

EXTENSION

Teaching Methods

and other factors that influence
adoption of agricultural and
home economics practices

By MEREDITH C. WILSON
and GLADYS GALLUP



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FOREWORD

This bulletin is concerned with improvement in the use of extension teaching methods. It is intended primarily as a reference manual for inservice extension workers, prospective extension workers and graduate students in extension education.

The extension worker's job is presented as an educational undertaking. The essential steps in the adult learning and teaching process are outlined. Important factors which affect the adoption of improved farm and home practices are discussed. The various teaching methods are compared on the basis of relative effectiveness and extent of use. Each individual method is examined critically. Essential elements, principal advantages, and limitations are identified. "How-to-do-it" instructions are left to other publications listed in literature cited or in the selected bibliography.

The authors have drawn upon pertinent research relating to formal education, psychology, and salesmanship. Greatest emphasis is placed on the findings of studies in extension education conducted over a 30-year period by the Cooperative Extension Service of the U. S. Department of Agriculture and the State Agricultural Colleges.

This publication replaces *The Effectiveness of Extension in Reaching Rural People* (Dept. Bull. 1384), *Extension Methods and Their Relative Effectiveness* (Tech. Bull. 106), and *Relative Costs of Extension Methods Which Influence Changes in Farm and Home Practices* (Tech. Bull. 125), now out of print.

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EXTENSION TEACHING METHODS

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By MEREDITH C. WILSON, Director, and GLADYS GAILUP, Assistant Director, Division of Extension Research and Training

THE EXTENSION JOB

Cooperative extension work in agriculture and home economics assists people engaged in farming and homemaking to utilize more fully their own resources, and those available to them, in solving current problems and in meeting changing economic and social conditions. Through the educational and service approach rural people are stimulated to make changes that result in more efficient production and marketing of farm products, conservation of natural resources, more comfortable homes, improved health, and more satisfying family and community life.

The conduct of Extension may be thought of as involving four reasonably distinct yet closely integrated stages. A brief description of each will help to clarify the place of methods in the extension teaching cycle.

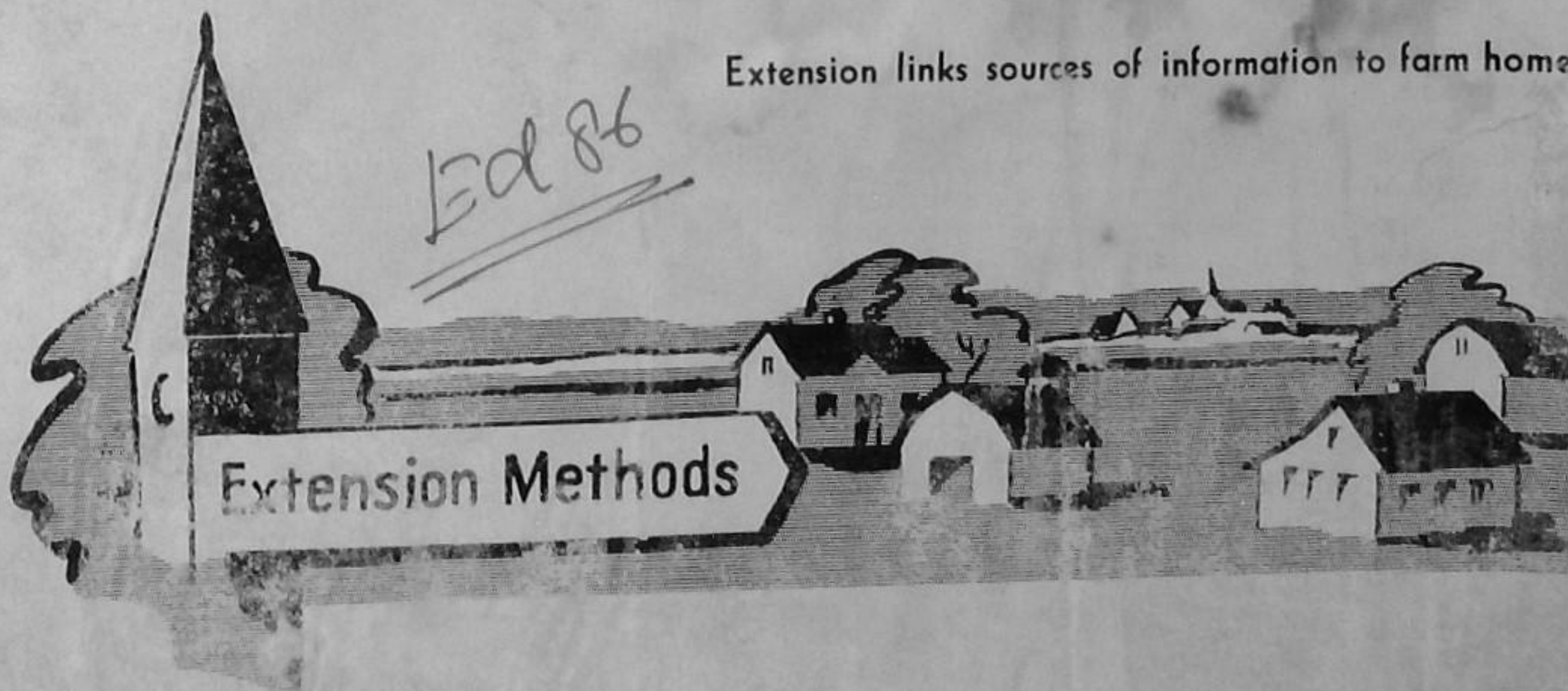
STAGE 1. *A sound program meets the needs of rural people.*—From the many things that might be done to advance the general aim of Extension, it is necessary to select for Extension's attention currently, and over a period of years, those

problems which represent the significant needs and interests of rural men, women, and youth. The Extension program must be both practical of accomplishment and within the scope of the legislation applicable to the Cooperative Extension Service.

STAGE 2. *An intelligent plan of action is basic.*—Once the problems have been identified and solutions agreed upon, the next stage in logical sequence is the development of the step-by-step procedure to be followed in putting the program into operation. This involves the setting of specific objectives, the selection of teaching methods, the scheduling of activities, the seeking of cooperation from nonextension agencies, and the dividing of responsibility among extension staff members.

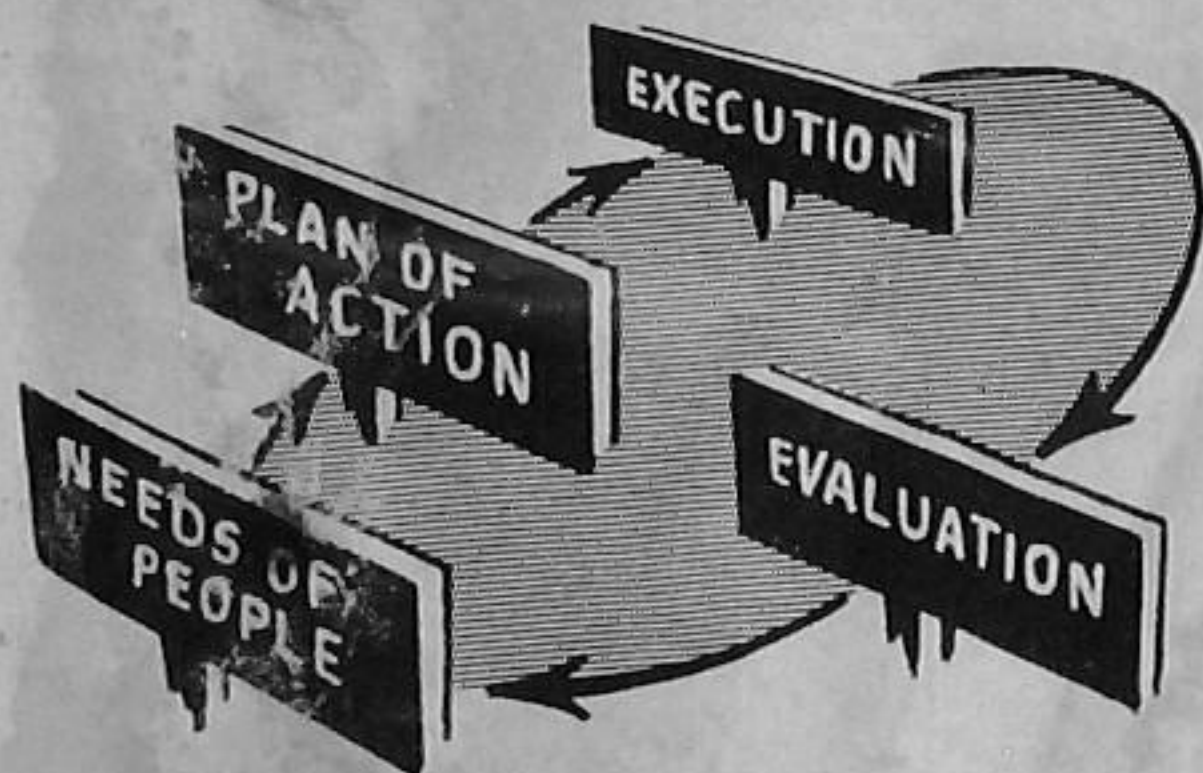
STAGE 3. *Persistent, painstaking execution of the plan of action as outlined is necessary.*—A good plan of work presents the most effective way, considering all the circumstances, to accomplish the teaching objectives in line with the overall aim of Extension. The carrying out of the teaching methods and related activities incorporated in the plan of work requires sys-

Extension links sources of information to farm home



tematic, patient, and persistent effort on the part of the extension workers involved. Unless things are done at the scheduled time and in proper sequence, much of the advantage of the prepared plan is lost. Emergencies and miscellaneous duties must not be permitted to interfere with the aggressive prosecution of the core program and plan developed to meet the needs of rural people.

STAGE 4. *Evaluation of progress and accomplishments guides the way.*—Measurement from time to time to determine the progress made in carrying out the plan, and the extent to which program objectives are being reached, makes possible the adjustment of methods and activities to developing situations. Evaluation helps in the revision of the program at stated intervals to keep it abreast of the problems solved and the new problems arising. Evaluation is basic to improvement of the conduct of Extension.



The conduct of Extension involves four distinct, yet closely integrated stages

Active participation in all the four stages by rural men, women, and youth promotes learning. Rural people should assist in identifying farm and home problems; have a part in deciding upon attainable goals; help in outlining appropriate action plans, including teaching methods and activities; and assist in evaluating the progress made.

It is obvious that in all stages of the conduct of Extension, the choice of teaching methods and activities employed will have a direct bearing upon the success attained in advancing each stage of the extension process. Progress in each succeeding stage is, to a substantial degree, dependent upon the appropriateness of the methods and procedures used in carrying out the stage of development immediately preceding. All become a part of a comprehensive integrated approach to the educational growth of people to the end that the broad purpose of Extension may be furthered.

DISTINGUISHING CHARACTERISTICS OF EXTENSION

Extension is concerned with two basic assignments:

1. The dissemination of useful and practical information relating to agriculture and home economics.
2. The practical application of such knowledge to farm and home situations.

Though the educational or teaching approach is emphasized in promoting these assignments, there are striking contrasts between extension teaching and classroom teaching. The classroom teacher is concerned with the educational growth of children and youth preparing for life. Extension works with adults and youth in actual life situations. Participation in extension activities is wholly voluntary, while school attendance is largely compulsory. Classroom teaching is formalized into sequence grades and subject-matter courses. The content of extension teaching may encompass the entire range of agricultural and home economics subject matter, centering for the moment on the interest or need of the individual in connection with an immediate problem. Extension teaching is often so informal that it is difficult at times to distinguish educational activities from service activities.

