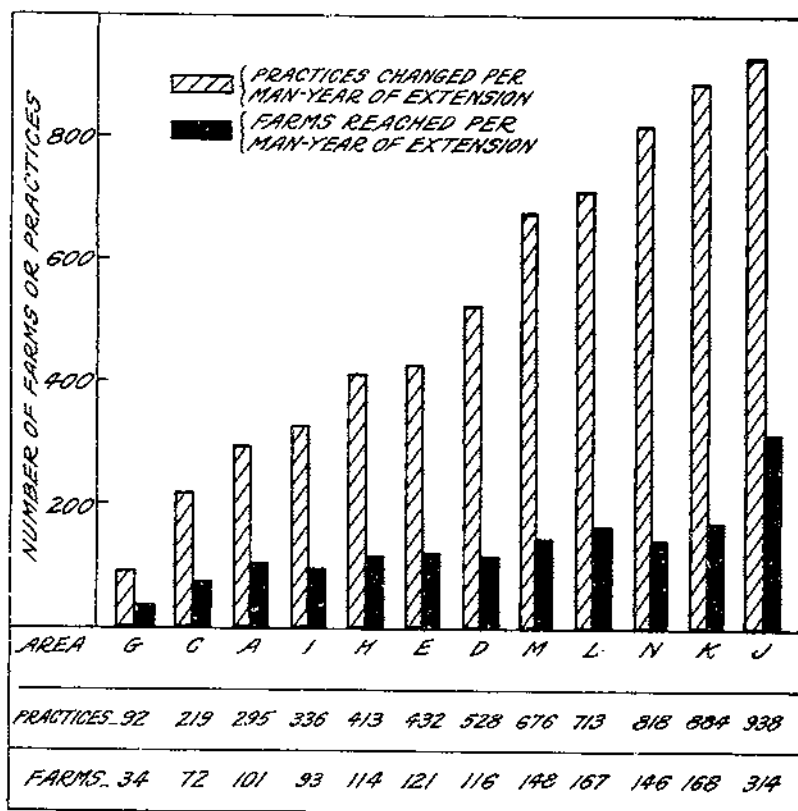


FIG. 3.—Farms reached and practices adopted per man-year of extension

bulletin (4)³ the influence of land tenure, size of farm, distance from extension office, membership in extension associations, participation in extension activities, contact with extension workers, and similar factors upon the effectiveness of extension in inducing farmers and home makers to adopt improved practices has been shown. In this study an effort will be made to bring out the part that extension methods—the means and agencies employed in extension teaching—play in causing the adoption of improved practices. How do the “tools” used in extension work compare in effectiveness?

³ Reference by italic number in parentheses is to literature cited in “Bibliography,” p. 46.

CLASSIFICATION OF EXTENSION METHODS

The means and agencies employed in extension teaching may be classified in several different ways. In classification 1 (Table 2), which has been used in a number of studies of the effectiveness of extension, the methods are classified according to the major purpose for which they are used.

TABLE 2.—*Extension methods: Classification 1*

Personal service	Publicity	Object lesson
Farm and home visits. Office calls. Telephone calls. Extension schools and short courses. Leader-training meetings. Study courses.	Bulletins. Circular letters. News stories. General meetings. Radio. Exhibits. Posters.	Adult result demonstrations. Junior result demonstrations. Method demonstrations.

The personal-service group includes all means of rendering personal service to individual farmers and farm women, such as farm and home visits, office calls, and the like. The inclusion of extension schools and leader-training meetings in this group depends somewhat upon how they are conducted in the field.

The publicity group includes all means employed for the purpose of influencing people in a wholesale way. Exhibits have been put into this group rather than into the object-lesson group because of the general character of the exhibits commonly made by extension agents.

The object-lesson group includes those methods which aim to establish proof or which are concerned with the teaching of skill. Since method demonstrations involve meetings they have a publicity phase, and might be put into the publicity group rather than into the object-lesson group.

In classification 2 (Table 3) the methods of extension teaching are arranged according to characteristics inherent in the method. All the means largely dependent upon the use of the spoken word are grouped together. The various ways of employing the written or printed page form another group. The objective group includes those means which appeal through the eye.

TABLE 3.—*Extension methods: Classification 2*

Oral	Written	Objective
Farm and home visits. Office calls. Telephone calls. Meetings. Leader training. Extension schools and short courses. General. Radio.	Bulletins. Circular letters. News stories. Correspondence. Study courses.	Exhibits. Result demonstrations: Adult. Junior. Method demonstrations. Posters. Motion pictures. Lantern slides. Charts.

Here again certain means may involve more than one group. As mentioned above, the way in which a particular activity is executed often will affect its proper classification. Many activities will

normally fall into two or more groups. Motion pictures, lantern slides, and charts in the objective group are usually employed in connection with general or special meetings falling into the oral group.

In addition to the direct influence of the various means and agencies employed in extension upon the adoption of improved practices, there is a large indirect spread of influence which should not be overlooked. This indirect spread of better practices from one neighbor to another is frequently more important than the direct influence of leading methods. In practice, therefore, it is necessary to add to any classification of methods another group heading to include the indirect influence which can not be identified with the individual means and agencies.

RELATIVE FREQUENCY WITH WHICH PARTICULAR METHODS INFLUENCE ADOPTION OF PRACTICES

It is sometimes difficult for a farmer to tell just what forces influenced him to lime his soil, to cull his poultry, or to adopt some other improved practice. The sources of inspiration and information which stand out in the farmer's mind may not always include all the agencies which have had a part in stimulating him to action. Interest may have been aroused at a meeting which led to attendance at another meeting, calling on the agent at his office, conducting a result demonstration, or the obtaining of a bulletin. Wherever the desired action had resulted from the cumulative influence of several methods credit was given to all the means and agencies which, in the judgment of the farmer, had contributed in any way to the adoption of the practice in question. It is believed that the opinions of large numbers of farmers and farm women regarding the tools used in extension which have in any way influenced them to adopt improved practices furnish a fairly reliable index of the relative effectiveness of the various means and agencies employed in extension teaching. Certainly the farmer knows better than anyone else the extension activities to which he has been exposed and from which he obtained information actually put into practice on the farm.

Comparable information is available regarding the methods that influenced the adoption of 27,032 agricultural and home-economics practices as reported by the farmers and farm women on 8,738 farms in 26 counties of 12 States. (Fig. 4.) In order to bring out more clearly the relative effectiveness of the different methods the data have been reduced to a basis on which the sum of the influences of individual methods equals 100 per cent. Actually, of course, the influence of two or more methods is frequently reported in connection with the adoption of a single practice.

Indirect spread from one neighbor to another was reported for 21.3 practices out of 100. Next in order are method demonstrations, 15.2 practices out of 100; general meetings, 13.8; farm and home visits, 12.3; news stories, 10.3; office calls, 6.8; result demonstrations, adult and junior, 6.7; and bulletins, 6.5. These eight means account for the adoption of 93 practices out of 100, credit for the remaining 7 practices being distributed among circular letters, exhibits, radio talks, correspondence, extension schools, leader-training meetings, telephone calls, posters, and study courses.

Although not a measure of their total influence these percentages are indicative of the relative effectiveness of the different methods as employed by extension workers in the conduct of their work. There is naturally a difference in effectiveness of the same method handled by different extension agents. Greater emphasis may have been placed upon certain methods than upon others. The interdependence of the various methods must also be considered. The news story must have a foundation in the work of State and Federal research agencies, the results of a local demonstration, the opinion of a

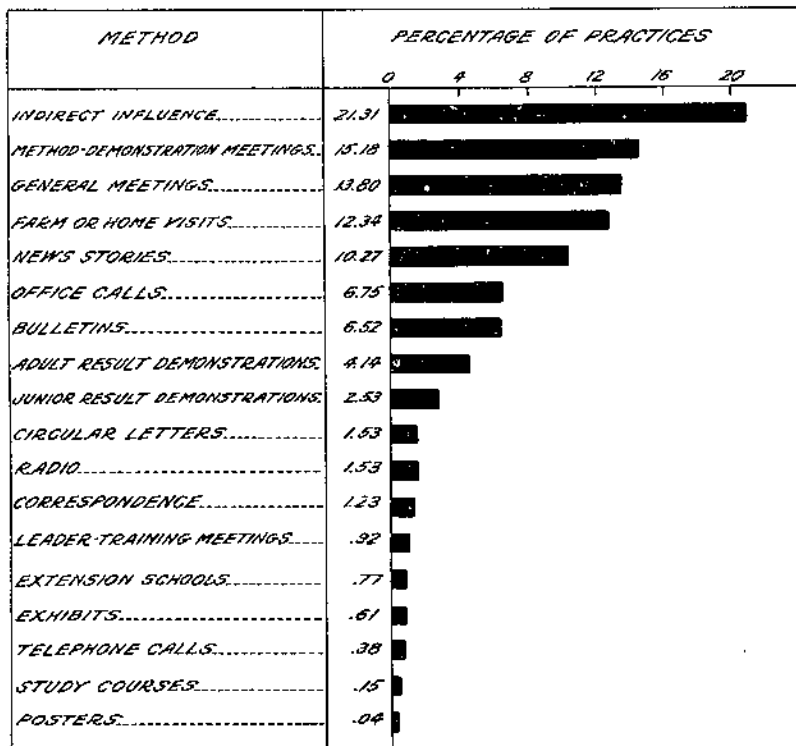


Fig. 4.—Relative influence of extension methods in effecting adoption of improved practices, as measured by the percentage of practices influenced in connection with the adoption of 27,032 practices on 8,738 farms in 12 States. The data have been corrected to the basis of 100 per cent equals total influence of all methods. Information on method demonstrations, adult result demonstrations, general meetings, and exhibits is for 9 areas; posters, 8 areas; study courses, 6 areas; and radio, 4 areas.

recognized authority, or the good practice of a farmer. The bulletin may amplify the address given at a meeting or the conversation incident to an office call. Attendance at the meeting and the office call may be associated with the confidence inspired through farm visits and successful result demonstrations.

The data presented in Figure 4 show the value of the different means and agencies employed in extension, as these tools have been and are being used by a representative group of extension workers under a wide range of conditions. The data deal with the practical application of teaching methods in the field, and not with

the theoretical value of the methods under ideal or laboratory conditions.

When the methods are divided into groups, and duplication due to a practice having been influenced by two or more methods in the same group is eliminated, it is found that the publicity group leads with 30.3 practices out of 100 involved. The personal-service, object-lesson, and indirect methods are of about equal influence. The percentage of practices adopted through the influence of methods of the publicity type would be even larger were allowance made for method-demonstration meetings that have been classed with the object-lesson group.

In the second classification of methods given (p. 7) the oral group leads, influencing 34.9 practices out of 100 changed. The objective and indirect groups are about equal, each influencing slightly less than 1 practice out of 4 adopted. Methods in the written group influenced 18.8 practices out of 100 practices adopted. The influence of the objective group would be lower, and that of the oral group higher, were allowance made for the oral phases of the method-demonstration meetings classed as objective. In connection with practices adopted by farmers, oral methods and indirect influence have apparently been more influential than with the practices adopted by farm women. The adoption of practices by farm women shows the much greater influence of objective methods.

INHERENT VALUE OF INDIVIDUAL METHODS

Although theoretically possessing high intrinsic value, a method may be of little practical use in the field if the rank and file of extension workers are unable to employ it successfully. It is therefore desirable to study each means and agency individually in the light of its effectiveness under all conditions. In Table 4 the relative influence of the various methods upon the adoption of improved practices is shown by areas, and in Table 5 the same information is given for the important subject-matter lines of work.

TABLE 4.—Variation in influence of methods in effecting adoption of improved practices, by areas, as shown by percentages of all improved practices adopted¹

Method	Area										
	G	C	A	H	J	D	N	I	M	K	L
Method demonstrations.....	13.03	19.40	19.08	17.7	8.22	14.4	21.97	14.98	8.67	21.13	4.51
Adult result demonstrations.....	10.34		9.54		5.28	4.30	.91	.36	.78	3.16	3.24
Junior result demonstrations.....	3.23	2.0	7.2	2.33	1.37	3.64	.63	.98	1.07	.94	3.92
General meetings.....	7.11	16.52	13.04	16.51	20.09	10.12	8.67	12.3	21.57	9.75	17.65
News stories.....	9.74	9.13	3.83	11.57	13.03	9.64	11.01	8.91	10.11	21.08	6.21
Bulletins.....	10.22	8.41	5.71	10.04	7.24	5.62	6.04	5.97	7.10	2.06	2.34
Circular letters.....	5.56		1.75	2.18	2.97	2.01	2.10	1.36	.86	.3	.48
Exhibits.....	1.08		.78			1.60	21	2.09	.29	.08	.24
Farm and home visits.....	20.26	10.8	22.45	4.08	11.35	17.68	12.52	12.21	7.00	4.70	15.88
Office calls.....	2.51	10.22	5.13	.88	.61	7.42	6.57	4.19	10.03	7.18	16.4
Correspondence.....	3.50	.43	.26	1.80	.61	.62	2.65	1.16	1.20	.26	1.3
Telephone calls.....	.84	.22	.13	.44		.42	.28	.17	.78	.08	.05
Extension schools.....		1.3	.91	1.75	.15	.76	.14	.71	1.50	.51	
Leader-training meetings.....	1.02		.30	1.82	1.07		2.37	1.07	2.22	.43	
Study courses.....		.07		.44							.08
Posters.....	.11						.03		.22	.03	
Radio.....							4.13		1.07	.26	.24
Indirect.....	11.36	20.51	9.8	28.37	20.03	20.73	18.54	36.54	23.94	24.12	26.59

¹ Computed to basis total influence of all methods equals 100 per cent.

² In areas C and H method demonstrations and adult result demonstrations were not separated.

TABLE 5.—Variation in influence of methods by subject matter, as indicated by percentages of practices adopted ¹

Project ²	Method demonstrations	Adult result demonstrations	Junior result demonstrations	General meetings	News stories	Bulletins	Circular letters	Exhibits	Farm and home visits	Office calls	Correspondence	Telephone calls	Extension schools	Leader training	Study courses	Posters	Radio	Indirect influence
	P. ct.	P. ct.	P. ct.	P. ct.	P. ct.	P. ct.	P. ct.	P. ct.	P. ct.	P. ct.	P. ct.	P. ct.	P. ct.	P. ct.	P. ct.	P. ct.	P. ct.	P. ct.
Soils.....	8.8	7.9	1.1	19.9	11.6	3.3	1.0	-----	16.6	13.8	0.8	0.5	0.8	-----	-----	-----	0.3	22.1
Corn.....	8.0	6.8	5.1	9.9	13.4	4.2	1.0	1.0	10.9	9.7	1.0	.5	.5	0.1	-----	0.1	1.4	26.5
Wheat.....	9.8	5.1	-----	7.1	14.5	4.2	1.6	.2	7.1	5.8	.7	.1	.1	.1	-----	-----	-----	2.0
Oats.....	6.0	1.6	-----	10.0	17.4	6.1	.6	-----	4.5	5.1	.6	.1	.4	-----	-----	.3	-----	46.7
Alfalfa.....	.6	5.5	.1	23.0	17.8	6.8	1.8	.1	8.4	0.4	1.9	.3	.3	-----	-----	.2	-----	23.0
Soy beans.....	1.4	5.9	1.1	17.2	18.7	2.7	.7	-----	11.8	18.0	.9	.2	.2	-----	-----	-----	-----	21.2
Other legumes and forage crops.....	3.3	4.3	.1	12.7	17.7	3.0	1.0	-----	9.4	13.2	1.0	.2	.7	.1	-----	-----	1.9	20.5
Potatoes.....	4.7	9.0	5.0	13.5	9.7	5.8	2.0	.9	10.0	6.1	1.0	.4	.6	.1	.1	-----	-----	.1
Cotton.....	6.4	7.4	1.5	11.7	10.2	4.3	1.6	.4	16.6	6.6	.2	1.1	.7	.2	-----	-----	-----	31.7
Tree fruits.....	23.0	14.7	.2	9.2	4.6	7.0	2.6	-----	20.0	6.7	2.0	1.1	.4	.1	.1	-----	-----	8.3
Vegetables.....	12.2	4.4	7.5	18.0	5.1	13.1	2.4	-----	22.7	6.3	1.1	.6	.3	.6	-----	-----	-----	5.7
Dairy.....	.9	.8	1.5	15.1	9.4	3.5	1.1	.2	21.8	5.9	2.0	1.1	.6	.1	.1	-----	-----	.2
Swine.....	6.1	2.1	8.1	10.7	10.4	6.9	.5	.6	20.9	10.7	1.0	.5	1.7	-----	-----	-----	1.5	
Poultry.....	21.3	2.6	2.6	12.4	10.3	11.3	1.4	1.1	12.4	4.2	1.8	.4	.9	.6	.4	-----	-----	3.8
Rural engineering.....	13.9	5.0	.1	16.2	6.3	6.6	1.6	-----	18.2	7.5	1.9	.3	6.0	-----	.2	-----	3.6	
Marketing.....	3.0	.4	.4	23.2	17.6	.8	4.4	.2	13.2	6.4	2.1	.7	.1	.1	-----	-----	1.5	
Food preparation.....	42.8	3.7	6.1	10.0	14.0	7.0	.7	.6	5.1	.5	.4	.1	1.8	1.2	.6	-----	-----	1.4
Food preservation.....	36.0	2.9	5.0	9.3	6.6	13.3	.8	1.7	4.8	.8	.3	.2	.8	.8	.1	-----	-----	1.1
Nutrition.....	33.5	2.4	1.0	24.4	5.7	12.5	.6	.4	2.9	1.0	.7	-----	.1	5.5	.3	.2	2.3	
Clothing.....	57.1	2.9	5.2	11.9	1.5	2.9	.8	.8	3.2	.6	.3	.1	.4	6.0	.1	-----	-----	1.5
Home management.....	33.9	5.3	-----	13.0	7.6	7.6	1.1	.7	8.3	1.1	1.1	-----	.8	5.3	1.2	-----	-----	3.0
Home improvement.....	34.2	6.5	1.0	24.6	2.4	8.1	1.4	-----	8.7	1.4	-----	.4	1.0	4.3	-----	-----	.7	
Health and sanitation.....	31.0	1.7	.6	25.4	5.3	8.5	.9	2.1	5.7	.9	.3	-----	.3	4.7	.7	.5	2.4	

¹ Computed to basis total influence of all methods equals 100 per cent.

² Includes only lines of subject matter represented by a substantial number of practices. Insect and plant-disease control practices are grouped with the crops affected.

METHOD DEMONSTRATIONS

According to the official definition a method demonstration must be given by the extension worker or other trained leader to a group for the purpose of showing them how to carry out a practice. (Fig. 5.) It is concerned primarily with the teaching of skill, and is predicated upon the audience accepting the paid extension worker or trained local leader as an expert in the phase of subject matter involved. The teaching of a group of farmers how to cull their poultry and showing a group of farm women how to use patterns are typical examples. The influence of method-demonstration meetings upon the adoption of improved practices varied from 4.5 practices out of 100 in area L to 22 practices out of 100 in area N. This



FIG. 5.—The method-demonstration meeting enables the extension worker to teach many people at once and is well adapted to the extension of home-economics information.

important means of influencing the adoption of practices seems to bear a rather close relationship to the total extension accomplishment in the various areas as indicated in Figure 6. In general, the higher the direct influence of method-demonstration meetings the greater seems to be the total extension results as measured in terms of improved practices adopted per 100 farms and homes.

As might be expected, method demonstrations have been most influential in those subject-matter fields where a great deal depends upon the development of skill (Table 5), such as is required in horticulture and poultry in the agricultural group, and in all lines of home-economics work. The teaching of farmers how to cull poultry and to prune and spray, and of farm women how to prepare new dishes, make bread, can meats and vegetables, make dress forms,

use patterns, construct hats, rearrange kitchens, make draperies, re-finish furniture, and the like, seems to be well adapted to group demonstrations by the extension worker or other trained leader. In connection with soils, field crops, dairy, swine, rural engineering, and marketing method demonstrations have played a less important part.

RESULT DEMONSTRATIONS

Result demonstrations involve the establishment of proof that the improved practice advocated is applicable locally. Such demonstrations are conducted by a farmer, farm woman, boy, or girl, under the direction of the extension worker.

Result demonstrations conducted by adult farmers and farm women under the supervision of extension workers influenced the adoption of 4.1 per cent of the practices reported adopted, the variation being from 10.3 per cent in area G to less than one-half of 1 per cent in area I. (Table 4.) In three of the areas the influence of result demonstrations was reported in connection with less than 1 per cent of all the practices adopted. Where greatly increased emphasis was placed upon result demonstrations as a means of teaching improved practices

directly to farmers and farm women, there seems to have been no increase in total extension accomplishment. (Fig. 7.)

The chief purpose of the result demonstration would seem to be to establish confidence in the recommendations of the extension service rather than to teach better practices directly to large numbers of people. (Fig. 8.) It is physically impossible for an agent to supervise a sufficient number of result demonstrations in even the major phases of his program to make it possible for all the farmers of the county to watch them. In addition, the result demonstration, if in field crops, is apt to be most convincing just at the time when farmers are busily engaged in harvesting the same crop on their own farms. With large numbers of result demonstrations

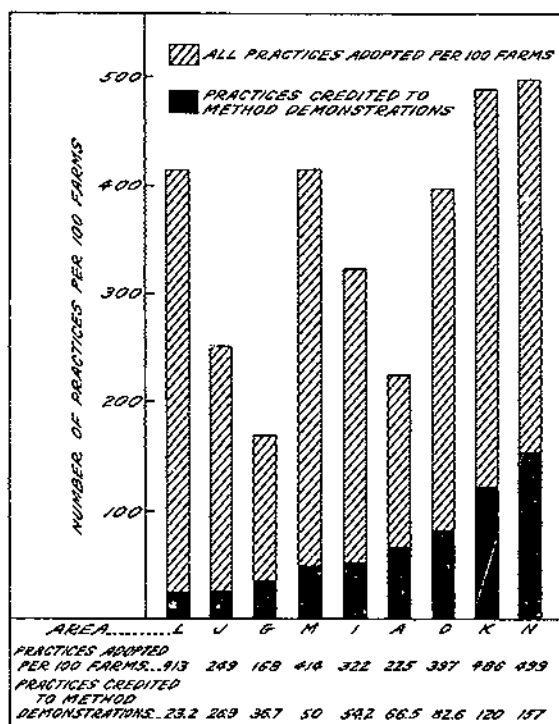


FIG. 6.—The influence of method demonstrations as related to extension accomplishment

and limited supervision, the possibility of failure of part of the demonstrations is greatly increased. Demonstrations that do not demonstrate frequently have a negative value detracting from the positive value of the successful demonstrations. Needless repetition of result demonstrations does not add materially to the store of local proof of the usefulness of the practice, and would seem to be at the expense of time which could better be devoted to other means and agencies.

In order to use his time most efficiently, the wise county agent will make use of the results obtained at the experiment station and the good practices of local farmers in so far as possible, and if

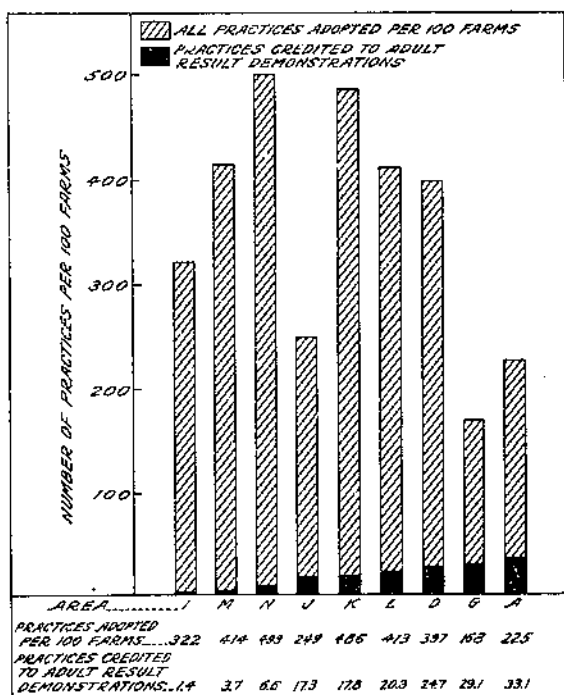


FIG. 7.—The influence of adult result demonstrations as related to extension accomplishment

influenced the adoption of 2.5 per cent of all practices reported adopted in 11 areas. The greatest influence of the junior result demonstration was reported in area A, where 7.2 per cent of the practices were involved, and the least influence in area N, where 0.6 per cent of the practices were credited to this means. (Table 4.) Although the local proof established through result demonstrations conducted by boys and girls apparently has somewhat less influence than the corresponding work of adults, it must be remembered that this is but a by-product of training future farmers and farm women through 4-H club work. The junior result demonstrations unquestionably aid in building up that degree of confidence in the recommendations of the extension service that make it possible effectively to reach people through more extensive means.

necessary conduct a limited number of carefully supervised result demonstrations in order to provide ample local proof and confidence. He will then place the results of these experiments, demonstrations, and local practices before large numbers of people through such means as meetings and news stories.

The farm and home projects conducted by the boys and girls in club work afford opportunity of establishing local proof of the value of various practices. The junior result demonstrations conducted by 4-H club members

Not all subject matter is equally adapted to boys' and girls' club work and to work with adults. In the areas studied junior result demonstrations had been more influential in spreading better practices in corn, potatoes, gardening, swine, food preparation and preservation, and clothing than in the other subject-matter lines. (Table 5.)

GENERAL MEETINGS

Group meetings are one of the oldest means employed in extension teaching. They received great emphasis during the farmers' institute movement, which was at its height just prior to the passage of the Smith-Lever Act. That the meeting together of a group at the community center or at a neighbor's barn is still an important way of extending information is abundantly evident. According to the



FIG. 8.—A successful result demonstration furnishes local proof of the value of a practice, which frequently becomes the basis of the news story and the community meeting. Although few people may be influenced directly by the result demonstration, it is an important means of establishing confidence in the extension service.

statements of the farmers and farm women interviewed nearly one practice out of every seven was adopted through this means. In area J (Table 4) credit was given to meetings for 29.1 practices out of every 100 adopted. The least influence was reported in area G, where 7.1 per cent of the practices were involved. Meetings also had a high average influence upon the adoption of practices in nearly every subject-matter field. Approximately one practice out of every four adopted in alfalfa, marketing, nutrition, home improvement, and health and sanitation was influenced by meetings other than method-demonstration meetings, extension schools, and leader-training meetings. (Table 5). The lines of subject matter least affected by general meetings are corn, wheat, oats, tree fruits, swine, and food preparation and preservation. A factor contributing to the

importance of meetings sometimes overlooked by extension workers is the larger number of people reached by meetings than by many other means. Those in attendance at a meeting will also frequently be willing to undertake work that they would not attempt to do if acting as individuals.