Extension teaching is sometimes compared to commercial salesmanship; it is pointed out that the extension worker is primarily engaged in the "selling" of ideas. Certainly, many of the techniques employed by good salesmen in selling physical goods and services have direct application in Extension. One is a commercial transaction conducted for private profit, and the other is an educational process conducted by a public agency to bring about changes in the attitude, skill, or knowledge of the individual.



The extension worker sells ideas.

METHODS OF EXTENSION TEACHING

The teaching methods employed by the extension worker directly influence the effectiveness of his efforts. This is true whether the extension teacher is a county extension agent or a State subject-matter specialist or whether the learner is a farmer, farm woman, farm youth, or nonfarm person. An understanding of the capabilities and limitations of the available teaching tools is essential to their intelligent selection and efficient use.

The extension worker must recurrently exercise judgment in choosing the working tools which he considers appropriate to accomplish the task at hand. The method or combination of methods is sought which is likely to be more effective than other methods in attaining the desired goal. That goal may be the development of an awareness of a problem, the stimulation of a group to organize for cooperative action, the training of individuals in the skills of farming and homemaking, or obtaining the acceptance of the findings of scientific research in the production, marketing, and consumption of agricultural products. Optimum accomplishment from the entire year's teaching effort as well as the returns from a single teaching activity must always be the concern of the extension worker.

The problem faced by the extension worker in choosing appropriate tools for the various teaching jobs to be done is not an easy one at best. The extension teacher is attempting to influence the behavior of large numbers of people in life situations which are subject to continual change as the result of economic and social developments. The farmers and homemakers of the county have diverse interests. They vary greatly in educational training, age levels, and other characteristics that influence their response to educational stimuli. The on-going extension program represents all stages of development from new lines of work just starting to projects which will need little further attention.

The number of county extension workers and their special qualifications will also have a direct bearing upon the intensity of the teaching effort and will influence the emphasis placed on certain methods of teaching. In each instance a different set of circumstances surrounds the teaching problem and must be considered in choosing methods which are likely to be productive of the changes in behavior being sought.

EXTENSION METHODS CLASSIFIED

In planning the learning situations and arranging the teaching activities, the extension worker draws upon a variety of teaching approaches. The judgment exercised in selecting the most appropriate

method for the particular teaching situation and the skill with which the working tool is used have a direct bearing upon the amount and quality of the learning resulting from the teaching effort.

The methods employed in extension teaching may be classified in several different ways. Regardless of the classification, whether by form or by number and nature of contacts, it is well to keep in mind that in practice the teacher-learner situation frequently involves the associated use of two or more kinds of teaching methods. For example, the office call in which oral communication dominates may also involve the use of written or visual materials prepared for general public distribution or for use in meetings.

Under *Methods Classified According to Use* methods are grouped according to the number and nature of the contacts inherent in their use. (p. 4)

Under the first category are the individual contacts. These are often associated with a request for information on a specific farm or home problem.

The second category of methods involves contacts with a substantial number of people assembled in an isolated group or in one of a series of related groups. These include all kinds of meetings for all kinds of purposes.

Both of these categories involve face-to-face contacts.

The third category of methods includes the media employed by extension workers to disseminate information to and influence large numbers of people.




In addition to the conscious dissemination of information through the various methods available to the extension teacher, the indirect spread of information resulting from specific activities and from the total teaching effort is very substantial. The amount of indirect influence and factors affecting it becomes an important consideration in evaluating extension accomplishment.

Methods Classified According to Form are illustrated below. Bulletins, leaflets, news articles, personal and circular letters, all depend largely upon the written word, though illustrations are often used as visual aids to the reading of the printed message. (p. 5)

The use of the spoken word characterizes the variety of special and general meetings held or participated in by extension workers. Motion pictures, lantern slides, charts, and other visual aids are frequently employed to build attendance, maintain interest, or increase the teaching effectiveness of meetings. Farm and home visits, office and telephone calls also involve oral communication. The radio is, of course, limited to the one method of presentation.

Objective or visual methods of teaching that depend almost entirely upon the eye appeal include result demonstrations, exhibits, posters, motion pictures, slides, charts, and similar visual aids. Visual aids are frequently used to supplement the spoken and written word. Method demonstrations, meetings at result demonstrations, and television programs are usually combinations of visual material and oral presentation.

Methods classified according to USE

		
INDIVIDUAL CONTACTS	GROUP CONTACTS	MASS CONTACTS
<p>Farm and home visits. Office calls. Telephone calls. Personal letters. Result demonstrations.</p>	<p>Method demonstration meetings. Leader training meetings. Lecture meetings. Conferences and discussion meetings. Meetings at result demonstrations. Tours. Schools. Miscellaneous meetings.</p>	<p>Bulletins. Leaflets. News stories. Circular letters. Radio. Television. Exhibits. Posters.</p>

Indirect influence

THE PROCESS OF EDUCATION

Before moving on to a detailed consideration of the various methods used in extension, a brief review of the basic elements in the processes of learning and teaching may contribute to a better understanding of the data and other material presented and their implications for the extension teacher.

WHAT IS EDUCATION?

Education may be defined as the production of changes in human behavior. The aim of extension education, therefore, is to influence people to make those desirable changes in their behavior that contribute to better farming and homemaking. The changes in behavior of those taught by extension workers may take three forms:

1. *An increased amount of useful information or understanding, such as more knowledge about*

- the basic seven foods, grass-legume pasture, or the marketing of agricultural products.
2. *New or improved skills, abilities, and habits, such as how to cook vegetables to prevent undue loss of vitamins, how to harvest and store legume hay to retain its feeding qualities, and how to select and package produce for market.*
3. *More desirable attitudes and ideals, such as developing a conviction that balanced diets help maintain good health, that it is important to control soil erosion, and that co-operative action may be necessary to solve a marketing problem.*

Effective education contributes to the individual's understanding, helps him to improve his abilities, and develops in him more desirable attitudes.

The production of changes in behavior, through education, implies on the part of the extension teacher a clear understanding of:

1. The specific changes in knowledge, understanding, skill, or attitude which are desirable.

2. How people learn—how people can be influenced to change.
3. How to teach—knowledge of extension teaching methods and skill in using methods best adapted to bring about the desired change in behavior.

MOTIVATION IS BASIC BOTH TO LEARNING AND TO TEACHING

People are motivated to learn if they can satisfy a basic need through learning. Basic needs, wants, desires, motives, incentives, or urges have been classified in a variety of ways. The following categories are reasonably adequate for extension teaching purposes:

1. The desire for security—economic, social, psychological, and spiritual security.

2. The desire for new experience—adventure, new interests, new ideas, new friends, and new ways of doing things.
3. The desire for affection or response—companionship, gregariousness, and social-mindedness; the need for a feeling of belonging.
4. The desire for recognition—status, prestige, achievement, and being looked up to.



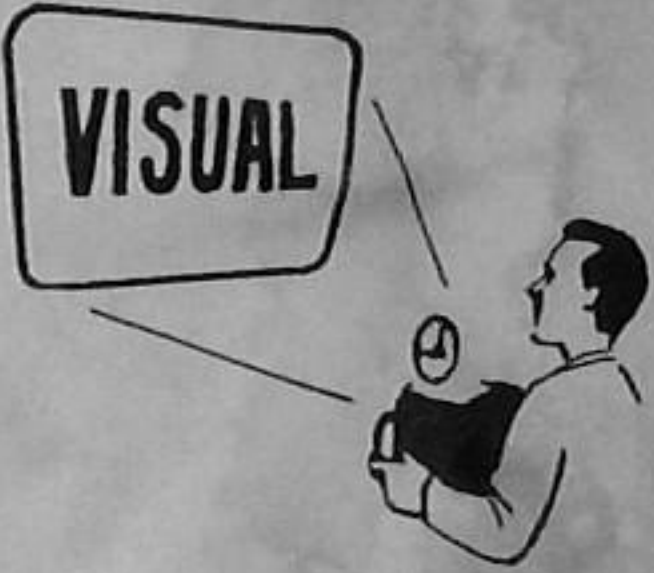
These are all powerful motivating forces stated in a general way.

A more specific classification of the incentives for adult learning has been given by Dr. Irving Lorge: (8, p. 77).¹

1. People Want To Gain
 - a. Health
 - b. Time

¹ Italic numbers in parentheses refer to Literature Cited, p. 77.

Methods classified according to FORM

		
WRITTEN	SPOKEN	OBJECTIVE or VISUAL
Bulletins. Leaflets. News articles. Personal letters. Circular letters.	General and special meetings of all kinds. Farm and home visits. Office calls. Telephone calls. Radio.	Result demonstrations. Exhibits. Posters. Motion pictures, charts, slides, and other visual aids.
	Method demonstration meetings. Meetings at result demonstrations. Meetings involving motion pictures, charts, and other visual aids. Television.	

Indirect influence

- c. Money
- d. Popularity
- e. Improved appearance
- f. Security in old age
- g. Praise from others
- h. Comfort
- i. Leisure
- j. Pride of accomplishment
- k. Advancement: business, social
- l. Increased enjoyment
- m. Self-confidence
- n. Personal prestige

2. They Want To Be

- a. Good parents
- b. Sociable and hospitable
- c. Up to date
- d. Creative
- e. Proud of their possessions
- f. Influential over others
- g. Gregarious
- h. Efficient
- i. "First" in things
- j. Recognized as authorities

3. They Want To Do

- a. Express their personalities
- b. Resist domination by others
- c. Satisfy their curiosity
- d. Emulate the admirable
- e. Appreciate beauty
- f. Acquire or collect things
- g. Win others' affection
- h. Improve themselves generally

4. They Want To Save

- a. Time
- b. Money
- c. Work
- d. Discomfort
- e. Worry
- f. Doubts
- g. Risks
- h. Personal embarrassment

It becomes the job of the extension worker to understand the basic wants or incentives of the people with whom he is working. He should show the learner how to satisfy these basic wants by learning



People are motivated to learn if they can satisfy a basic need

new things. The extension worker should find the personal goals of the learner and tie in his teaching with these goals. Interest in better health for herself and family may stimulate the homemaker to learn better food selection and preparation. The need for a larger income may be the incentive to the farmer to learn how milk can be produced more profitably by feeding dairy cows according to milk production.

When people are shown how learning a subject will enable them to gratify a desire or realize a need, they are being motivated to learn.

A great impetus is given to learning when the learner can see that what he learns will be of immediate value to him in making his own life more satisfying.

A desire or a want, therefore, is the most definite and dynamic of motives, from the educational point of view.

ESSENTIALS IN ADULT LEARNING

Of the many requirements in adult learning, four have important application to Extension:

1. *Adults learn best (most rapidly) when they have a strong desire to learn.*—Many people come to Extension wanting information and assistance on definite problems. They already have a desire to learn, and the stronger their desire the more intensive will be the mental and physical effort which they will put forth. These are the people easiest to teach. Many others (and these include a group which Extension has not been reaching effectively because of limited staff) have but a faint and confused desire to learn. With them this desire must be aroused. They are the people most difficult to teach.
2. *Adults learn best when they have clear goals.*—No one, either as an individual or as a member of a group, can act to the best purpose until he has definitely decided what he wants to do. When the learner realizes what he needs to learn in order to accomplish what he wants, he is well on the way in the learning process. When the learner decides to act, energy is released which can be put into action.

Only a limited number of attainable goals should be undertaken at one time. It is much better for the learner to decide on a few easy goals that can each be mastered in turn, than to fail because he set up too many or too difficult goals. Where the learner does not have worthy goals the extension worker may well gradually direct the teaching toward better goals. Success or failure is significant only with reference to one's goal. In the absence of a goal or objective one response is no more significant than another and no evaluation of progress can be made.

3. *Adults learn best when they put forth an effort to learn.*—A third requirement in the learning process is to put forth effort. Each person must do his own learning because no one else can learn for him. Learning is an individual matter. People develop skills, habits, and the ability to solve problems through practice, a step-by-step process. What is practiced is learned.