NEWS STORIES

Although 1 out of 10 practices adopted in the areas surveyed was credited to news stories, there is a wide variation in the effectiveness

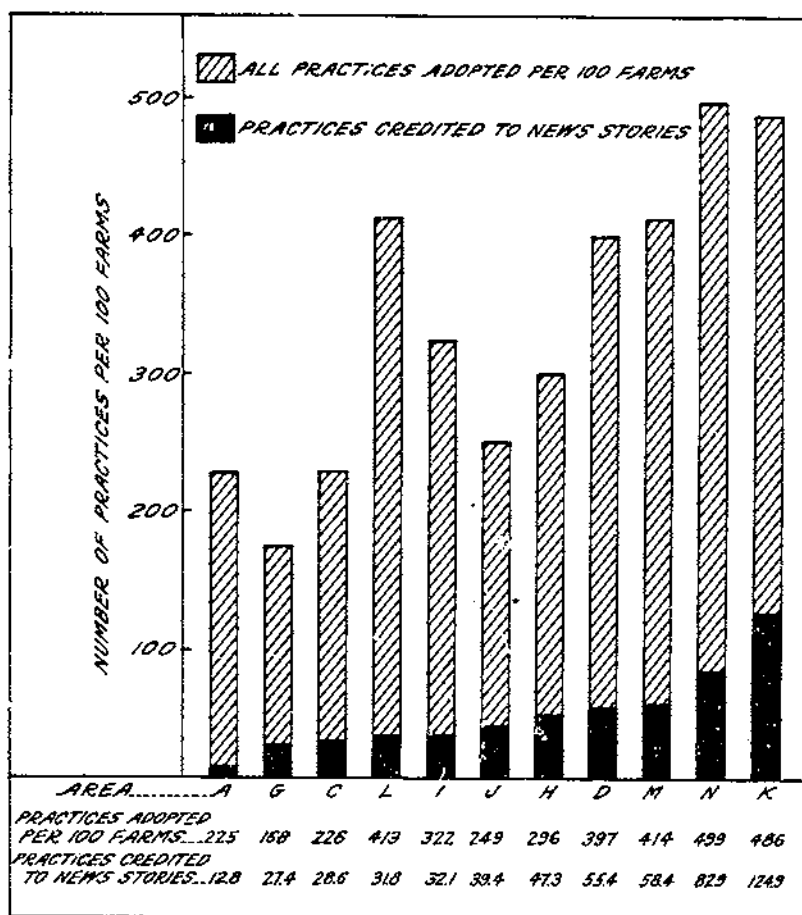


FIG. 9.—The influence of news stories as related to extension accomplishment

of this means, the greatest influence being in area K, where 22 practices out of 100 were so influenced, and the least in area A, where but 3.8 per cent of the practices were adopted as the result of news stories. (Table 4.) News stories have exerted greatest influence on the adoption of practices throughout the areas in soils, field crops, livestock, marketing, and food preparation. (Table 5.) The lines of subject matter least influenced by news stories are horticulture, rural engineering, food preservation, nutrition, clothing, home man-

agement, home improvement, and health. Unless the extension worker makes full use of local newspapers to place the recommendations of the extension service and the results of local demonstrations before all the people the likelihood of a large number of people being informed regarding a particular practice and accepting it as a part of the farm and home routine is greatly reduced. From Figure 9 it is evident that there is a close correlation between the influ-



FIG. 10.—News items in the local paper provide a means of widely disseminating information regarding improved methods of farming and home making. This is one of the most economical means employed in extension teaching.

ence ascribed to news stories and total extension accomplishment in a given area. The building up of confidence in the extension organization and the establishment of local proof naturally precede the effective use of news stories, but once that confidence and proof have been provided, the news story furnishes an economical means of bringing about the widespread adoption of improved practices. (Fig. 10.)

BULLETINS

That farmers and farm women read and make use of the bulletin information published by the colleges and experiment stations and the United States Department of Agriculture is shown by the substantial percentage (6.5 per cent) of practices adopted through the influence of bulletins. The influence of bulletins is fairly uniform throughout the areas studied, and in the entire field of subject matter involved. (Tables 4 and 5.) The greatest influence of bulletins was reported in areas G and H, and least influence in area L. Vegetables, poultry, food preservation, and nutrition lead the other subject-matter lines in the influence of bulletins upon adoption of



Fig. 11.—Typical extension bulletins. Bulletins as a source of information caused the adoption of 6.5 per cent of the improved practices reported as accepted by farmers and farm women.

improved practices. Soy beans, marketing, and clothing show the least influence of bulletins. Bulletins doubtless are most useful when supplementing other extension means and agencies. (Fig. 11.) The relatively small cost of bulletins is another strong point in favor of their judicious use.

CIRCULAR LETTERS

Farmers and farm women were in agreement in practically all of the areas regarding the small influence of the printed or stenciled circular letter. (Table 4.) Only in area G did circular letters influence the adoption of more than 5 practices out of 100. The small influence of circular letters also holds throughout all lines of subject matter, both agriculture and home economics. (Table 5.)

In only three lines of subject matter—tree fruits, vegetable growing, and marketing—were more than 2 practices out of 100 influenced by circular letters.

EXHIBITS

Although employed in all the areas studied, exhibits have had slight influence upon the adoption of practices. (Table 4.) In no area were as many as 2 out of 100 practices adopted ascribed to exhibits. In only one line of subject matter, health and sanitation, were more than 2 practices in 100 adopted through the influence of exhibits. (Table 5.) If exhibits possess great inherent value it would seem that the extension workers in some State and in some subject-matter line of work would have found ways of using them effectively. Either exhibits are not well adapted to teaching improved practices, or people do not go for information to places where exhibits are made, or both.

Even though apparently much less effective than most other extension activities in directly influencing the adoption of improved farm and home practices, exhibits still may have a place in extension as a means of creating good will for extension on the part of county officials, fair boards, business men, city dwellers, and others.

FARM OR HOME VISITS

Individual calls upon the farmer or farm woman by a representative of the extension service were of little importance in areas H and K, where less than 5 per cent of all practices adopted were influenced by farm or home visits, but of very great importance in the remaining areas, where from 8 to 22 per cent of the practices were traced to this method. (Table 4.) Personal contact with the extension worker at the farm is unquestionably desired by farmers and seems to be a determining factor in obtaining the adoption of a large number of farm and home practices. Farm visits were much more important in agriculture than were home visits in home economics. (Table 5.) Twenty-three practices out of 100 in vegetable growing were traced to farm visits. Soils, cotton, tree fruits, dairy, swine, poultry, rural engineering, and marketing are other agricultural subject-matter lines in which greater than average influence of farm visits was reported. Farm visits were of least influence in connection with practices affecting wheat and oats. The home visit exerted its greatest influence with home management, home improvement, and health and sanitation practices, and its least with nutrition and clothing subject matter.

In addition to the direct influence of farm and home visits, the resulting personal contacts between extension workers and farmers are doubtless an important factor in establishing confidence in information extended through meetings, news stories, bulletins, and other similar means and agencies.

OFFICE CALLS

As in the case of farm visits, the influence of calls at the extension office upon the adoption of practices varies greatly in the areas studied. In areas H and J the number of practices adopted as the

result of office calls is almost negligible. (Table 4.) In area L, however, 1 practice out of 6, and in areas C and M, 1 practice out of every 10 adopted, resulted from office calls. Office calls obviously can not influence the adoption of practices unless farmers and farm women seek out the extension workers at their headquarters. The location of the extension office, methods of handling office callers, and confidence in the extension agents are some of the factors vitally affecting the number of office calls. When a farmer comes to the

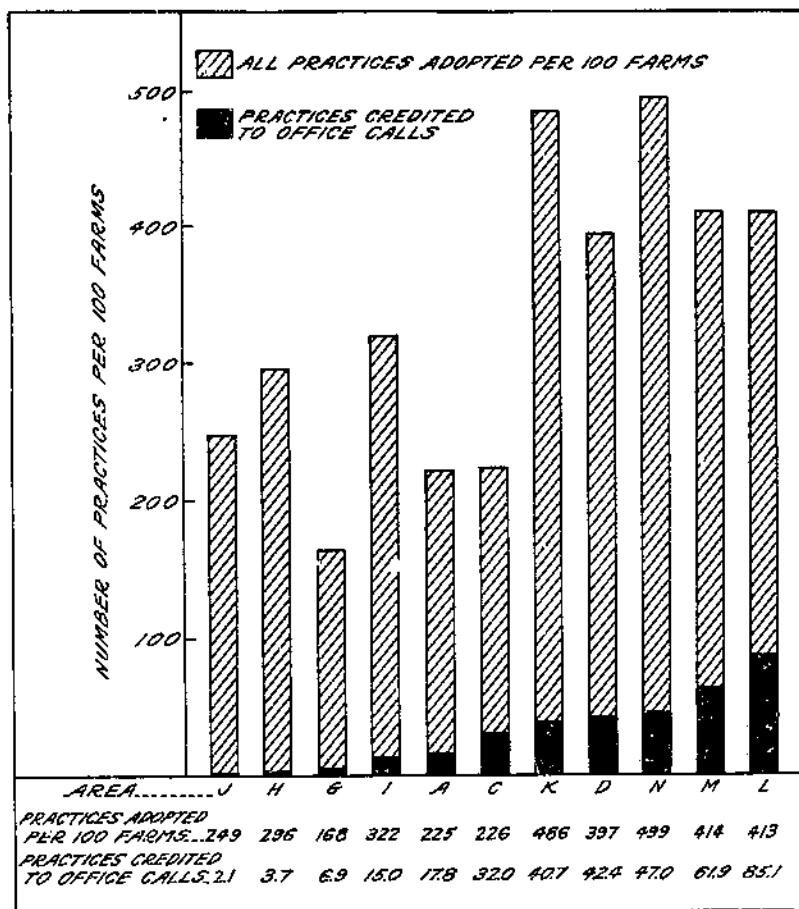


FIG. 12.—The influence of office calls as related to extension accomplishment

office for information less time is used in supplying that information than when an extension worker makes a visit to the farm or holds a meeting in that community. Since office calls reflect the confidence of the farming people in the cooperative extension service it is but natural that the influence of office calls is a fairly good barometer for indicating total extension accomplishment in a given area. (Fig. 12.) The number of practices adopted per 100 farms in the different areas studied is high or low depending upon the number of practices credited to the influence of office calls in those same areas.

Office calls had slight effect upon the adoption of home-economics practices (Table 5) but were of considerable importance in practically all lines of agricultural subject matter.

CORRESPONDENCE

Few improved practices were adopted as an outgrowth of personal correspondence between farmers and extension workers. In only two areas, G and N, were more than 2 practices out of 100 reported adopted due to correspondence. (Table 4.) The slight influence of personal letters is not confined to any line of subject matter (Table 5) and probably is due primarily to the fact that farmers as a rule are not accustomed to writing letters for subject-matter information. Extension workers in answering requests for information often find it more practical to inclose a bulletin than to attempt to treat the problem involved in a letter.

TELEPHONE CALLS

Apparently the telephone is not used in extension as a means of disseminating subject-matter information to any large extent. Appointments, arrangements for meetings, and all similar matters may be handled successfully over the telephone, but the farmer apparently prefers other means of acquiring his information. This is uniformly true of farmers in all the areas studied and for all the farm and home interests involved. (Tables 4 and 5.)

EXTENSION SCHOOLS

The itinerant school of two to five days' duration held for the purpose of giving systematic instruction to persons not resident at the college was formerly used extensively in some States. The number of such schools has decreased rapidly in recent years. Less than 2 practices in 100 in any one of the areas were traced to the influence of this extension agency. (Table 4.) Rural engineering is the only subject-matter line in which extension schools have influenced any considerable number of practices. (Table 5.)

LEADER-TRAINING MEETINGS

As only the local extension leaders and a few visitors attend the meetings conducted by agents and specialists for the purpose of instructing leaders, who in turn may teach improved practices to others, the direct influence of this teaching device is comparatively small. (Table 4.) Since much of this training is done through method demonstrations, the results from this method might well be combined with those credited directly to method demonstrations. The percentage of practices adopted by leaders as the result of information obtained at leader-training meetings naturally depends upon the extent to which the local leadership has been developed in the area and in the project. This doubtless accounts largely for the influence of leader-training meetings in connection with nutrition, clothing, home management, home improvement, and health and sanitation practices. (Table 5.)

STUDY COURSES

Although available in most States, formal correspondence courses are not conducted on a large scale by the extension services in the

areas included in the studies. This means of disseminating subject matter was reported as having influenced the adoption of about 1 practice in 1,000 in all the areas studied.

RADIO

The radio is a comparatively new agency in extension teaching. It was included in the list of methods in four areas in which studies were made, and in one of them influenced the adoption of 4 practices in 100. (Table 4.) Since the use of the radio in extension is still in an experimental stage it is unwise to draw conclusions from the data obtained as to its relative effectiveness.