Continued practice is necessary for the retention of learning and for the development of habits. A farmer has not necessarily learned to follow a recommended practice because he tried it. He has learned it if he continues the practice.

The extension worker needs to get the learner to do whatever is to be learned with increasing expertness and with a better and better quality of action. It is not only the number of times an action is repeated that determines the rate of learning, but the intensity or effort which the learner puts into each repetition. One vivid, intense action may be enough to learn, whereas a score of half-hearted repetitions may be relatively fruitless of learning.

4. *Adults learn best when they receive satisfaction from what they have learned.*—It is now well established that learners seek success in what they do and that they tend to avoid situations which frustrate them. They learn best when there is some reward for learning, in terms of needs satisfied or a general feeling of accomplishment. Things learned which produce satisfying action tend to be repeated. The farmer who obtains a larger yield of corn by planting hybrid seed is likely to continue this practice. Satisfaction from one learning experience stimulates interest in other improvements. It is frequently necessary for the extension worker to help the learner to see that he is moving toward the desired goal and to help him recognize and appreciate the progress that he is making.

All four factors in the learning process are inter-related and together make a true learning situation. A strong desire to learn leads to the establishment of a learning goal. Knowing what one wants to do encourages purposeful action. Meaningful repetition of that action strengthens learning. The satisfaction derived from the successful attainment of a worthwhile objective stimulates desire to continue learning toward other related goals.

STEPS IN TEACHING

In the preceding discussion of the learning process, attention has been focused upon the learner—the

farmer, homemaker, or rural youth. In order to bring about the desired changes in the behavior of people, the extension teacher needs to organize activities so that there will be repetition of the desired behavior, each successive repetition building on the one before it. This conscious attention to organization of teaching activities in a sequence greatly increases the efficiency of learning. This is the advantage of an educational program over incident and occasional exposure to learning. The extension teacher, therefore, plans and arranges situations and activities whereby the thing to be learned is called to the attention of the prospective learner; his interest is developed, desire aroused, and action promoted. In addition to supplying information to those desiring to learn, the extension worker creates a desire for information on the part of those who are indifferent to improvements in farming and homemaking. In some instances it may even be necessary to overcome strong resistance to change. The skill with which the extension worker sizes up the learning situation of individuals and employs the techniques appropriate to leading each individual through the succeeding stages of the learning process determines the effectiveness of extension teaching.

Obviously, the steps in teaching closely parallel the four requirements in the learning process. Only the point of view is different. The repetition in the following six steps in effective teaching will further serve to emphasize the basic elements in the teacher-learner relationship.



Steps in teaching

STEP 1. *Getting the attention of the learner.*—Farmers and homemakers are not always aware of the improvements they can make as the result of scientific research and the successful experience of other farmers and homemakers. In such instances the first task of the extension teacher is to direct the attention of the pros-

pective learner to the new or better idea. Until the individual's attention has been focused upon the change that is considered desirable, there is no recognition of a problem to be solved or a want to be satisfied. Attention is the starting point to the arousing of interest. The famous Navy recruiting poster that says "Join the Navy" and pictures a smartly dressed petty officer surveying an enchanting scene in a far-off land is an example of a most successful attention-getting device.

STEP 2. *Stimulating the learner's interest.*—Once attention has been captured it becomes possible for the teacher to appeal to the basic needs or urges of the individual and arouse his interest in further consideration of the idea. The teacher, in easy stages, reveals to the learner how the new skill or practice will contribute to the learner's welfare. The teacher's message should be presented attractively and in a manner that requires little mental effort on the part of the learner. The short radio message presented in a pleasing voice; the well-illustrated extension leaflet, with short, common, well-known words, and short sentences and paragraphs that make for easy reading; are good interest-building tools. The presenting of but one idea at a time, which is definite and specific, is another important factor in building interest. The Navy recruiting poster referred to above does not mention "Joining the Army" or "Joining the Air Force." It does not refer to the Armed Forces as a whole. It says "Join the Navy," and to develop interest in that specific idea the words "and See the World" are added, appealing to the basic urge of travel and adventure likely to be strong in young men of the age desired for the Navy.

STEP 3. *Arousing the learner's desire for information.*—The teacher is concerned with the continued stimulation of the learner's interest in the new idea or better practice until that interest becomes a desire or motivating force sufficiently strong to compel action. The teacher convinces the learner that the information applies directly to the learner's situation; that the doing of the thing will satisfy a significant want or need of the learner. The news story or circular letter that tells of the successful use of the practice by another farmer or homemaker and the tour that provides opportunity to observe how others are solving the same problem, are methods frequently used by the extension worker to build the beginner's interest to the point of contemplating action.

STEP 4. *Convincing the learner that he should act.*—Action follows when desire, conviction, and the prospect of satisfaction make it easier for the person to act than not to act. The extension teacher sees to it that the learner knows

what action is necessary and just how to take that action. He also makes sure that the learner visualizes the action in terms of his own peculiar situation, and has acquired confidence in his own ability to do the thing. Visits to result demonstrations to observe the results and weigh the proof of the practice under local conditions; participation in a method demonstration meeting where, in addition to hearing the explanation and seeing the act performed by the extension teacher, those in the audience are provided an opportunity to handle the special equipment and try out the better way; are examples of methods that may be used to convert interest and desire into conviction.

STEP 5. *Getting action by the learner.*—Unless conviction is converted into action the teaching effort is fruitless. It is the job of the extension teacher to make it easy for the learner to act. If the farm or home improvement to be made requires unusual material or equipment, it is the responsibility of the extension worker to arrange for a convenient source, at a fair price, and in the recommended form. In other words, blocks and annoyances that might prevent action should be anticipated by the extension teacher and appropriate steps taken to remove or bypass them. Teaching farmers how to check an outbreak of a serious insect pest by using a new chemical preparation in a definite way will not be followed by action by farmers unless the new chemical can be readily obtained. If special equipment is needed to apply the chemical that, too, must be arranged for.

STEP 6. *Making certain that the learner obtains satisfaction from his action.*—The end product of the extension teaching effort is the satisfaction that comes to the farmer, homemaker, or youth as the result of solving a problem, meeting a need, acquiring a new skill, or some other change in behavior. Followup by the extension teacher helps the learner to evaluate the progress made, strengthens the satisfactions, minimizes the annoyances, and builds the learner's confidence in his ability to continue the action with increasing satisfaction. Because of the importance of satisfaction as a motivating force to further learning, the goals of learning should be kept simple and within the ability of the learner. The extension teacher should consider the possibility of breaking down difficult jobs into smaller ones that are easier to accomplish. The satisfaction and confidence resulting from the successful completion of each small job will then lead gradually to the accomplishment of the difficult jobs. A satisfied customer is the best advertisement and applies to the extension worker as well as to the retail merchant.

The means of agencies available to the extension teacher in arranging learning situations are not equally suited for use in all six of the teaching steps outlined above. Certain methods, like the radio, the news article, the poster, and the exhibit, may attract the learner's attention and stimulate his interest. It may take a personal visit to the farm or home to attract the attention of certain individuals. Other methods, such as the bulletin, the circular letter, the result demonstration, the method demonstration, and the discussion meeting may convince the learner that he should and can make the desired change. The teaching activity that sets off the action may be the farm or home visit, the office call, or any one of the various teaching tools utilized by the extension worker.

Even though the various teaching methods are not equally suited to advance each of the different steps in teaching, each method may under certain circumstances make a contribution to each step. The steps themselves may also at times blend in with each other and lose their clear-cut identity.

THE LEARNING AND TEACHING PROCESSES ARE INTERRELATED

The following hypothetical example of how a homemaker-mother learns to serve balanced meals as the result of learning situations provided by Extension may serve to illustrate the close inter-relationship between the requirements of learning and the steps in teaching. With a different problem and a different set of circumstances, quite different teaching methods might need to be employed.

An illustration of how teaching and learning take place.

Learner—Wife of dairy farmer.

Teacher—County home demonstration agent.

WANT or need—

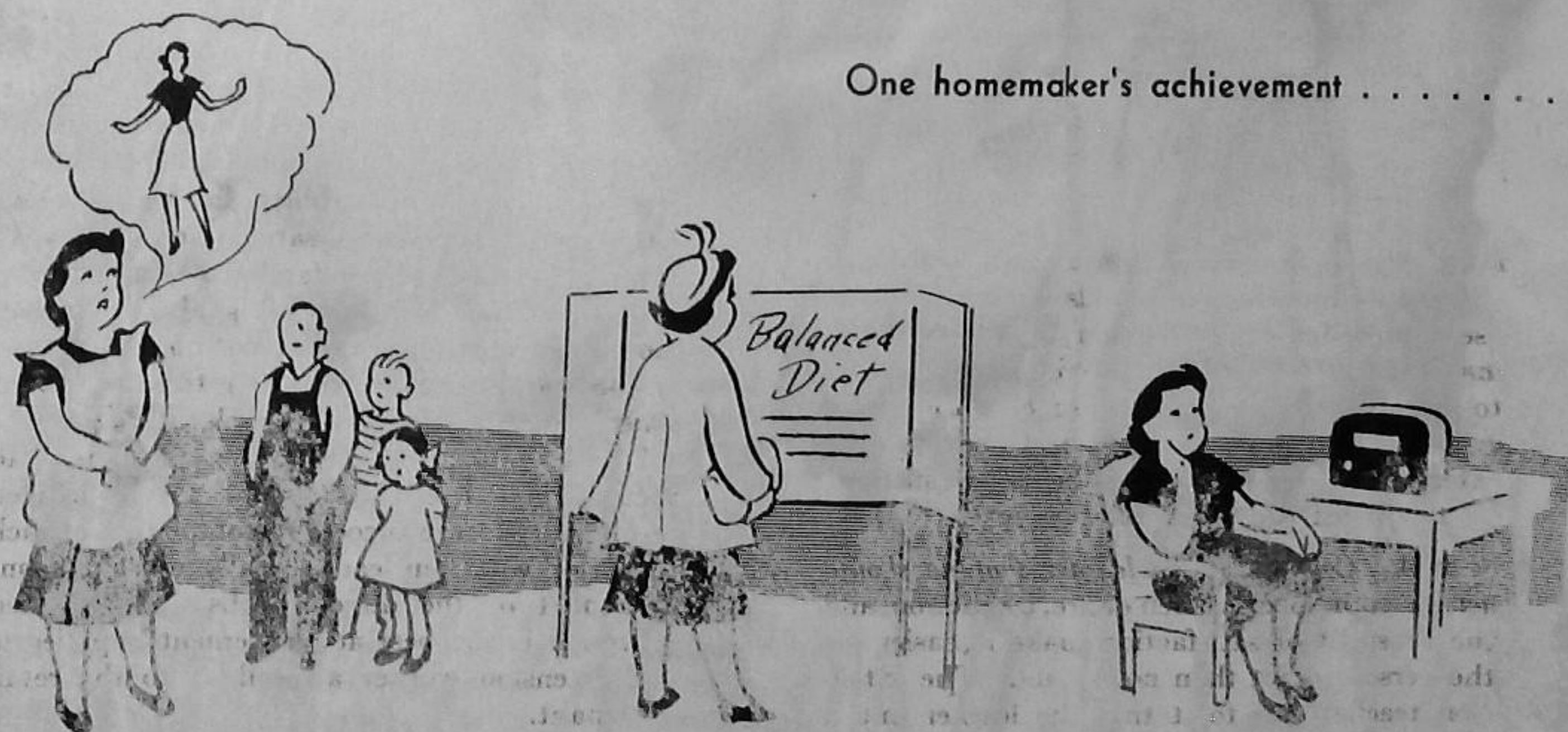
1. As a homemaker and mother of three young children, the wife of the dairy farmer has certain general and definite wants. Among them are:
 - a. Better health for herself and family.
 - b. Attractive children.
 - c. Better appearance and a trim figure for herself.
2. To satisfy these wants the homemaker needs to know what kinds of foods constitute an adequate diet and how to prepare such foods so that they retain their health-building qualities.

ATTENTION is gained—

1. She sees the home demonstration agent's exhibit of a day's well-balanced diet—breakfast, dinner, and supper—at the county fair.

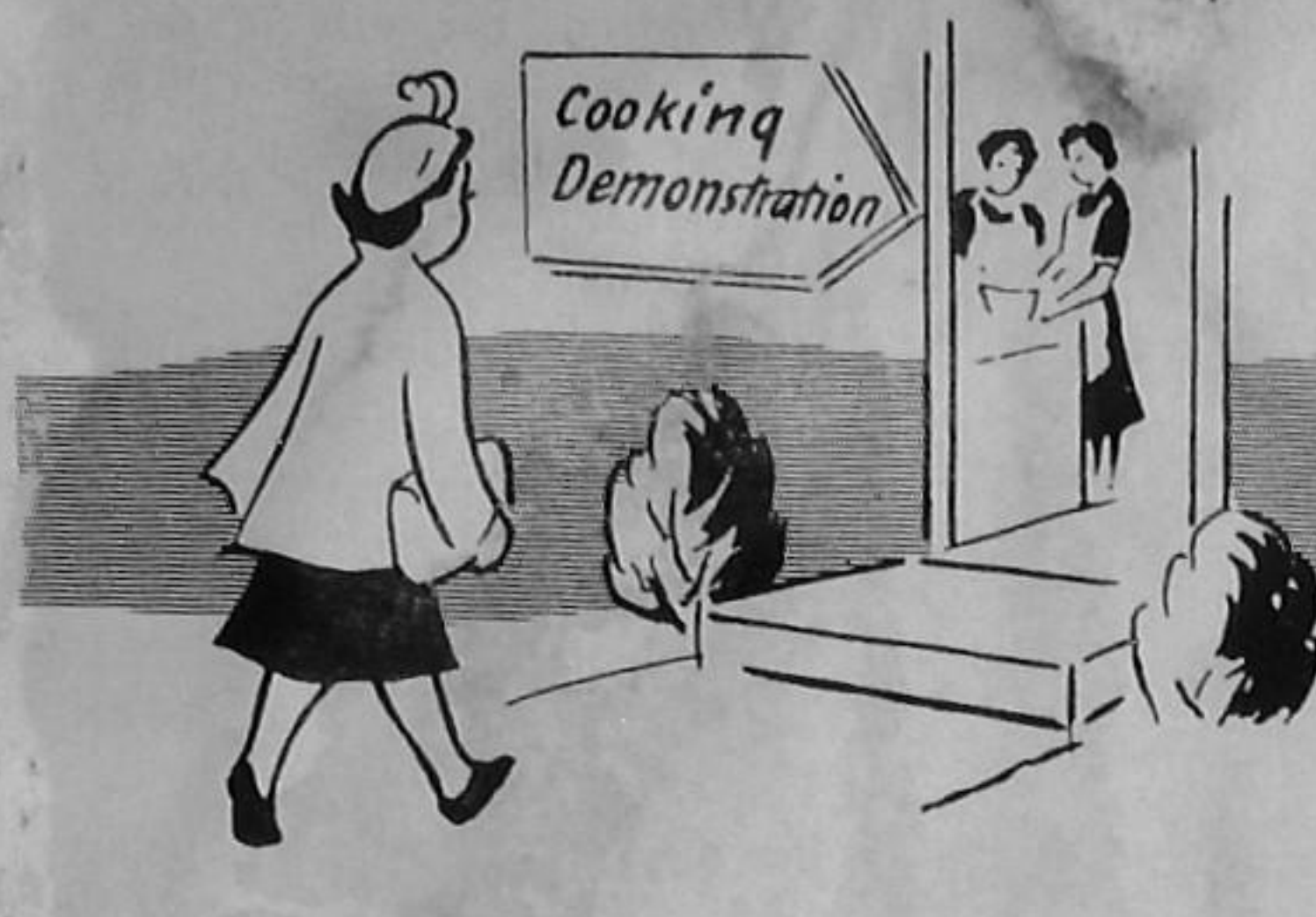
INTEREST is gradually aroused—

1. She hears a series of talks by extension workers on the radio about:
 - a. Balanced meals for good health.
 - b. What is a balanced diet?
 - c. Importance of a balanced diet in weight control.
2. She reads articles on the value of milk, green leafy and yellow vegetables, and vitamin C foods in the home demonstration agent's column in the local newspaper.



One homemaker's achievement

... better nutrition for her family, and a trim figure for herself



DESIRE to serve a balanced diet becomes strong—

1. She puts forth effort to learn more about balanced diets by attending a community meeting where an illustrated talk on the subject is given by a local extension leader.
2. She develops an understanding of what constitutes a balanced diet and its relation to good health and a trim figure.

CONVICTION—

1. She becomes convinced that her current meals are not well balanced and that certain foods are not being cooked properly.
2. She becomes convinced that by serving less bread, pastry, and cake, and by adding more fresh vegetables, milk, and fresh fruits, she and her family will have a better diet.
3. She becomes convinced that well-balanced meals take but little more time to plan and are no harder to prepare than her present meals.

ACTION—

1. She decides to serve better meals.
2. She extends a method of extension teaching on meal preparation where she has the opportunity to ask questions and to observe short cuts in preparing meals.
3. She tries serving better balanced meals in her home.
4. *Habit* is established through the continued serving of better meals.

SATISFACTION is derived from—

1. Knowledge that she is providing her family with balanced diets.
2. Favorable reaction of family members to changes in meals.
3. Good growth and development of the children.
4. Compliments from friends and neighbors who notice her improved appearance.

HOW CAN THE EFFECTIVENESS OF EXTENSION TEACHING BE MEASURED?

Improvement in the use of methods in extension teaching implies the necessity of making measurements and accountings. It involves the scientific way of collecting and weighing the facts. Things cannot be taken for granted. Valid evidence of a reliable and objective nature must be substituted for unsupported opinion and wishful thinking.

How does one determine whether or not extension teaching produces the desired results? What facts are needed to make a scientific appraisal of the contribution of the different methods utilized by the extension worker for teaching?

The number of students enrolled in the courses given by a particular instructor and the grades made by students as determined by oral and written examinations and other formal testing procedures provide suitable means of determining the accomplishment of the classroom teacher. The success of the commercial salesman is usually expressed in volume of product or service sold.

For the extension worker the number of office calls, farm and home visits, bulletins distributed, attendance at meetings, 4-H Club members enrolled, 4-H projects completed, and similar record and report data, provide some evidence of the numbers of people benefited by his efforts. Ascertaining the number of people who read extension information articles appearing in newspapers and farm journals or who listen to an extension radio program involves sampling the potential audience. But all such data are primarily indications of coverage of Extension Service clientele by the extension teaching effort.

Unless some change in the behavior attributable to extension teaching has taken place, the farmer, homemaker, youth, or other person reached by extension has not learned and the extension worker has not taught. The broad informal nature of extension education makes it difficult to obtain satisfactory evidence of resulting changes in people. Extension's "students," however, are in actual life situations where the point of view, skill, or knowledge learned can frequently be put to immediate use on the farm, in the home, or in connection with community activities. This makes it possible to ascertain with a high degree of certainty when a real change has resulted from the teacher-learner relationship. There is no question about the kitchen being remodeled, the land being terraced, or the cooperative being in operation. It becomes a matter of discovering the evidence of change and

establishing whether the change is due to extension teaching directly or indirectly, or is the result of nonextension sources of information and learning.

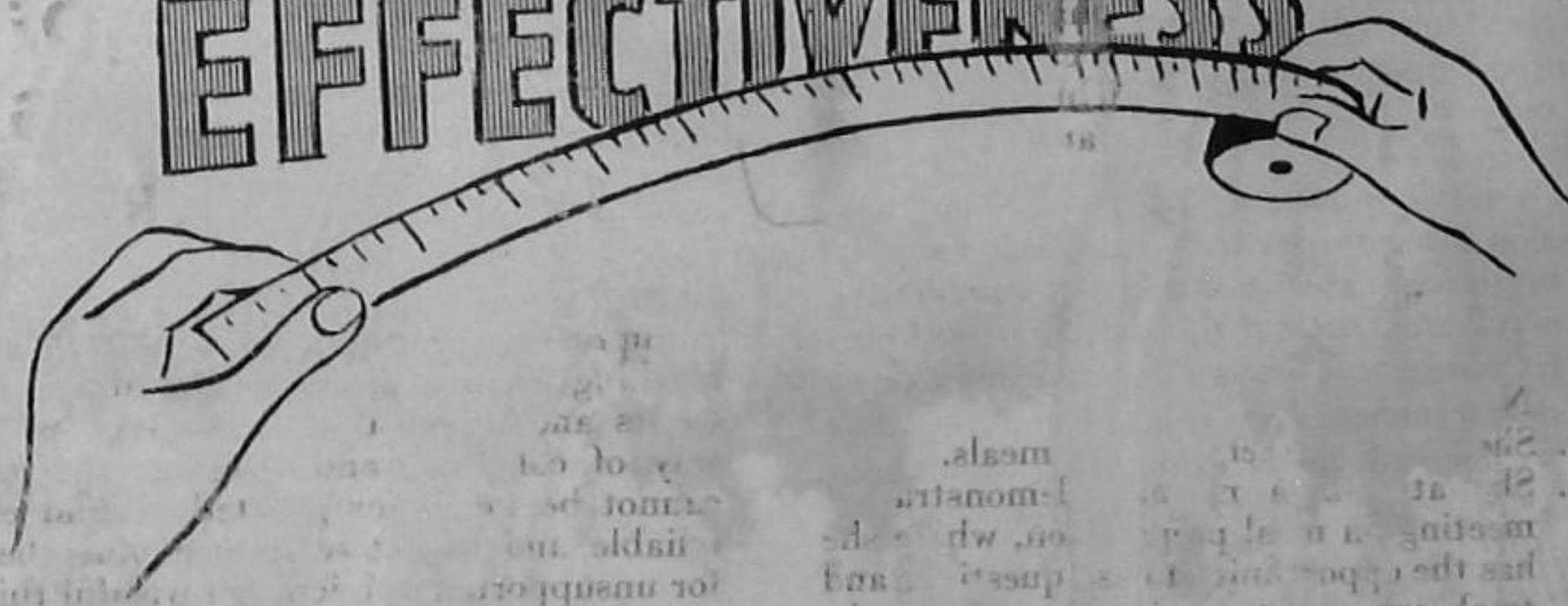
The Census provides useful data on changes in farming and rural living that take place over a period of years. Though valuable, such data do not separate the progress resulting from extension effort from the contributions toward the same ends made by vocational schools, farm organizations, the agricultural press, commercial firms, special governmental programs, and similar agencies.

The rural people themselves can best shed light on the extension effort that influenced them to make the reported changes. This is especially true when information on the relative effectiveness of the different methods and tools utilized by extension agents is desired.

The personal interview survey of the extent to which farmers and homemakers have adopted improved practices in response to extension stimuli is a practical scientific device for measuring the success of the teaching effort. It is also useful in evaluating the methods of teaching employed by extension workers. Many such surveys have been made in all parts of the United States as cooperative activities of the Federal Extension Service and the various State extension services.

The combined data from these studies throw light on the effectiveness of methods of extension teaching under the practical conditions faced by county extension workers. Obviously, this composite can reveal the capabilities and limitations of the several teaching means and agencies in general terms only. However, cues are provided as to factors which should be taken into consideration in predicting the effectiveness of individual methods under a particular set of circumstances.