INDIRECT INFLUENCES

The amount of spread of extension practices from one neighbor to another varies in the different areas, but it is of great importance

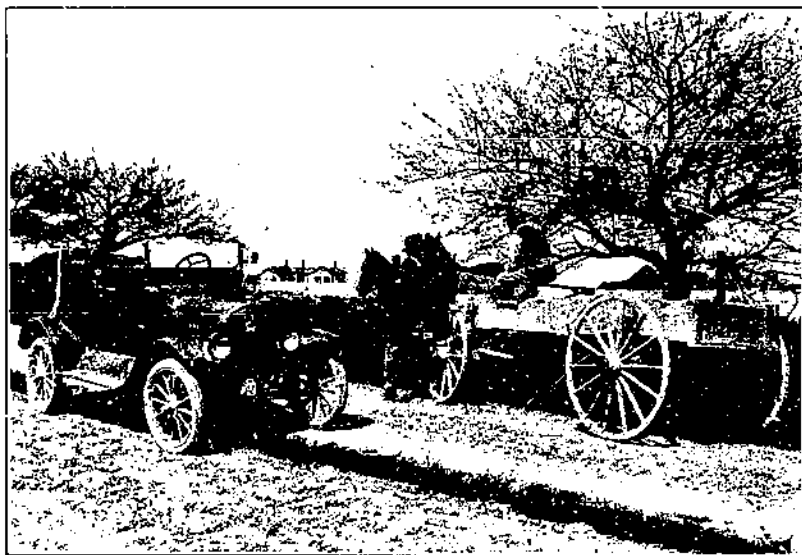


FIG. 13.—Information is rapidly passed on by one neighbor to another where there is large economic return or other satisfaction growing out of the adoption of an improved practice. The degree of indirect spread bears a close relationship to total extension accomplishment as measured by adoption of better practices

in all. (Table 4.) The adoption of 10 practices out of 100 in area A and 36 practices out of 100 in area I, with an average of 21.3 practices in 100 for all areas, was attributed to this means. In the case of wheat and oats more than 40 practices out of every 100 were adopted through indirect spread from other methods. (Table 5.) This was true of more than 20 practices in 100 with soils, corn, alfalfa, soy beans, other legumes, potatoes, cotton, dairying, and marketing. The least indirect spread in the agricultural group was with tree fruits and vegetables.

Indirect spread was much less in home economics subjects than in agricultural subjects, though still of decided importance. Food preservation (canning) leads all other home-economics subjects in the indirect spread of better practices from one home to another.

That the indirect spread of improved practices plays such a large part in extension is perfectly natural. The statement of a neighbor of good standing in the community (fig. 13), the reported yield of a new variety of wheat or cotton, the size of a neighbor's milk check, success in canning vegetables, or a convenient kitchen, all are powerful forces set in motion by effective extension teaching.

Total extension accomplishment in the areas studied is more closely associated with indirect spread from neighbor to neighbor than with the direct influence of any of the means and agencies employed in extension teaching. (Fig. 14.) Whether indirect spread of influence

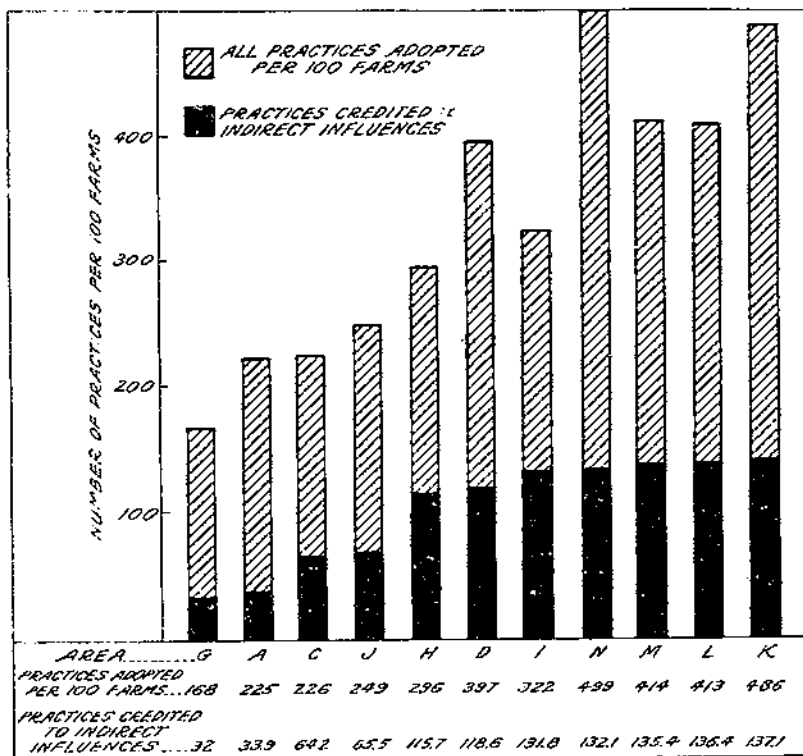


FIG. 14. Indirect spread of influences as related to extension accomplishment

is more closely associated with certain means and agencies than with others is a problem for further study. Without doubt it is closely related to the extent to which people are informed regarding extension, their confidence in the extension service, and the advantage accruing to the individual from the adoption of the recommended practices.

INTERRELATIONSHIP OF METHODS

Because of the complex intermingling of the means and agencies employed in extension teaching as conducted in the field it is extremely difficult to evaluate the contribution of each to the sum total of extension accomplishment. There are no situations where

a single means or agency has had free play, other means and agencies having been brought to bear on the same situation at some time or other. Every means and agency must therefore be considered, not only by itself, but in combination with other means and agencies.

Correlation studies indicate that the total number of practices adopted as the result of extension effort is more closely related to the influence of certain extension methods than to others. There is apparently a fairly close correlation between the number of practices per 100 farms credited to method demonstrations, news stories, office calls, and indirect influence⁴ and the total number of practices adopted per 100 farms as the result of all extension effort. The number of practices credited to news stories is without doubt an indication of the extent to which the farming people have been informed regarding the extension program. The influence of method demonstrations and office calls upon adoption of practices reflects the confidence farmers and farm women have in the extension service. The amount of indirect spread naturally depends upon the degree of satisfaction with which the adoption of improved practices is attended. It therefore seems logical that extension accomplishment should be closely correlated with knowledge of the improved practices taught by extension, confidence in the extension service, and satisfaction with the practices adopted.

Meetings seem to be more closely associated with the adoption of improved home-economics practices than with agricultural practices.

The direct influence of adult result demonstrations bears a negative rather than a positive relationship to total extension accomplishment,⁵ indicating the possibility of needless repetition of demonstrations requiring time which should be devoted to other means and agencies.

There seems to be no marked relationship between the number of practices credited to farm or home visits, bulletins, and the other less important means and agencies, and the total number of practices adopted as the result of extension effort. There is some indication that bulletins have been more useful in supplementing other means than as an independent means of influencing practices.

The indirect spread of improved practices seems to be more closely associated with news stories, office calls, and general meetings than with the other extension methods.

The influence of farm and home visits seems to be associated with the influence of method and result demonstrations.

Relationship apparently exists between the number of practices ascribed to office calls and the number of practices credited to meetings, particularly method-demonstration meetings.

THE RELATIONSHIP OF SUBJECT MATTER AND METHODS

A wide range of subject matter is covered by the improved practices adopted by the farmers and farm women in the areas where extension studies have been conducted. An analysis of the subject

⁴ The coefficients of correlation for these means are:

Method demonstrations.....	+ 0.605 ± 0.095
News stories.....	+ .738 ± .060
Office calls.....	+ .050 ± .075
Indirect influence.....	+ .814 ± .044

⁵ The coefficient of correlation for adult result demonstrations is -0.479 ± 0.115 .

matter and the extension methods involved in 27,032 instances of improved practices adopted throws some light upon the adaptability of methods to the various lines of subject matter, as well as upon the effectiveness of the various extension methods in the different subject-matter fields. (Table 5.)

AGRICULTURE AND HOME ECONOMICS

Approximately three-fourths of the practices for which information is available relate to agricultural and one-fourth to home-economics subject matter. The relative percentages of practices in the two groups adopted because of the various extension methods employed are given in Figure 15. The method-demonstration meeting influenced the adoption of a much higher percentage of home-economics practices than of agricultural practices, 43 per

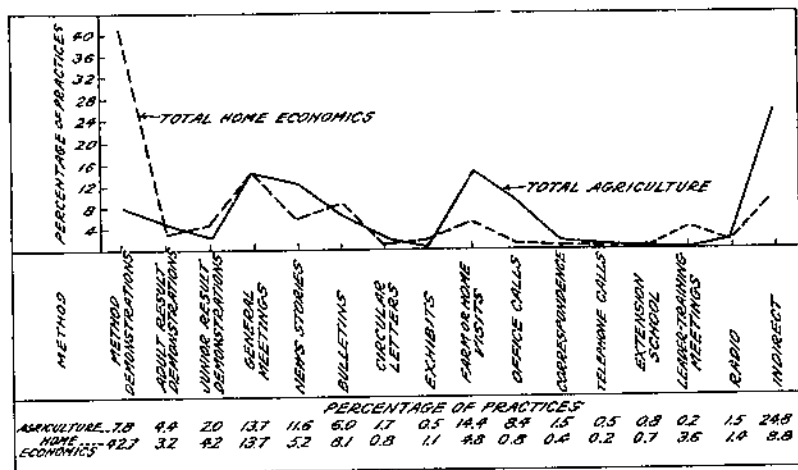


FIG. 15.—Subject matter in relation to extension methods, as indicated in the adoption of 20,832 agricultural practices and 6,200 home-economics practices on 8,738 farms in 12 States

cent as compared to 8 per cent. Adult and junior result demonstrations together were responsible for the adoption of about 7 practices out of 100 in each group. General meetings accounted for 14 practices out of 100 in each group. More than twice as many agricultural practices as home-economics practices were traced to the influence of news stories. About the same percentage of practices in the two groups was attributed to bulletins, circular letters, and exhibits. Personal assistance apparently plays a more important part in the adoption of farm practices than in the adoption of home practices. Farm visits affected 14 farm practices out of 100, whereas home visits influenced only 5 home practices out of 100. Office calls were reported in connection with the adoption of 8 farm practices, and only 0.8 home practices in 100. Possibly farmers demand more personal assistance than farm women, or the nature of the subject matter involved makes it more desirable. Leader-training meetings have directly influenced the adoption of about 1 home practice in 30, but have been little used in agricultural extension. The chief

function of leader-training meetings, however, has been to train leaders to repeat method demonstrations rather than to influence directly the adoption of practices.

The indirect spread of practices from one neighbor to another was about three times as great for agriculture as for home economics, 25 practices out of 100 in agriculture being due to indirect influence as compared with 9 practices out of 100 in home economics.

SOILS

Indirect spread leads other methods in importance in connection with soils practices, followed by farm visits, office calls, news stories, general meetings, and result and method demonstrations. Personal-service methods (farm visits and office calls) account for the adoption of 3 soils practices out of 10. (Fig. 16.)

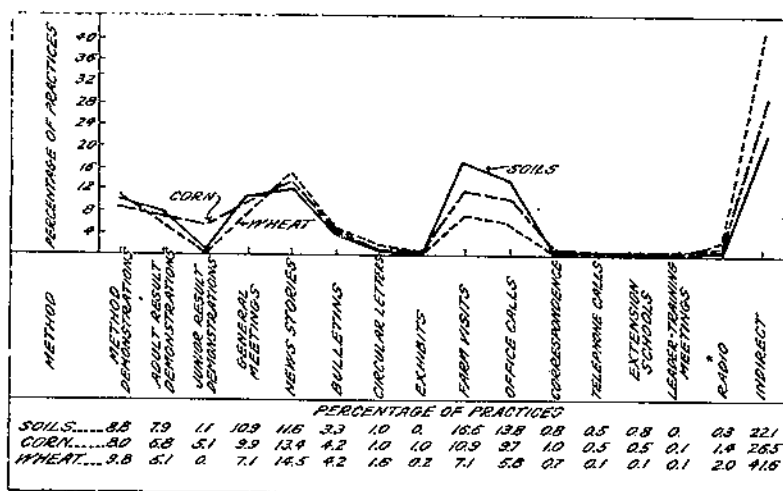


Fig. 10.—Subject matter in relation to extension methods, as indicated in the adoption of 914 wheat practices, 1,104 corn practices, and 1,244 soils practices

CEREALS

The relative influence of the different methods is similar for corn, and wheat practices. (Fig. 16.) Result demonstrations conducted by boys and girls were of considerable importance with corn, but have not been extensively employed to teach better wheat practices. General meetings were about equally effective with corn and wheat. This was also true of news stories and bulletins. Farm visits and office calls affected more corn practices than wheat practices. The data for oat practices are almost identical with those on wheat. The indirect spread was greater for wheat than for corn. In the cereal crops considered as a group, indirect influence accounted for the adoption of the most practices, followed in order by news stories, general meetings, method demonstrations, farm visits, office calls, result demonstrations, and bulletins.

Although methods have had a similar influence upon the adoption of practices relating to the various cereal crops, there is a striking

contrast between Figure 16 and Figure 19, the latter of which portrays the influence of the various means and agencies upon the adoption of practices in tree fruits and vegetables.

LEGUMES

The similarity in influence of extension methods upon the different legume crops is even more striking than in the case of cereals. (Fig. 17.) General meetings influenced a higher percentage of practices in alfalfa than in soy beans and other legumes (principally lespedeza and sweet clover). Office calls played a more important part in the adoption of soy-bean and other legume practices than in the case of alfalfa. The indirect spread was a little greater with other legumes than with alfalfa and soy beans. The most important methods in obtaining the adoption of legume practices were indirect influence, news stories, meetings, office calls, farm visits, and result demonstrations.