EFFECTIVENESS



Unless some change attributable to extension teaching has taken place, the farmer, homemaker, youth, or other person has not been taught

EFFECTIVENESS OF METHODS COMPARED

Two factors must be considered in evaluating the effectiveness of the various methods employed in extension teaching: (1) The success of the method in influencing people to make the desired changes, and (2) the amount of teaching effort expended on it.

The total influence of a particular means of teaching may be large because of the emphasis placed upon it in the extension teaching plan. For example, the large influence of the method demonstration meeting in home demonstration work is accounted for by its extensive use by home demonstration agents. Conversely, the total influence of a method may be relatively small owing to the little use made of it in extension teaching. This explains the relatively small influence of the home visit in changing home economics practices.

A unit of time devoted to a particular method of teaching may yield much larger returns than a corresponding amount of effort expended on some other method of teaching. The news story, the radio, and the circular letter are striking examples of large returns per unit on the time devoted to these means of teaching by agricultural agents. The exhibit and the result demonstration are examples of teaching methods that influence comparatively few people per unit of the extension agent's time.

It is possible that the combined effectiveness of two or more methods used to complement each other may be greater than the sum of the effectiveness of the same methods when employed independently. The most successful extension teacher is, of course, the one who utilizes the teaching tools available to him in such a manner as to insure the largest possible accomplishment from the entire year's teaching effort.

Determining the influence and cost of the methods used in extension teaching with a satisfactory degree of accuracy is difficult. This difficulty is heightened by the informal nature of extension work and the numerous opportunities for learning available to rural people.

The field studies conducted by the Federal and State extension services over a 30-year period supply much information of value in measuring the relative influence and effectiveness of the teaching tools employed by Extension. Through personal interviews with farmers and homemakers residing in all sections of the country, records have been obtained on thousands of agricultural or homemaking practices which have been adopted wholly or partially as the result of extension influence. In each instance of change in practice the extension teaching methods contributing to the change were identified in so far as the individual farmer or homemaker could recognize such influence. It was sometimes difficult for

the farmer to recall the specific sources of information which led him to terrace his land, obtain an improved variety of seed, change his dairy ration, or start using some other practice taught by extension workers. In a substantial percentage of instances, however, the connection between the change made by the farmer or homemaker and the extension source of information was definite and clear cut.

Where the farmer or homemaker had obtained the information that led to the adoption of the practice from a neighbor and recognized the Extension Service as the source, the term "indirect influence" was used to designate the method responsible.

The sources of extension information that stood out in the farmer's or homemaker's mind may not always have included all the different extension teaching methods that contributed to the recognized change in practice. This is not of great significance, since the relative influence of many methods in a free situation was being measured, and not the total influence of a single method under controlled conditions. Certainly the farmer or homemaker knows better than anyone else the extension teaching activities to which he or she has been exposed and from which of these exposures he or she obtained information actually put into practice on the farm or in the home.

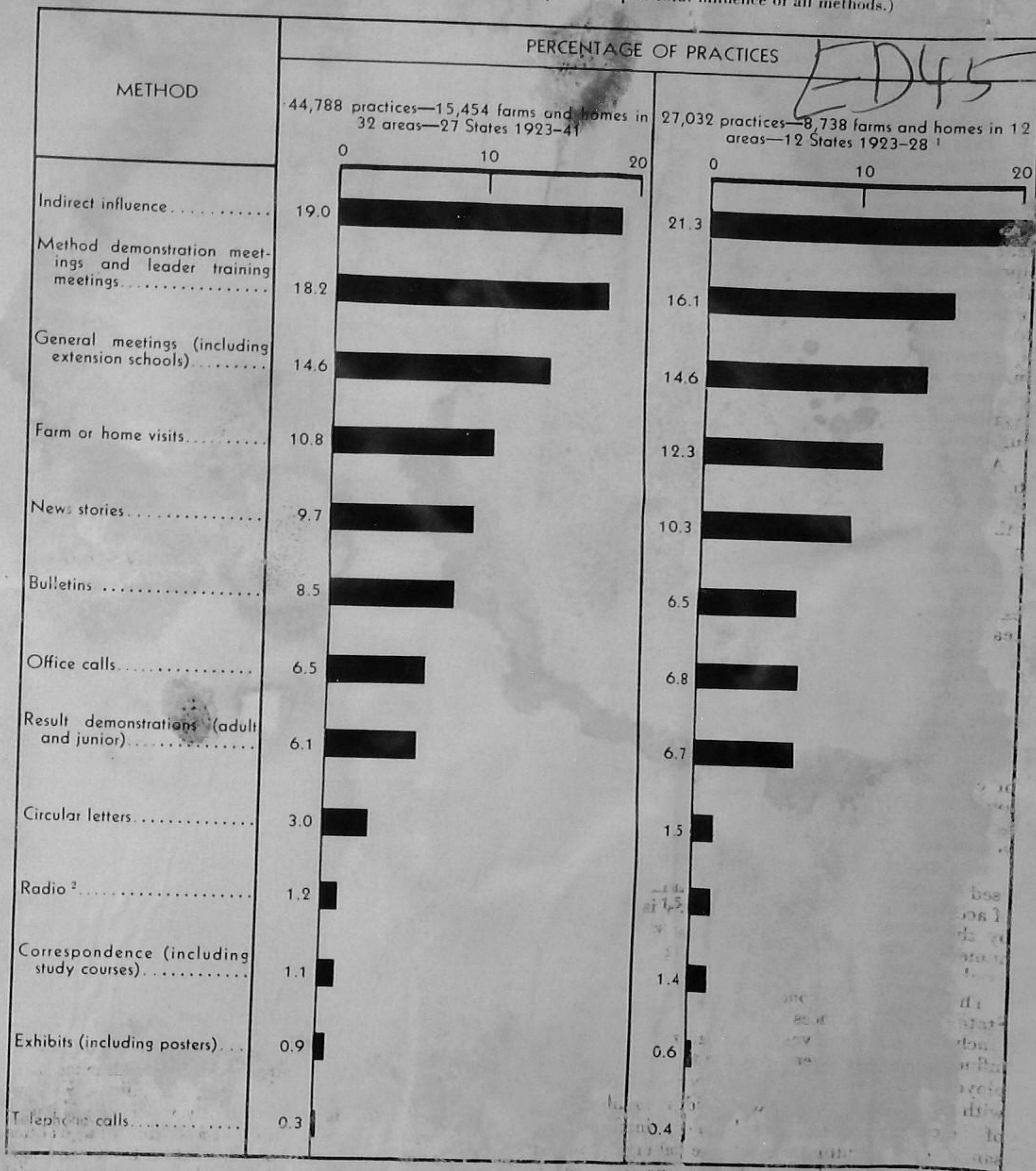
The collection of additional data and the application of new statistical tests modified only slightly the conclusions drawn from the earlier surveys. The numerous opportunities afforded to check parts of the data against known facts tend to strengthen the conviction that the information obtained from farmers and homemakers provides a satisfactory index of the relative influence of the methods employed in extension teaching.

PRACTICES INFLUENCED BY METHODS

Comparable information is available regarding the extension methods that have contributed to the adoption of 44,788 practices by farmers and homemakers of 15,454 farms and homes located in 32 sample areas of 27 States (fig. 1). Only those practices which the farmers and homemakers interviewed could associate with extension teaching are included. In order to bring out more clearly the relative influence of the various methods employed in extension teaching, the data have been corrected to the basis of 100 percent equals the total influence of all methods. Actually, of course, the influence of two or more methods was frequently reported in connection with a single instance of adoption of a practice.

The indirect spread of information from one neighbor to another was reported in connection with approximately 1 practice in 5, or 19 percent. This indirect influence, which was recognized by farmers and homemakers as being an outgrowth of extension teaching without their being able to identify the specific methods responsible for directly influencing

FIGURE 1.—Relative frequency with which extension methods were reported as having influenced the adoption of improved practices. (Data corrected to the basis of 100 percent equal total influence of all methods.)



Wilson (16, p. 77).

² Information on radio is for 24 areas and 4 areas respectively, since radio was not included in the method checked in the first 8 areas studied.

the changes made by a neighbor in the first instance, is larger than the direct credit given any one of the methods commonly employed in extension teaching.

Meetings of all kinds, principally method demonstration meetings and general meetings, were responsible for influencing one-third of the practices adopted, or 32.8 percent. Personal visits of extension workers to farms or homes accounted for the adoption of 1 practice in every 9 or 10. Extension news stories appearing in newspapers and farm magazines were mentioned about as frequently as personal visits from extension workers. Bulletins, circulars, and other publications of the State agricultural colleges and experiment stations and of the United States Department of Agriculture contributed to the adoption of 1 practice in every 12. Information obtained by farmers and homemakers incident to calls at the county extension office was mentioned in connection with 6.5 practices out of each 100 adopted. Result demonstrations conducted by adults, or by 4-H Club members incident to their projects, accounted for 6.1 practices in 100.

Circular letters mailed from the extension office, extension radio programs, individual correspondence, exhibits, and telephone calls to the extension office accounted in decreasing proportions for the remaining 6.5 practices in each 100 adopted.

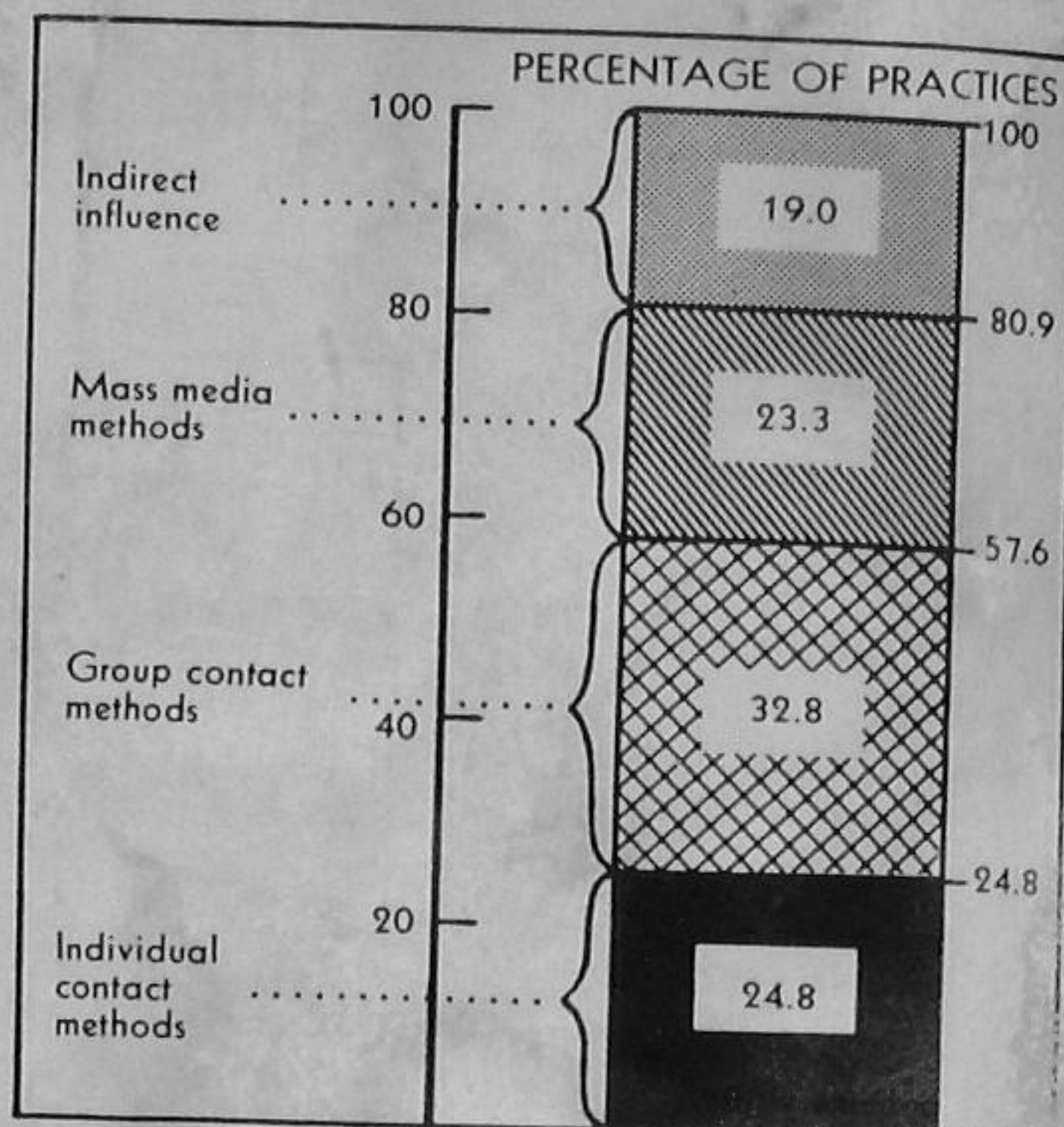
The percentage comparisons given in figure 1 refer only to the relative influence of the various teaching methods in terms of change resulting from the extension teaching effort. They do not take into consideration public relations and other values growing out of their use. However, the relative standing of the methods as used by many different extension agents, in widely separated situations and under a variety of circumstances, with nonextension forces operating at will, provides a helpful guide to the use of teaching methods. This applies especially in an ongoing extension program in which rural people participate of their own volition.