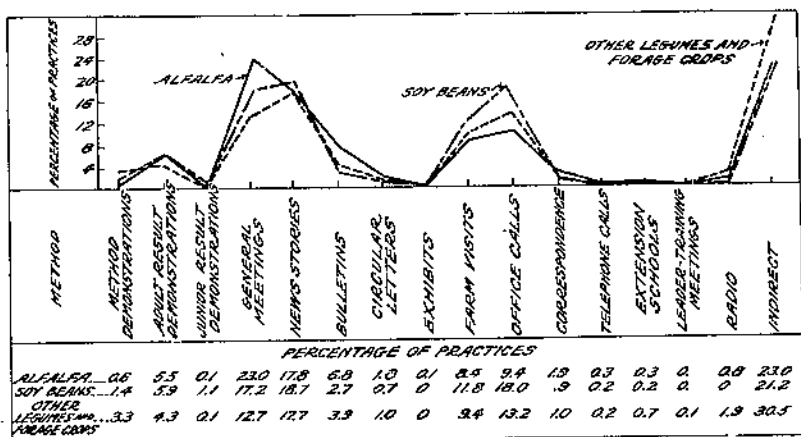


Fig. 17.—Subject matter in relation to extension methods, as indicated in the adoption of 975 alfalfa practices, 340 soy-bean practices, and 943 other legume and forage-crop practices

In a comparison of Figure 17 with Figure 16 relating to cereal crops it will be noted that the method demonstration has had less influence with legume practices than with cereal practices, while general meetings have influenced a higher percentage of legume practices than of cereal practices. The indirect spread of cereal practices has been much greater than that of legume practices.

COTTON AND POTATOES

Farm visits were more important with cotton than with potatoes. (Fig. 18.) This fact is offset by the slightly higher percentage of potato practices than of cotton practices influenced by meetings and adult and junior result demonstrations. As in the case of the preceding crops indirect influence was responsible for the highest percentage of cotton and potato practices adopted. Farm visits, meetings, news stories, result demonstrations, office calls, and bulletins were next in order.

The similarity in influence of methods upon the adoption of improved practices relating to potatoes and cotton is the more striking when one considers that these crops are grown in widely separated areas and under contrasting systems of farming. Some of the reasons for this similarity are discussed on page 33.

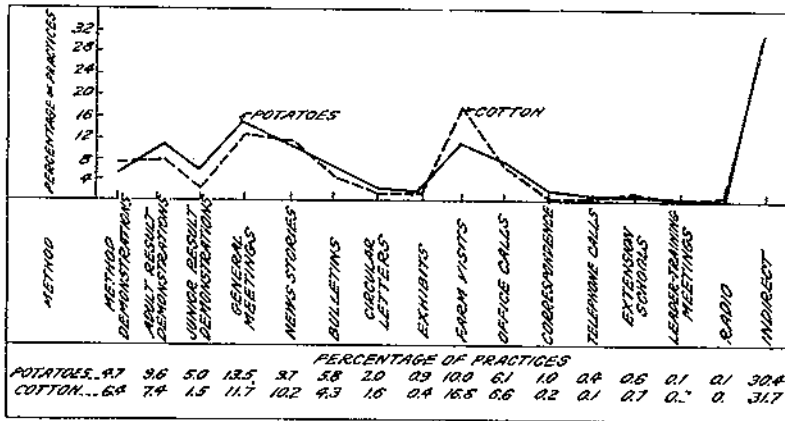


FIG. 18.—Subject matter in relation to extension methods, as indicated in the adoption of 1,191 potato practices and 236 cotton practices

HORTICULTURE

Method demonstrations and adult result demonstrations influenced a much higher percentage of tree-fruit practices than of vegetable practices. This difference is offset by the greater influence of junior result demonstrations, general meetings, and bulletins with vegeta-

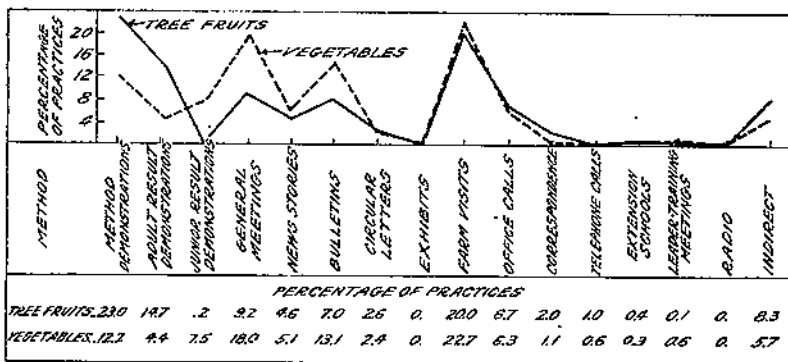


FIG. 19.—Subject matter in relation to extension methods, as indicated in the adoption of 1,073 tree-fruit practices and 177 vegetable practices

bles. All other methods were of practically the same importance in obtaining the adoption of practices with these crops. (Fig. 19.) The indirect spread of improved practices was much less with these crops than with the cereal, legume, and special crops, previously discussed. With tree fruits the methods which influenced the adoption of the largest percentage of practices are method demonstrations,

farm visits, result demonstrations, meetings, indirect influence, bulletins, and news stories. With vegetables the important methods appear in the following order: Farm visits, meetings, bulletins, method demonstrations, result demonstrations, office calls, indirect influence, and news stories.

LIVESTOCK

Although there is considerable similarity in the influence of the various methods upon the adoption of poultry, dairy, and swine practices, there is greater variation than for most farm crops. (Fig. 20.) For poultry the method demonstration leads in importance with 21.3 per cent of the poultry practices involved; next in order are indirect influence, farm visits, meetings, bulletins, and news stories.

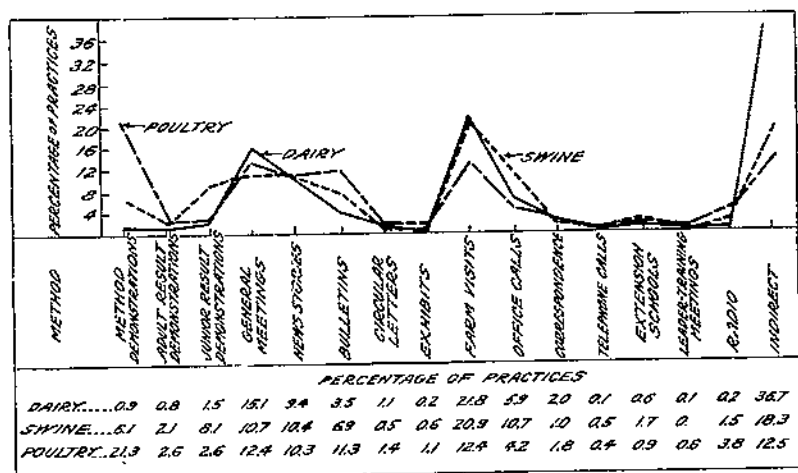


Fig. 20.—Subject matter in relation to extension methods, as indicated in the adoption of 2,430 poultry practices, 2,503 dairy practices, and 1,002 swine practices

With swine the outstanding method is farm visits, these having influenced the adoption of 20.9 per cent of the improved practices, followed by indirect influence, general meetings, office calls, news stories, junior result demonstrations, bulletins, and method demonstrations.

Dairy practices seem to spread rapidly from one dairyman to another, 36.7 per cent of the dairy practices adopted being credited to indirect influence. Farm visits, general meetings, news stories, office calls, and bulletins are the only other methods influencing the adoption of any considerable number of dairy practices. Method and result demonstrations influenced fewer dairy practices than poultry and swine practices.

MARKETING

The four outstanding methods in obtaining the adoption of better marketing practices were indirect spread, meetings, news stories, and farm visits. (Fig. 21.) Office calls and circular letters also

influenced a substantial number of practices. Greater influence from circular letters was reported for marketing than for any other subject-matter line of work.

RURAL ENGINEERING

Farm visits and general meetings influenced about one-sixth each of all the practices adopted in rural engineering. Method demonstrations are next in order, followed by indirect influence, office calls, bulletins, news stories, extension schools, and result demonstrations. Extension schools had a greater influence upon the adoption of practices in rural engineering than in any other subject-matter field. (Fig. 21.)

FOODS AND NUTRITION

About the only difference in effectiveness of the various methods on the adoption of improved practices in food preparation and preservation is the lesser influence of news stories and greater influence of bulletins and indirect spread in the case of food preservation.

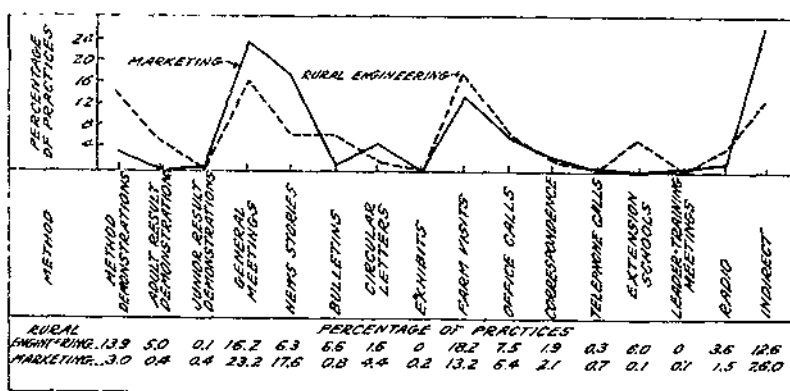


FIG. 21.—Subject matter in relation to extension methods as indicated in the adoption of 1,034 marketing practices and 688 rural-engineering practices

(Fig. 22.) The outstanding method in both lines of subject matter is the method demonstration, to which was attributed approximately two-fifths of the practices adopted. Next in order are news stories, bulletins, general meetings, indirect spread, result demonstrations, and home visits.

Six out of ten nutrition practices adopted were traced to method-demonstration meetings or general meetings. Bulletins, indirect spread, news stories, and leader-training meetings are the only other methods that influenced an appreciable percentage of the nutrition practices adopted. It is interesting to compare Figure 22 with Figure 23 relating to home management and home improvement, and with Figure 17, relating to improved legume practices adopted.

HOME MANAGEMENT AND HOME IMPROVEMENT

Because of the emphasis placed upon different phases of subject matter in the extension program and a slightly different use of terminology, the practices classed under these two headings were

reported largely from different areas. In spite of the widely separated areas involved it will be noted that the relative influence of methods upon adoption of practices is practically the same in both subject-matter fields. (Fig. 23.) The slightly greater influence of meetings and result demonstrations on home-improvement practices

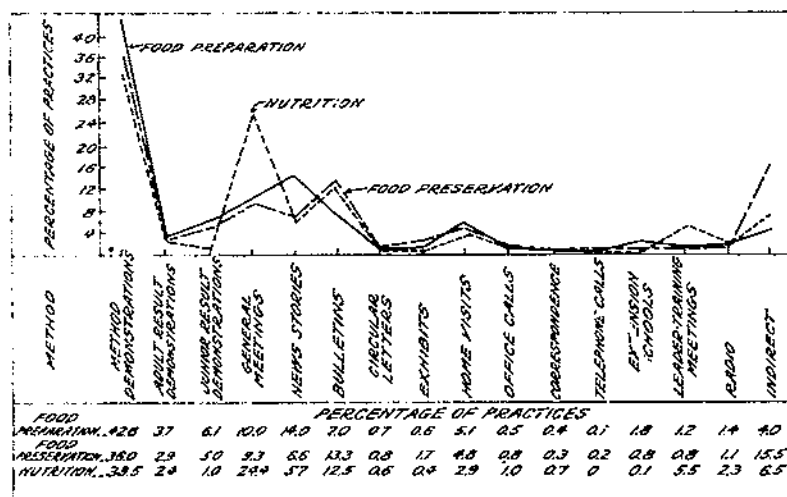


Fig. 22.—Subject matter in relation to extension methods as indicated in the adoption of 601 food-preparation practices, 1,859 food-preservation practices, and 489 nutrition practices

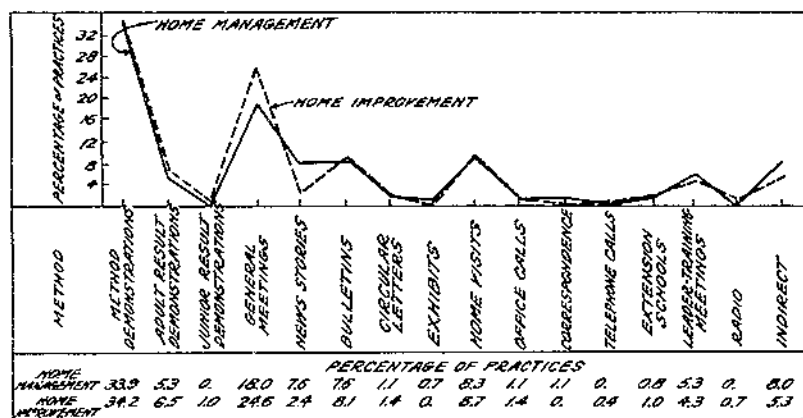


Fig. 23.—Subject matter in relation to extension methods, as indicated in the adoption of 200 home-management practices and 154 home-improvement practices

is offset by a greater influence of news stories and indirect spread upon home-management practices.