In an earlier bulletin (16) like data were presented when the volume of practices involved was much smaller. The percentage figures from the earlier report are presented alongside the later percentage figures in figure 1 for the purpose of comparison. The proportionate rank of the methods was not materially changed by the larger volume of field study data. The comparison suggests a high degree of constancy in the effectiveness of the various methods used in extension teaching.

METHODS BY GROUPS

Of each 100 practices adopted by farmers and homemakers as the result of extension, 25 are due to methods which fall in the "individual contact" group. An additional 33 practices are credited to "group contact" methods. Twenty-three of the practices changed result from "mass media" methods, making a total of 81 practices that are associated with direct teaching effort. "Indirect influence"—the passing on of extension information

FIGURE 2.—Relative influence of methods grouped according to use (44,768 practices—15,454 farms and homes in 32 areas, 27 States—1923-41).



from neighbor to neighbor—accounts for the remaining 19 practices in each 100 practices adopted as a result of the total extension teaching effort (fig. 2).

AGRICULTURAL PRACTICES

Of the total number of practices included in figure 1, there were 33,021 in the field of agriculture. The relative frequencies with which farmers reported the various methods as having contributed to the adoption of farm practices are given in figure 3. Indirect influence heads the list, accounting for 23 out of every 100 practices adopted. The general meeting was credited with 15 practices in each 100, followed closely by farm visits and news stories, 13 and 12 practices in 100 respectively. Office calls and method demonstration meetings accounted for 8 practices each, while bulletins were reported as contributing to the adoption of 7, and result demonstrations 6 practices in each 100. Three practices in 100 were associated with circular letters, leaving the remaining 3 practices to the influence of radio, exhibits, and telephone calls.

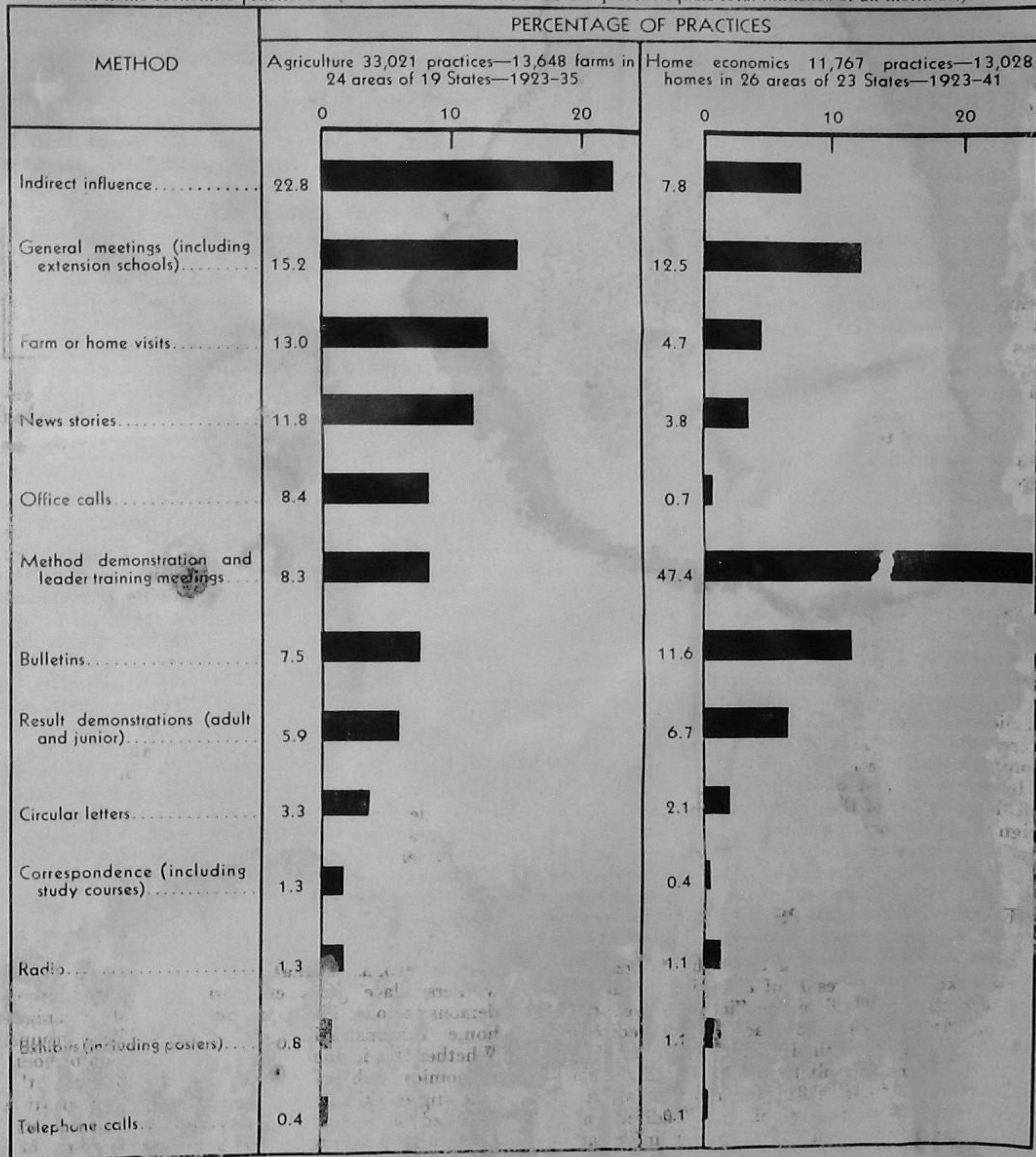
HOME ECONOMICS PRACTICES

It is recognized that home economics extension workers place great emphasis upon the method demonstrations given at meetings of organized home demonstration clubs or similar groups. Whether this is due to the large proportion of home economics subject matter which involves the teaching of skills, or to the pattern of organization followed since the beginning of home demonstration work, is debatable. The importance of method

demonstration meetings and training meetings conducted to teach local leaders how to give method demonstrations is clearly brought out in figure 3. Nearly half of the 11,767 home economics practices checked, or 47.4 percent, were associated in the minds of the homemakers interviewed with a

method demonstration meeting. The general meeting accounted for an additional 12 practices in each 100. Six home practices out of every 10 practices adopted by homemakers were, therefore, credited to some form of meeting. Bulletins accounted for nearly 1 practice in 8. Indirect influence was re-

FIGURE 3.—Relative frequency with which extension methods were reported as having influenced the adoption of agricultural and home economics practices. (Data corrected to the basis 100 percent equals total influence of all methods.)



ported for 8 practices in 100. The adoption of 7 practices in 100 was due to a result demonstration. In each 100 practices 5 were credited to home visits and 4 to news stories. The remaining 5.5 practices in 100 were associated with circular letters, exhibits, radio, office calls, individual correspondence, and telephone calls, listed in order of importance.

In home economics, as well as agriculture, the relative standing of the various teaching methods has not been changed materially by the studies made since the 1929 report was issued.

EFFECTIVENESS OF METHODS IN RELATION TO COST

As pointed out above, the influence of a particular means of extension teaching may be affected by the extent of its use in the total teaching effort. In arriving at an understanding of the differences in effectiveness inherent in the teaching methods themselves it becomes necessary to relate the influence of a method to the cost of that method. A previous study (1) revealed the very close correlation between extension time devoted to methods and the total extension cost of the same methods. It is believed that the relationships found to exist at that time between the practices adopted because the influence of the method and the cost of the method remain valid and sufficiently reliable for use in selecting methods best suited to current extension teaching situations. Figure 1 helps to confirm this point of view.

The relative cost and influence of extension teaching methods are arrayed for comparison in figure 4. Since no extension costs can be charged against indirect influence, the practices credited to the indirect spread of information from neighbor to neighbor have been prorated among the direct teaching methods utilized by extension agents. A division of the percentage of practices credited to a method by the percentage of funds expended on the method, determines the ratio of practices adopted to cost for each method. These ratio figures bring out the differences in cost of obtaining the adoption of a practice by use of the different teaching methods.

Method demonstration meetings, including leader training meetings, received 19.6 percent of the teaching effort, expressed in dollars, and were credited with 20.5 percent of the practices changed. The effectiveness ratio of 1.04 for the method demonstration meeting is, therefore, about average or standard for the entire extension teaching effort. Result demonstrations, which are exceedingly heavy consumers of extension time, required 17.2 percent of extension funds and were credited with 8.1 percent of the practices changed. The effectiveness ratio for result demonstrations of 0.47 is less than half the average. Other wide variations in the ratios of practices adopted to costs will be noted. The effectiveness ratio for news stories and radio, 2.96, is almost three times the average and is highest

of all. Much of the actual expense of using news stories and radio in extension teaching is borne by the newspaper publisher or the radio station. But the real explanation of the high effectiveness ratios for these two means of extension teaching lies in the potentially large size of the reading and listening audience. Other methods with high effectiveness ratios are: Circular letters 1.83; the general meeting 1.43; office calls 1.56; bulletins 1.40; and farm or home visits 1.13.

In addition to the result demonstration the below average group includes telephone calls, correspondence, and exhibits, in that order. An extension dollar expended on news stories or radio accomplishes approximately 16 times as much teaching as a dollar expended on exhibits. It is, of course, possible that extension expenditures on the less efficient methods can at times be justified on other bases than the teaching of improved practices.

The various teaching means and agencies are arrayed in descending order in figure 5 on an index scale, with 100 representing the average accomplishment in terms of practices changed from a unit of extension teaching cost. Corresponding indices are also given to bring out differences in effectiveness of methods when used to teach agricultural and home economics practices. The variations in index values as between agriculture and home economics raises the question of possible influence of subject matter upon the effectiveness of teaching methods. The basic difference in the organization and conduct of these two broad lines of extension teaching, which make the use of certain methods of teaching more feasible or less feasible, offers another explanation.

Taken together, the news service and radio are at the top of the index scale both for agricultural practices and for home economics practices.² Relatively, however, these media seem to be somewhat more effective in agriculture than in home economics. Circular letters, office calls, and farm visits are apparently much more effective extension tools for teaching agriculture than for teaching home economics. The general meeting and the bulletins are about equally efficient teaching methods in both fields. The method demonstration meeting (including leader training) appears to be much more effective in teaching home economics practices than agricultural practices. In the case of result demonstration and the other below average methods of teaching, the differences in index points between agriculture and home economics are not particularly significant.