More than half of the improved practices adopted in home management and home improvement resulted from meetings, either method-demonstration meetings or general meetings. Other important influences were home visits, bulletins, result demonstrations, indirect spread, news stories, and leader-training meetings.

CLOTHING

Either clothing subject matter is peculiarly adapted to method demonstrations or this method has received unusual emphasis in clothing extension, for nearly 3 out of every 5 clothing practices adopted were attributed to this teaching agency. (Fig. 24.) General meetings, result demonstrations, leader-training meetings, and indirect influences were credited with having caused the adoption of nearly all the remaining clothing practices. Leader-training meetings have had a greater direct influence upon the adoption of clothing practices than upon the practices in any other subject-matter line. A comparison of clothing (fig. 24) with food preparation (fig. 22) brings out a striking contrast in the influence of methods upon practices in these different subject-matter lines.

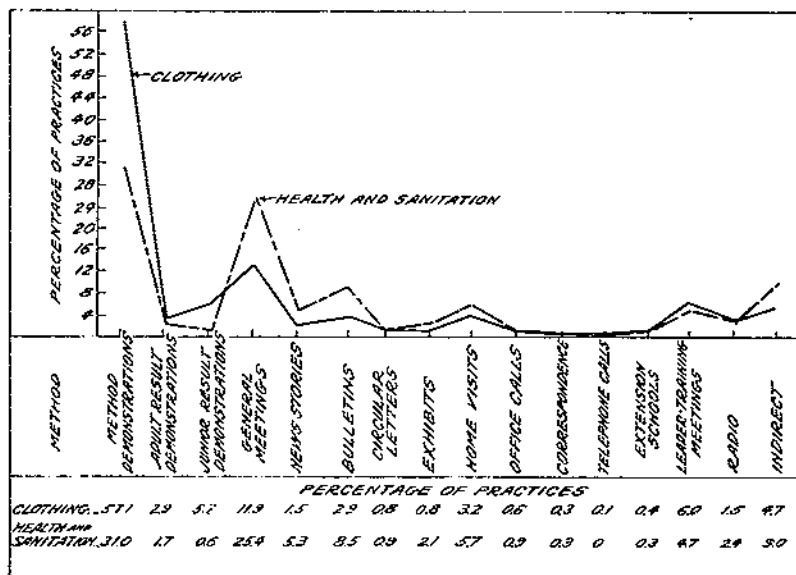


FIG. 24.—Subject matter in relation to extension methods, as indicated in the adoption of 2,171 clothing practices and 241 health and sanitation practices

HEALTH AND SANITATION

In bringing about the adoption of better health and sanitation practices the meeting was most frequently reported, method-demonstration meetings together with general meetings accounting for 56 per cent of the improved health and sanitation practices adopted. (Fig. 24.) Other important methods in this subject-matter field are indirect spread, bulletins, home visits, news stories, and leader-training meetings.

LIKE SUBJECT MATTER

Throughout the discussion of the relationship of subject matter and methods it will be noted that where similar subject matter is involved the influence of the various teaching methods upon adoption of practices follows the same trend. This is true with cereals (fig. 16), legumes (fig. 17), and potatoes and cotton (fig. 18). It is true also.

with foods and nutrition (fig. 22) and home management and home improvement (fig. 23).

One of the most striking examples of similarity of influence of methods in different subject-matter lines is the case of potatoes and cotton. (Fig. 18.) These two crops are grown in widely separated sections of the country, but present similar extension problems, such as use of commercial fertilizer, good seed, and control of disease and insect pests. The cotton information was obtained in Georgia and Arkansas. The potato information was obtained in New York, New Jersey, South Dakota, and Wisconsin. The data were collected by survey parties made up of almost entirely different persons. Supposedly different emphasis has been placed upon teaching methods in these two sections of the country. The influences of the various methods, however, are almost identical. This would indicate that the

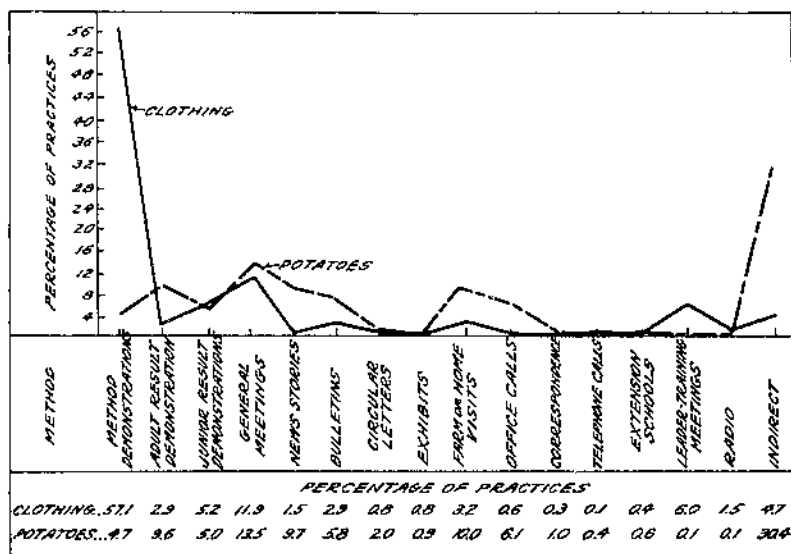


FIG. 25.—Subject matter in relation to extension methods, as indicated in the adoption of 2,171 clothing practices and 1,191 potato practices

nature of the subject matter is an important factor to consider in selecting teaching methods. When new lines of subject matter are being undertaken, thought may well be given to the teaching methods that have been successful in similar subject-matter fields.

UNLIKE SUBJECT MATTER

If extension methods have a similar influence where like subject matter is concerned, it should follow that methods vary in influence when unlike subject-matter lines are involved. That this is true will be shown by a comparison of agriculture and home economics in Figure 15, marketing and rural engineering in Figure 21, or clothing and health and sanitation in Figure 24.

A good example of the variation in effectiveness of methods when dissimilar subject matter is involved is given in Figure 25, where

clothing and potato extension are compared. Method demonstrations influenced twelve times as many clothing practices as potato practices. With adult result demonstrations the ratio is 3 to 1 on the side of potatoes. News stories were six times as effective with potatoes as with clothing. Farm visits influenced more than three times as many potato practices as clothing practices. Office calls influenced ten times as many potato practices as clothing practices. Sixty times as many clothing practices as potato practices were traced directly to leader-training meetings. Indirect spread was nearly seven times as great with potatoes as with clothing. The smaller influence of adult result demonstrations, news stories, and home visits upon the adoption of clothing practices as compared with their influence on potato practices may be partly due to lack of emphasis upon these methods as well as to poorer adaptability of clothing subject matter to the use of these methods. With more experience it may be possible to write news items about clothing that will be more effective in influencing the adoption of clothing practices.

Where success attends the use of certain methods with a particular subject-matter line, it does not follow that equal results will be obtained from the same methods when employed in another and somewhat different subject-matter line of work.

EXPOSURES AND TAKES

The relative influence of the various extension methods, as considered thus far, makes no allowance for the emphasis, or lack of emphasis, placed upon the individual methods by extension workers. A comparison of the true worth of the different methods must take into consideration the percentage of farmers exposed to those methods as well as the percentage of farmers influenced by them. Special studies of individual projects made in three areas throw some light upon this point. Data are available from 424 alfalfa growers in one area (6), 192 dairy farmers in another area (17), and from 612 poultry keepers in a third area (19), regarding the extent to which they have been exposed to and influenced by the various means employed in extending the three lines of subject-matter information.

ALFALFA PROJECT

In the alfalfa project in Wisconsin the methods to which the largest proportion of growers were exposed were meetings, news stories, bulletins, and indirect influence. (Fig. 26.) The methods reaching the fewest number of alfalfa growers were leader training, telephone calls, method demonstrations, exhibits, office calls, correspondence, and farm visits. That information was acquired which was later used in alfalfa growing was reported by 75 per cent of the farmers attending alfalfa meetings. Sixty per cent of the farmers seeing alfalfa demonstrations were influenced to grow alfalfa better by what they saw. Information actually used was acquired from 55 per cent of the exposures to indirect influences, 46 per cent of the exposures to farm visits, 44 per cent of the exposures to news stories, and 37 per cent of the exposures to bulletins.

DAIRY PROJECT

In New Jersey the dairy-extension methods to which more than half of the 192 dairymen on adjoining farms had been exposed were exhibits, news stories, bulletins, circular letters, farm visits, and general meetings, with indirect influence not far behind. (Fig. 27.) The information gained as a result of exposure carried over into practice in the largest proportion of instances in the case of indirect influence, farm visits, general meetings, bulletins, office calls and

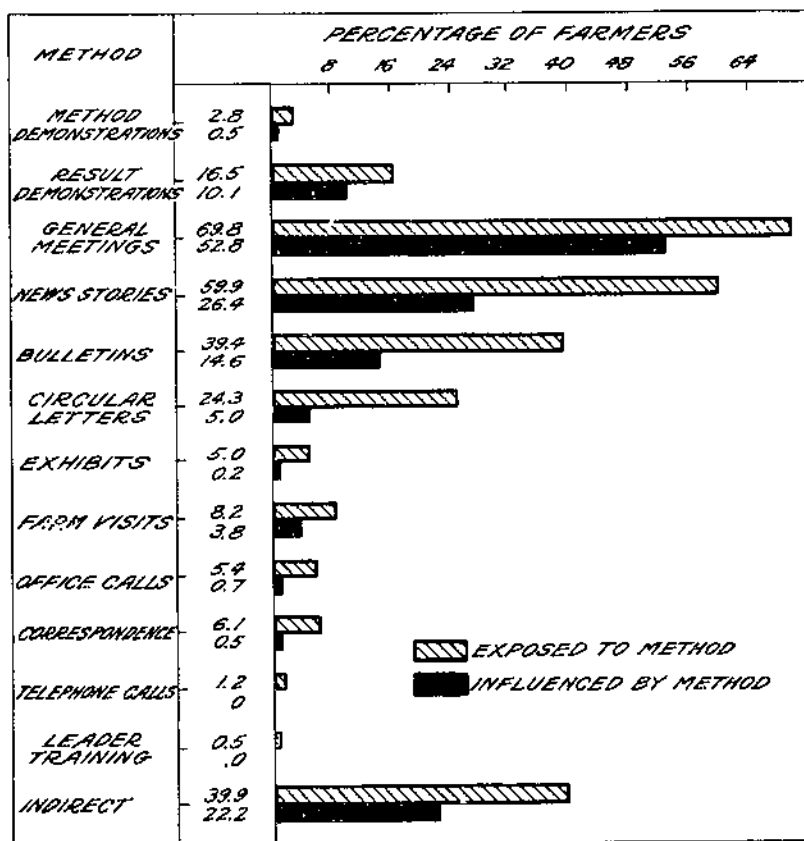


FIG. 20.—Adoption of practices by 424 alfalfa growers, as related to exposures to methods

result demonstrations. The exposures having the least influence upon the adoption of dairy practices were leader training, telephone calls, correspondence, method demonstrations, exhibits, circular letters, and news stories.

POULTRY PROJECT

The extension news story, bulletins, indirect influence, exhibits, general meetings, and method demonstrations were the means and agencies employed in poultry extension to which more than 20 per cent of the 612 poultry keepers in Ohio had been exposed. (Fig. 28.)

More than 10 per cent of the farmers keeping poultry had seen poultry result demonstrations, heard radio talks, received circular letters, or had had farm visits relating to poultry. The information put into practical use most frequently was obtained from method demonstrations, indirect influence, bulletins, general meetings, farm visits, circular letters, and news stories. Exhibits, personal letters, and telephone calls were least effective.

RATIO OF TAKES TO EXPOSURES

The percentages of farmers exposed to the various methods used in alfalfa, dairy, and poultry extension vary widely because of

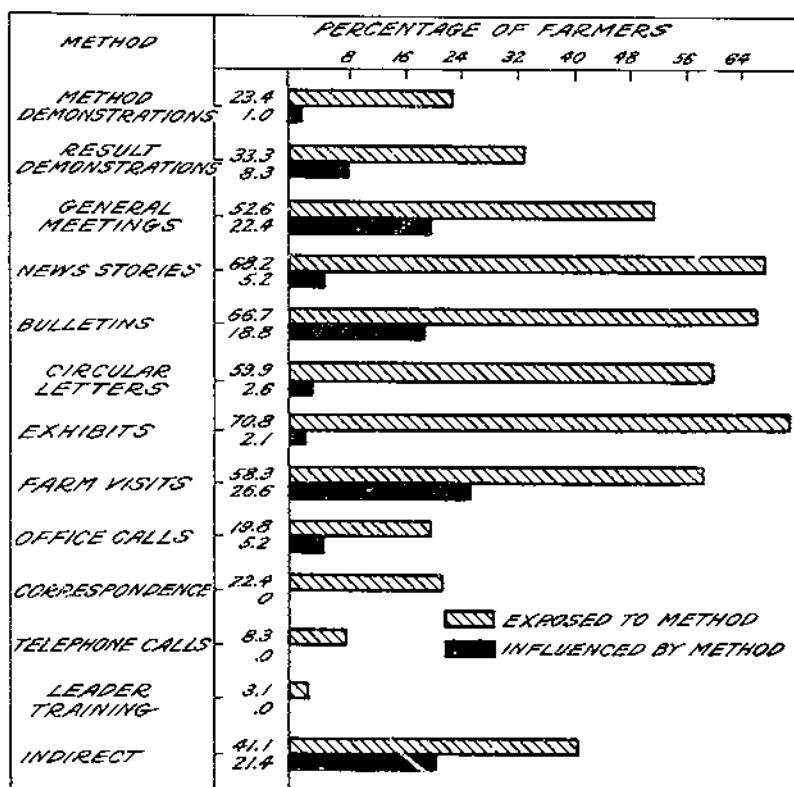


FIG. 27.—Adoption of practices by 102 dairy farmers, as related to exposures to methods

differences in subject matter and the emphasis placed upon the different methods in the three areas. (Table 6.) The proportion of takes to exposures is somewhat similar, however, in a number of cases. Result demonstrations, general meetings, bulletins, farm visits, office calls, and indirect influences were relatively about as effective in extending poultry as in extending dairy or alfalfa subject matter. Exhibits were ineffective means of extending information in all cases, as was also true of correspondence and telephone calls. Method demonstrations, news stories, and circular letters

were much less effective in dairy extension than in either alfalfa or poultry extension. On the whole it appears that those means and agencies adapted to reaching large numbers of people, such as method-demonstration meetings, general meetings, news stories, bulletins, general meetings, news stories, bulletins, and circular letters were about as effective as those methods to which only a small number can be readily exposed, such as result demonstrations, farm visits, and office calls. Even though less effective, one method frequently may have a much greater total influence than another method, because of the greater number of people reached. For example, bulletins influenced four times as many farmers to grow alfalfa as did farm visits, as a result of the wider distribution of bulletins.