TYPES OF METHODS COMPARED

Earlier in this circular, *methods classified according to use* (p. 5), the means and agencies employed in extension teaching were placed in three classifications depending upon use. In figure 6 the three classifications of methods—individual contacts,

² Sufficient data are not yet available on the relative effectiveness of television in extension teaching.

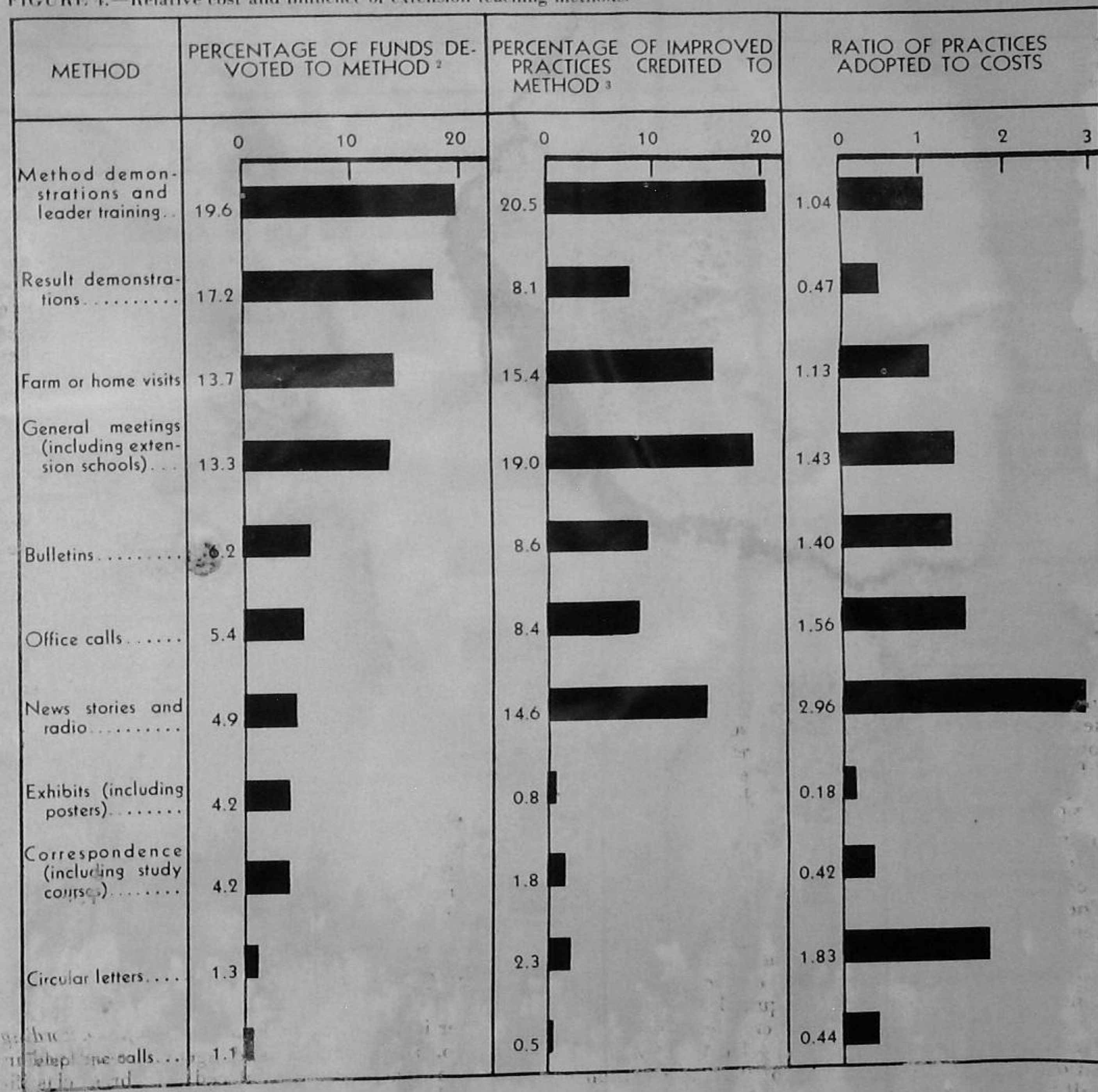
group contacts, and mass contacts—are compared on three bases: (1) relative cost; (2) relative influence; and (3) index of effectiveness. Separate data for agricultural and home economics practices are also given.

About two-fifths of the extension teaching effort taken as a whole is devoted to individual contact teaching; one-third to group contact methods; and one-sixth to mass media. The percentages of practices changed due to the influence of the three types

of teaching methods are, respectively, 34 percent, 46 percent, and 26 percent when the practices credited to indirect influence are prorated among the direct teaching methods. The resulting indices of effectiveness are 82 for individual contacts, 120 for group contacts, and 159 for mass media contacts.

Home demonstration workers spend less time on individual contacts and more time on group contacts than do agricultural extension workers. Individual contact methods have a lower index of effectiveness

FIGURE 4.—Relative cost and influence of extension teaching methods.¹



¹ Data given in Baker and Wilson, (D), p. 77.

² Percentage of extension expenditures not chargeable to teaching methods, 8.9.

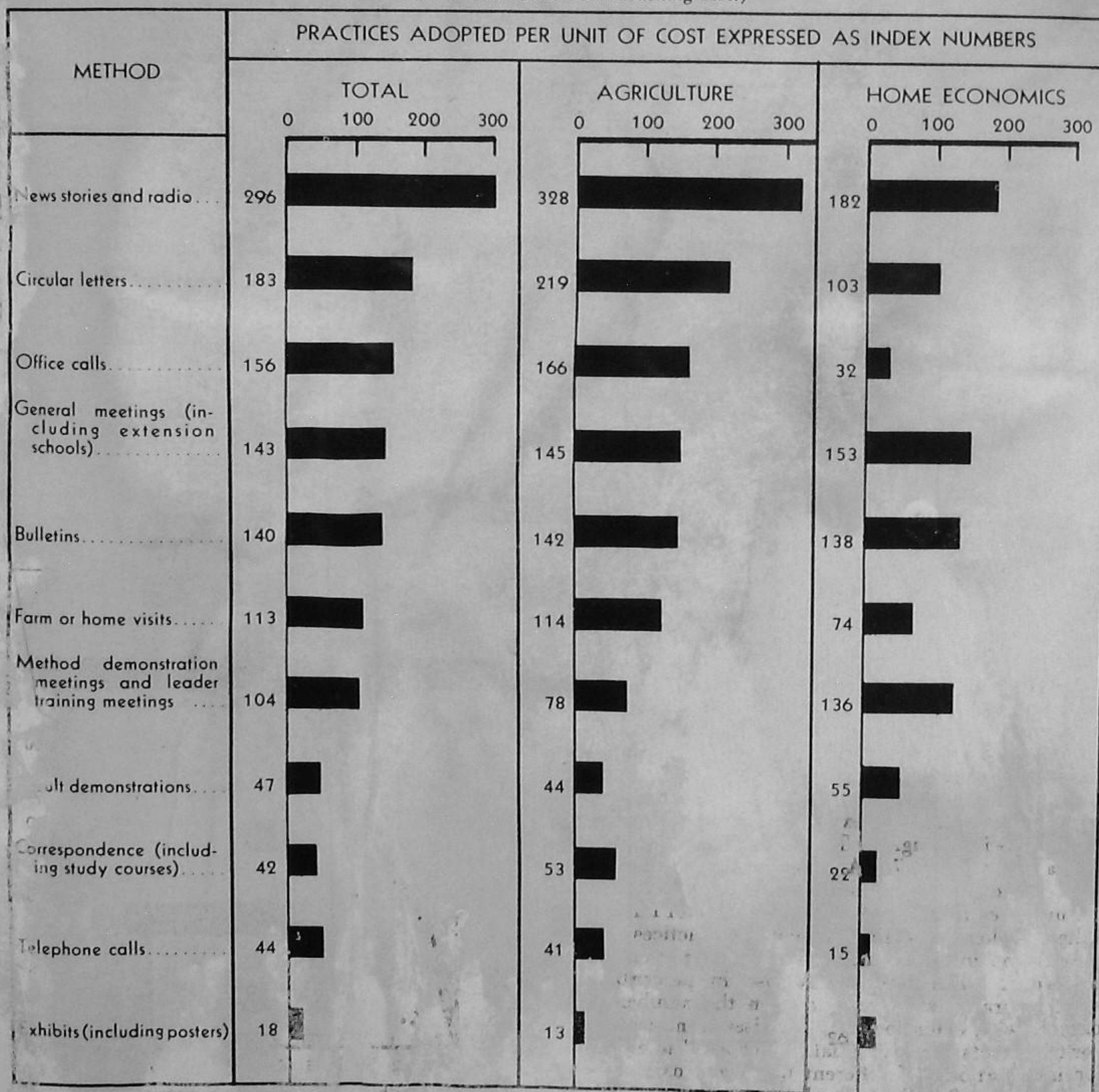
³ Indirect influence prorated among direct teaching methods.

in home economics, 53, than in agriculture, 86. Group contact methods are much more effective in home economics, 155, than in agriculture, 11. Mass media in home economics extension appears to be less effective than group contact methods. In the case of agricultural extension, mass contact methods as a classification are much higher on the effectiveness scale than are group methods, which in turn are relatively more effective than individual contact methods.

REPETITION WITH VARIETY

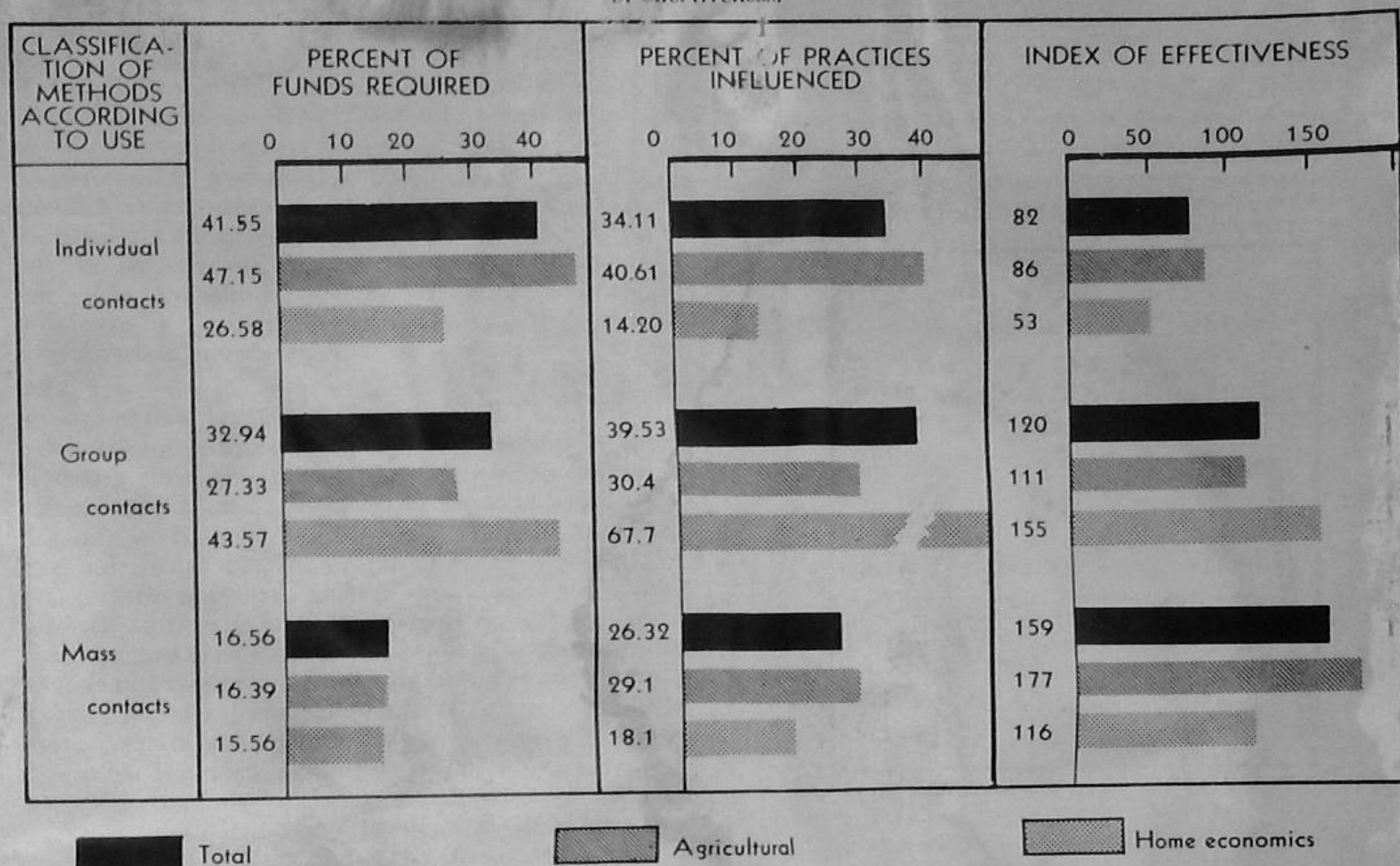
In considering the influence of methods upon adoption of practices and the effectiveness of methods in relation to cost, the emphasis has been placed upon the relative influence and effectiveness of particular methods in comparison with other methods. That approach made it desirable to adjust the data on percentages of practices credited to methods to the basis, 100 percent equals the sum of