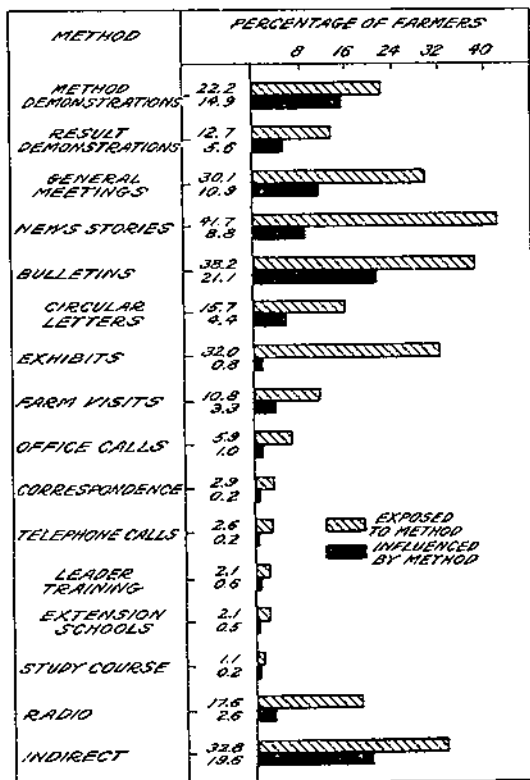


Fig. 28.—Adoption of practices on 612 poultry farms, as related to exposures to methods

TABLE 6.—Comparative effectiveness of extension methods as indicated by adoption of improved practices by 424 alfalfa growers, 192 dairymen, and 612 poultry keepers

Method	Percentage of farmers exposed to methods			Percentage exposed who were influenced		
	Alfalfa	Dairy	Poultry	Alfalfa	Dairy	Poultry
Method demonstrations	2.8	23.4	22.2	16.7	4.4	66.0
Result demonstrations	15.5	33.3	12.7	61.4	25.0	43.6
General meetings	66.8	52.6	30.1	75.3	42.6	36.4
News stories	59.9	08.2	41.7	44.1	7.6	21.2
Bulletins	39.4	05.7	38.2	37.1	28.1	55.1
Circular letters	24.3	50.9	15.7	20.4	4.3	28.1
Exhibits	5.0	70.8	32.0	4.8	2.0	2.6
Farm visits	8.2	58.3	10.8	48.7	45.5	30.3
Office calls	5.4	19.8	5.0	13.0	26.3	16.7
Correspondence	6.1	22.4	2.9	7.7	0	5.6
Telephone	1.2	8.3	2.6	0	0	6.2
Leader training	.5	3.1	2.1	0	0	30.8
Extension schools	.2		2.1	100		23.1
Study courses			1.1			14.3
Radio			17.6			14.8
Indirect	36.9	41.1	32.8	55.6	51.0	59.7

From the high or low proportion of takes to exposures it does not necessarily follow that a method should receive greatly increased emphasis or be discarded altogether. The interrelationship of methods, distribution of labor of extension workers, and cost of 100 exposures to the different methods must be considered. The result demonstration and the farm visit may be essential in establishing the local proof and confidence that make possible high returns from meetings and news stories. Result demonstrations in crop production must be started during the planting season and yield data obtained at harvest time. The number of such demonstrations is limited to the number that can be handled at these two seasons of the year. The cost of 100 exposures should be much less for news stories and bulletins than for meetings and method demonstrations, and less for these last two than for farm or home visits and result demonstrations.

In practice the extension worker should consider the methods to be employed for each new task. The time available, the adaptability of methods to the particular job, the possibilities of reaching the desired number of people by means of certain methods, the necessity of establishing local proof and increased confidence, and the interrelationship of the methods selected, are all points to be considered if the task is to be performed efficiently.

KNOWLEDGE OF PRACTICES MUST PRECEDE THEIR ADOPTION

Farmers and farm women must first be informed regarding the improved agricultural and home-economics practices being taught by the extension service before there can be any acceptance of these better practices. Seed must be planted before germination and plant growth can take place. Through attendance at meetings, reading, personal contact with extension workers, or through their neighbors, the individuals learn of the service available through co-operative extension. The existing want, coupled with the necessary information, may then result in the adoption of better practices.

CONTACT WITH EXTENSION WORKERS

Where some member of the farm family had attended an extension meeting, conducted a result demonstration, or had been in direct personal contact with extension workers through correspondence, farm visits, or office calls, more than four times as many practices per 100 farms were adopted as was true in those families with which no direct contacts of any kind had been made. (Fig. 29.) This again emphasizes the importance of the proper utilization of teaching methods which make possible the reaching of large numbers of people.

MAJOR PROJECTS IN EXTENSION PROGRAM

Another point to consider in this connection is the character of the extension program in a given area over a period of years. Where but 70 per cent of the farmers are dairymen a program relating exclusively to dairying can not possibly influence more than 70 per cent of the 2,000 or more farmers in the county. If the fruit and

dairy farmers combined equal but 80 per cent of the total, this is the maximum number that can adopt improved dairy and fruit practices. In Figure 30 the areas studied have been arranged according to the number of major lines of subject-matter work carried in the extension programs over a period of years, a major project being arbitrarily defined for the purpose of the study as one in connection with which practices were reported adopted to date of study by at least 10 per cent of the farmers or farm women. There is a decided tendency for the number of all practices adopted as a result of extension effort to increase with the number of major projects. Apparently continued emphasis upon a small number of lines of work results in a small total accomplishment, because of the limited number of people reached. This does not mean that an agent must carry a large number of major projects in any one year, but that emphasis should be shifted from time to time to insure that during a term of years the extension program is such as vitally to affect practically all of the 2,000 or more farms and farm homes in the county.

The range of subject matter represented in the extension program for a single year, of course, might be so great as to result in few or no projects assuming major importance. It would seem that the extremely narrow and the extremely wide extension programs should be avoided in the interest of maximum adoption of improved practices.

The number of major projects carried in the various areas studied would seem to have depended more upon organization of the work, local leadership, and similar factors, than upon size of the extension personnel.

ADULT AND JUNIOR EXTENSION METHODS COMPARED

County club agents working primarily with boys and girls were employed in addition to county agricultural agents in the State in which the special dairy project study was made. It is of interest to note how the methods employed in junior and adult extension compare in effectiveness as measured by influence upon dairy practices.

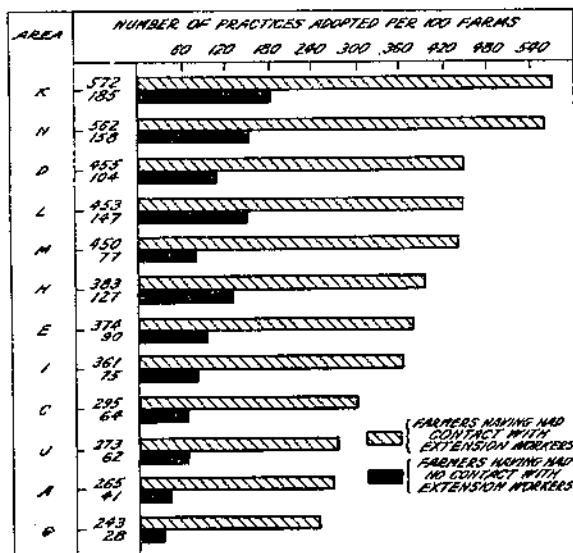


FIG. 29.—Contact with extension workers as related to adoption of practices

Considering the percentage of farmers using the information obtained from the methods to which they were exposed, it is evident that farm visits were about equally effective whether relating to adult or to junior work. (Table 7.) This was also true of general meetings and news stories. Dairy result demonstrations seem to have been more

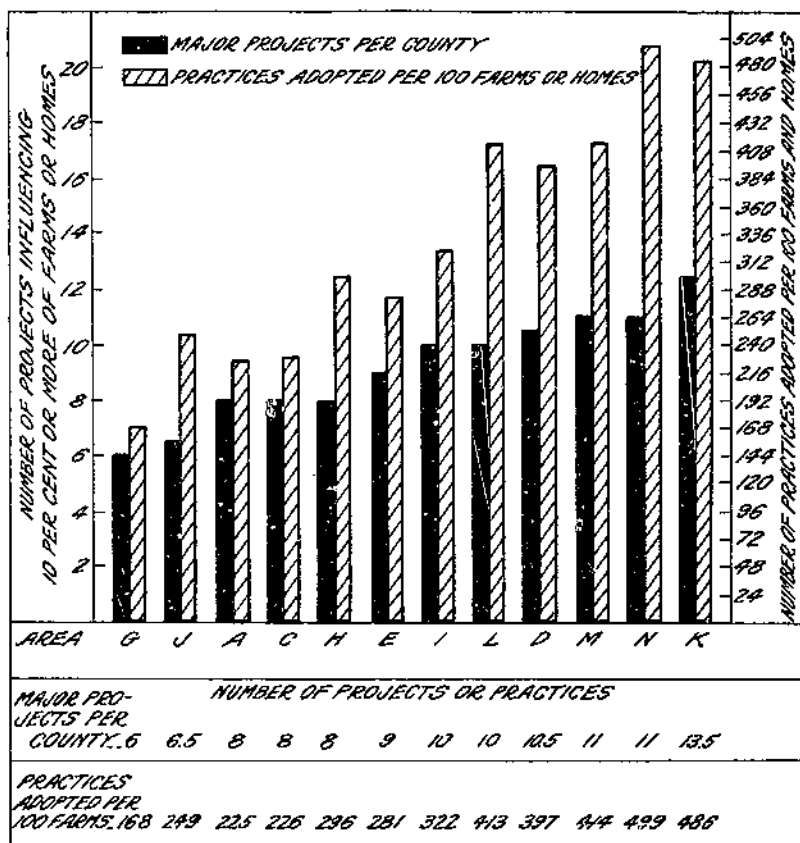


FIG. 30.—Number of major projects in relation to effectiveness of extension

effective when conducted by boys and girls under the direction of the club agent than when conducted by farmers under the direction of the county agent. Office calls relating to adult work were more effective than office calls relating to junior work. Exhibits were not particularly effective in influencing the adoption of improved dairy practices, whether relating to adult or to junior extension.

TABLE 7.—Comparison of adult extension and junior extension methods, based on information from 192 dairy farmers in one State

Method	Percentage of dairy farmers exposed to method		Percentage of those exposed influenced by method		Percentage of all farmers influenced by method	
	Adult extension	Junior extension	Adult extension	Junior extension	Adult extension	Junior extension
Method demonstrations.....	12.5	22.9	.....	4.5	.....	1.0
Result demonstrations.....	15.1	29.7	13.8	24.6	2.1	7.3
General meetings.....	39.6	38.0	35.5	35.6	14.1	13.5
News stories.....	58.9	44.8	8.0	6.9	4.7	3.1
Bulletins.....	54.1	18.7	.....	.....	18.7	.....
Circular letters.....	54.7	26.0	4.8	.....	2.6	.....
Exhibits.....	33.0	67.7	.....	3.1	.....	2.1
Farm visits.....	48.4	43.7	41.0	35.7	20.8	15.6
Office calls.....	18.2	12.0	28.7	4.3	4.7	6.5
Correspondence.....	18.7	13.5	.....	.....	.....	.....
Leader training.....	1.6	3.1	.....	.....	.....	.....
Telephone calls.....	6.2	6.8	.....	.....	.....	.....
Indirect.....	33.3	25.0	50.0	35.4	16.7	8.8
Total.....	84.9	79.7	57.7	41.8	49.0	33.3

¹ Includes all farmers who have been exposed to or influenced by one or more of the methods listed.

Considering all methods, about the same proportion of farmers were exposed to junior extension methods as to adult extension methods, 79.7 per cent as compared with 84.9 per cent. Adult extension methods were approximately 40 per cent more effective however. The percentage of takes to exposures was 57.7 for adult methods as contrasted to 41.8 for junior methods. Again attention is called to the influence of club work upon the individual boys and girls, future farmers and farm women, which is not considered in this study.

RESULTS IN RELATION TO EFFORT

The final test of the efficiency of any means and agency employed in commercial salesmanship is the cost per unit of product sold. Similarly, the effort expended on the various methods employed in extension as well as the return from these methods must be considered in determining their relative efficiency. As no records have been kept in any of the States included in the studies to show what proportion of the extension worker's time is devoted to the various methods employed in extension teaching, it is necessary to use the estimates of extension workers.

Because of the comparatively small number of areas involved in the studies and the frequent changes in personnel of county extension workers estimates have been obtained from 417 county extension agents and 125 subject-matter specialists in 12 of the States in which studies have been made, in order that the law of averages may offset any errors in judgment of individual agents and unusual local conditions existing during the year for which the estimates were made.

In furnishing the estimates, extension workers were asked to charge to each method only the time actually devoted to spreading subject-matter information by that means. Where circular letters, correspondence, telephone calls, and similar agencies were employed

primarily to announce meetings, arrange for result demonstrations, transmit news stories, or make engagements for farm visits or office calls, the time was charged to these means rather than to circular letters, correspondence, or telephone calls.

Since the numbers of estimates furnished by subject-matter specialists and county extension workers bear about the same relationship to one another as the numbers of those two groups of extension workers employed in the States involved, it has not been necessary to weight the estimates.

In Figure 31 the percentage of time devoted to the various extension methods, exclusive of the time spent on reports and similar routine matters, is contrasted with the

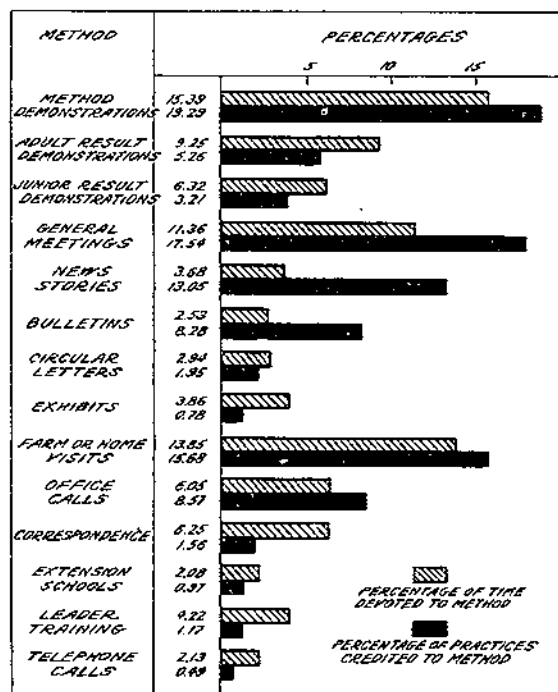


FIG. 31.—Practices adopted as related to time spent on methods, as indicated in the adoption of 27,032 practices on 8,738 farms in 12 States

a satisfactory index of the returns from these methods, then 15.4 per cent of extension workers' time devoted to method demonstrations obtained 19.3 per cent of the total results. A return of 8.5 per cent of the practices adopted resulted from 15.6 per cent of time devoted to adult and junior result demonstrations. To general meetings requiring 11.4 per cent of the extension workers' time was credited 17.5 per cent of the results accomplished. The writing of news stories, the interviewing of local editors, and similar activities took 3.7 per cent of extension time and effected 13 per cent of extension results.

Bulletins were credited with 8.3 per cent of the results and required but 2.5 per cent of the time of extension workers. No allow-

contrasted with the percentage of practices ascribed to the influence of the same methods by the men and women on the 8,738 farms studied. For the purpose of this comparison indirect influence has been distributed proportionately among the other methods, and the whole corrected to the basis of 100 per cent equals the total influence of all methods. If it may be assumed that the average of the estimates of 542 extension workers is a fair index of the effort expended upon the various means and agencies and the opinions of the men and women on 8,738 nonselected farms is

ance is made for the time of experiment-station workers spent on bulletins given extension distribution. This comparison is on a less satisfactory basis than others presented here, since bulletin writing is done largely by experiment-station workers.

The preparation and mailing of circular letters account for 2.9 per cent of the extension workers' time and 1.9 per cent of total accomplishments. Exhibits received nearly 4 per cent of the attention and returned less than 0.8 per cent of the results.

Approximately one-seventh of the extension workers' time was spent on farm or home visits, and about one-sixth of the results was credited to this means.

Farmers and farm women calling at the extension office required 6 per cent of the workers' time, and to this means was ascribed 8.6 per cent of the practices adopted. Correspondence other than circular letters took up 6.2 per cent of the time and accomplished 1.6 per cent of the results. Extension schools required 2.1 per cent of time and were credited with 1 per cent of the practices adopted.

The training of local extension leaders required 4.2 per cent of the agents' and specialists' time and influenced 1.2 per cent of the practices. As most of the leader-training work consists of teaching leaders how to repeat method demonstrations the efficiency of this means might well be considered with method demonstrations. Telephone calls occupied 2.1 per cent of the extension workers' time and produced 0.5 per cent of the results.

In order to show more clearly the differences in efficiency of these various methods, they are compared on the basis of the ratio of percentage of practices adopted to percentage of time required in Figure 32. One unit of time devoted to news stories influenced the adoption of three times the practices a corresponding unit of time devoted to farm visits produced and more than fifteen times the results obtained for the same amount of time devoted to exhibits. The greater returns per unit of time from news stories and bulletins than from other extension methods is doubtless related to the greater number of people exposed to these agencies. This alone is not a satisfactory explanation, however, since exhibits and circular letters are also adapted to reaching large numbers. In addition to news stories and bulletins, the other methods returning one or more units of results per unit of time expended are general meetings, office calls, method demonstrations and leader training, and farm or home visits.

The individual county extension agent or subject-matter specialist is primarily concerned in employing his time most efficiently. Those charged with the administration of extension moneys are also interested in the relative cost of the various means and agencies employed in extension teaching. They are continually confronted with the question of the allotment of funds for various purposes. Should travel expenses to attend meetings and to make farm and home visits be reduced in order to employ another county worker or subject-matter specialist? Or should the size of the personnel be reduced and more funds devoted to printing bulletins? A preliminary study of extension costs^a in these same States indicates that the time cost

^aBAKER, H. J., and WILSON, M. C. RELATIVE COST OF EXTENSION METHODS. [Unpublished data.]

of the trained extension worker is a fairly accurate guide to the total extension cost of most means and agencies. In the case of bulletins, however, costs other than personnel costs were found to be relatively high. In consideration of all costs, the news story remains the most economical means of influencing farmers and farm women to adopt better practices and is followed by general meetings and office calls. Bulletins take a lower place in the scale but still are above the average in effectiveness. The cost of circular letters is so low as to make them compare favorably with farm visits and method demonstration meetings on the basis of total cost per practice

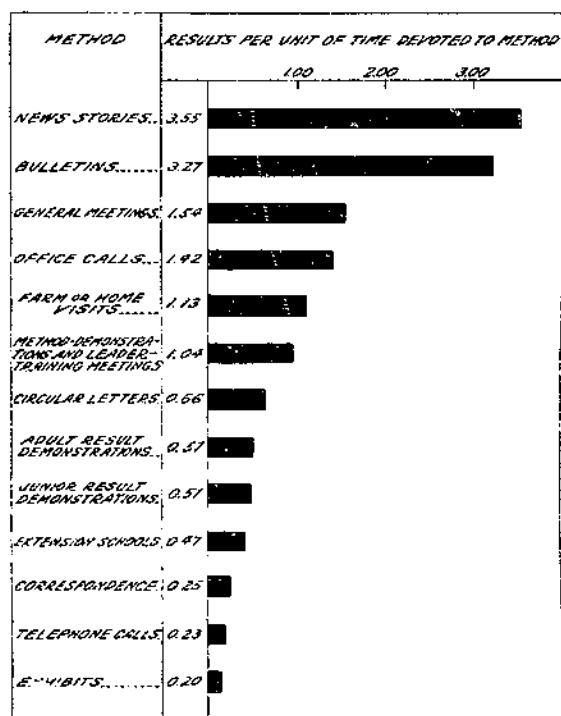


FIG. 32.—Comparative efficiency of methods, as indicated in the adoption of 27,032 practices on 8,738 farms in 12 States

changed, even though they are credited with having helped to bring about but a small percentage of the improved practices adopted. From the foregoing comparisons of the efficiency of extension methods it does not necessarily follow that an extension worker can devote unlimited time to news stories, office calls, circular letters, or other of the more efficient methods without decreased returns per unit of time. It would seem wise, however, for extension workers to place as great emphasis as circumstances will permit upon those means and agencies which yield the largest return upon the time invested, other costs considered. Certainly these methods should not be minimized or overlooked. Other considerations besides obtaining the adoption of the better practices being taught may frequently be the controlling factors in determining the amount of time and money to be spent on the various means and agencies employed.

SUMMARY

Wide differences in extension accomplishment as measured by its influence upon farm and home practices are indicated by the field studies made in representative areas throughout the country.

Approximately 93 out of 100 practices reported adopted were credited to method and result demonstrations, general meetings, news stories, bulletins, farm or home visits, office calls, and indirect spread of influence. The credit for the 7 per cent of practices remaining was distributed among circular letters, exhibits, radio talks, correspondence, extension schools, leader-training meetings, telephone calls, posters, and study courses.

The character of the subject matter apparently influences the choice of methods employed and their effectiveness. Where like subject-matter lines are involved the same methods have a similar influence upon the practices adopted. Where unlike subject-matter lines are compared there is strong contrast in the proportion of practices ascribed to the different methods employed.

Unless the character of the extension program during a period of years in a given area is such as to touch vitally a high percentage of the farms and homes, the possibility of influencing the practices of large numbers of people is greatly limited.

Methods like meetings and news stories, although slightly less effective, reach many more people than do methods like farm visits and result demonstrations.

The relative percentage of practices adopted as a result of the use of a particular extension method may not be a true measure of the worth of that method in all cases, as the results may be expressed indirectly or in terms of other closely related methods.

The influence of method demonstrations, news stories, office calls, and the indirect spread from one neighbor to another seem to be more closely associated with total extension accomplishment than the returns from other extension methods.

A unit of extension workers' time spent on preparing news stories and interviewing local editors influenced the adoption of three times as many practices as a corresponding unit of time spent on farm or home visits, and fifteen times as many practices as a unit of time devoted to extension exhibits.

A unit of time spent on farm and home visits was three-fourths as effective as a unit of time spent on general meetings and nearly twice as effective as a corresponding amount of time spent on result demonstrations.

Time spent on circular letters was much more effective than time spent on individual correspondence.

HOW MAY THE EXTENSION WORKER INCREASE HIS EFFECTIVENESS?

As all extension workers are interested in using their time in such a manner as to result in the greatest net good to the greatest number of people, the question is frequently raised: How can a particular specialist or county extension agent increase his effectiveness?

Because of the exceedingly complex character of the extension job, the variation in local situations, personality of workers, length of time an extension program has been under way in the area, character and stage of development of the program, and innumerable other factors, it is impossible to outline a simple set of directions for all extension agents.

Reliable information regarding what is actually taking place in the field in extension, the relationship between causes and effects, the relative value of extension teaching methods, and similar problems is of course fundamental to intelligent improvement.

In the light of the data made available through the extension studies which have been conducted to date the following are some of the points which should receive consideration in connection with any attempt to increase the effectiveness of extension as measured by its influence upon the adoption of improved farm and home practices:

(1) *Range of interests affected by the extension program.*—If the number of people interested in the extension program is small the efforts of the extension worker will not be successful in influencing the adoption of practices by a large percentage of the farmers and farm women residing in the area involved. Though almost axiomatic, this point is often overlooked by extension workers.

(2) *The satisfaction likely to follow the adoption of the recommended practices.*—Unless the economic return or other satisfaction resulting from the new practice is commensurate with the effort or inconvenience involved in its adoption there will be little indirect spread from one neighbor to another. Indirect spread accounts for nearly one-fourth of the adoption of extension practices.

(3) *The adaptability of the teaching methods employed to the subject matter involved.*—The same methods are not equally effective in agriculture and home economics, in crop production, livestock production, and marketing, or in canning, home management, and clothing.

(4) *The stage of development of the project.*—If sufficient proof exists regarding the local applicability of a given practice, time spent in establishing additional local proof is largely wasted.

(5) *The suitability of the various means and agencies for exposing a large number of people to extension teaching.*—Before people can be influenced to put into practical use some new practice they must be informed regarding that practice. Circular letters, exhibits, news stories, and meetings naturally reach more people than do farm visits, office calls, and individual correspondence.

(6) *The probable ratio of takes to exposures.*—A means of informing large numbers of people regarding better practices which is at the same time effective in a large percentage of cases in influencing the acceptance of those practices may well be chosen in preference to another means proportionately no more effective, and which reaches but a few people.

(7) *The probable returns per unit of time devoted to methods.*—In addition to the number of people exposed to better practices through the different methods of teaching and their relative effectiveness in bringing about the acceptance of the practices taught, consideration must be given to the amount of time required by these methods if an extension worker desires to use his time most effectively.

(8) *The interdependence of the methods selected.*—The different means and agencies employed should be so selected that they supplement one another and provide for proper distribution of labor by the extension agent.

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