FIGURE 5.—Index of effectiveness of extension methods in relation to cost.¹ (One hundred represents the average returns from one unit of extension teaching cost.)



¹ Data given in Baker and Wilson (2).

FIGURE 6.—Classifications of methods depending on use compared on the bases of relative cost, relative influence, and index of effectiveness.¹

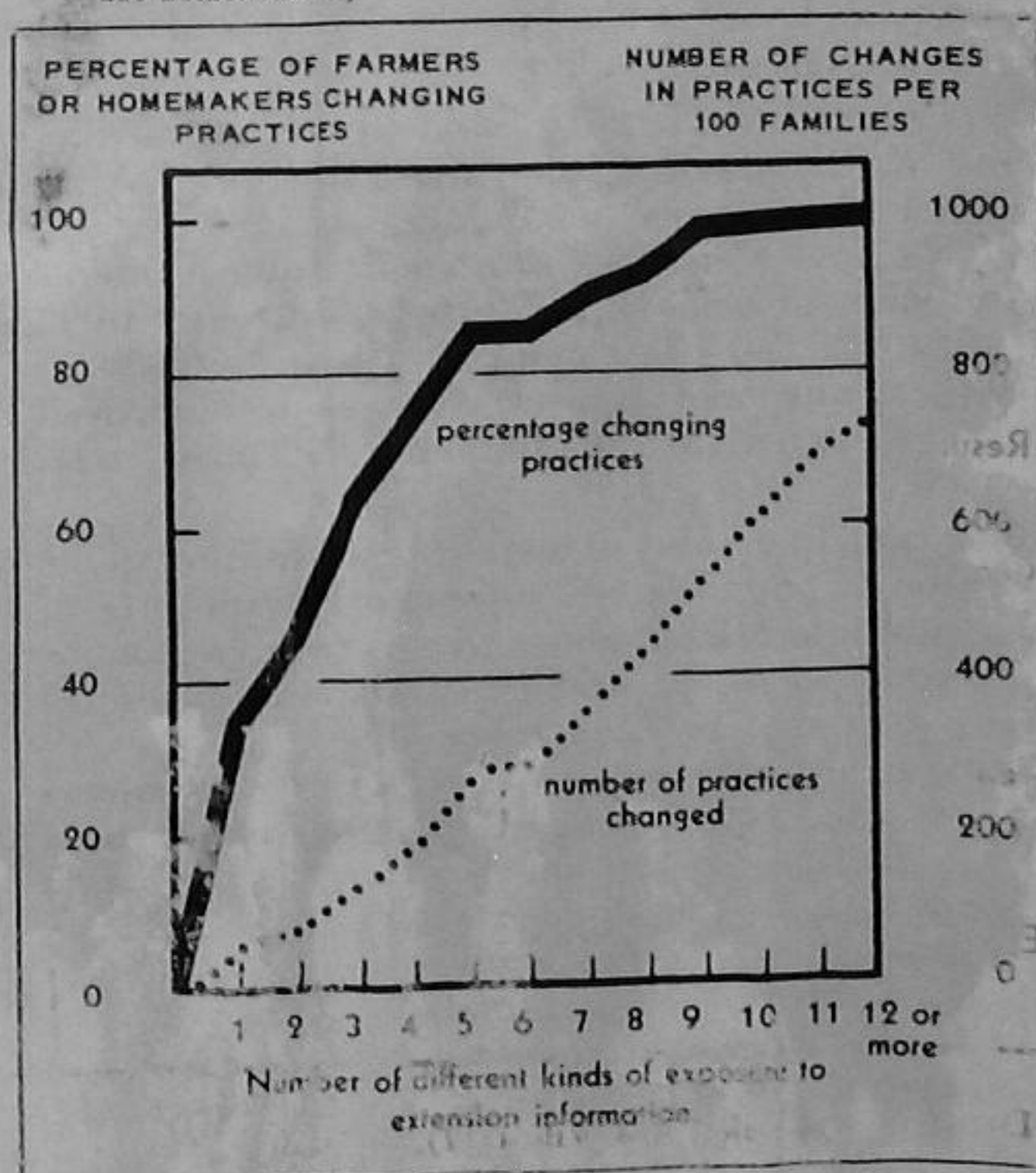


¹ Data given in Baker and Wilson (1).

the influence of all methods. In practice, of course, two or more methods often contribute to the adoption of a single practice.

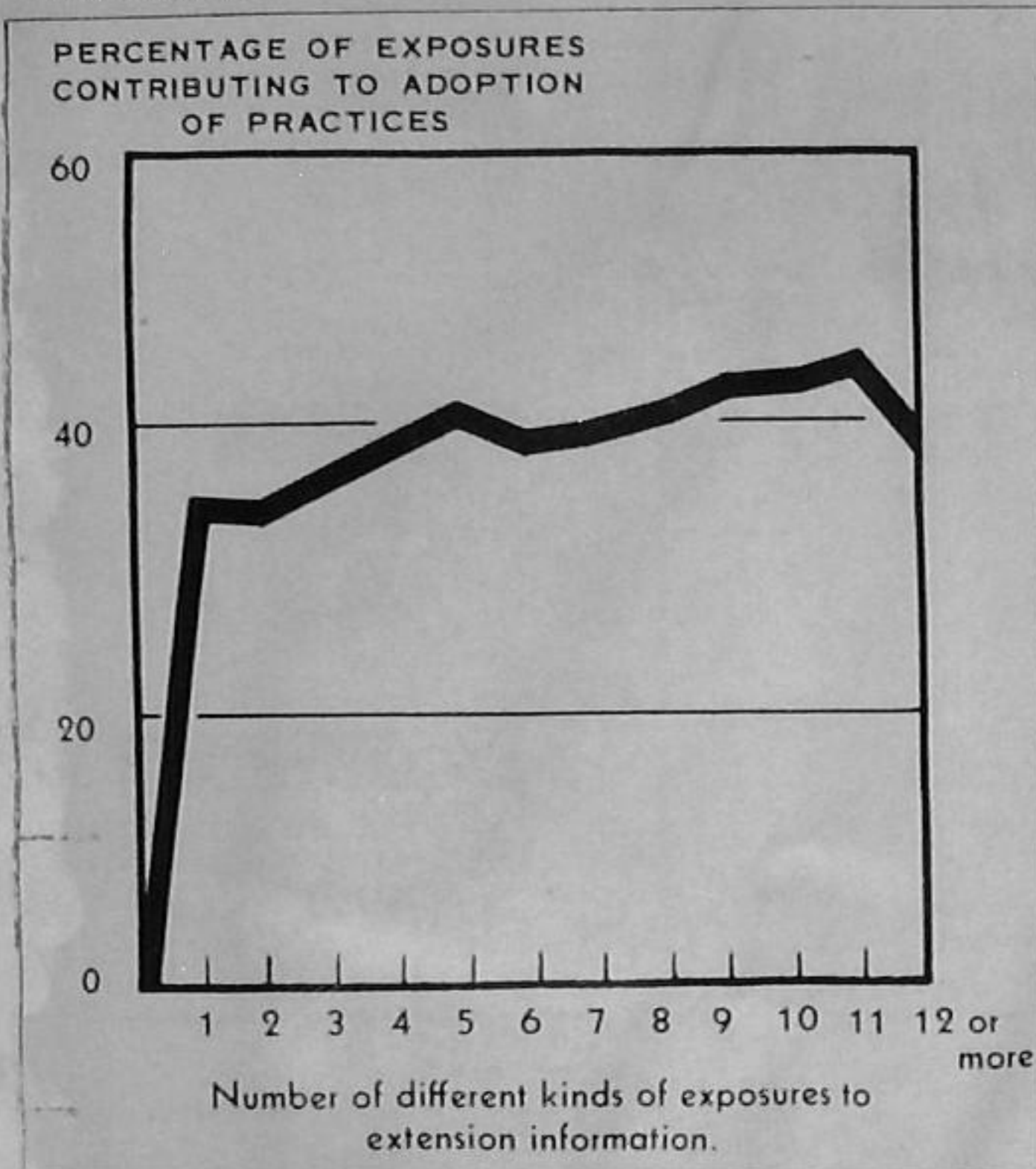
Studies (17) conducted by the Federal Extension Service in cooperation with State extension services reveal the close relationship between contact with extension teaching or other exposure to extension information and the adoption of recommended farm and home practices. In other words, the degree to which rural people are exposed to extension teaching through meetings, demonstrations, bulletins, news stories, radio talks, personal visits at office or farm, and the other methods of disseminating information, largely determines the extent of adoption of the practices being taught. This close relationship is illustrated by figure 7. As the number of different types of contacts or exposures to extension information increases from 1 to 9, the percentage of farmers or homemakers reporting changes in practices due to extension influence increases from 38 percent to 98 percent. The rate of increase in percentage adopting practices is greatest when the number of contacts with extension teaching rises from zero to 5 or 6 contacts per individual. If exposed to extension information in 5 different ways, approximately 7 out of every 8 individuals change practices. It is obvious that if widespread response is desired farm people must be "exposed" to extension teaching

FIGURE 7.—Changes in behavior as affected by number of kinds of exposure to extension information. (2,501 farmers, 869 homemakers.)



INFLUENCE OF EDUCATION UPON COVERAGE AND RATIO OF TAKES TO EXPOSURES

FIGURE 8.—Ratio of "takes" to exposures for varying intensities of extension teaching. (12,081 exposures, 3,370 individuals).



effort in several different ways. This is but another way of saying that repetition in a variety of ways is exceedingly important to learning—an accepted educational principle.

When extension accomplishment is expressed in terms of practices adopted rather than persons influenced, the number of practices changed per 100 farms or homes increases at a fairly uniform rate as the number of kinds of exposures rises from 1 to 12 or more (fig. 7). The number of possible ways in which farming and homemaking can be improved by use of extension information is, of course, relatively large.

The ratio of number of methods contributing to the adoption of practices to the number of exposures to extension information about those practices remains quite uniform as the number of kinds of exposures increases from 1 to 12 or more (fig. 8). For every 5 exposures to extension teaching 2 of the exposures were reported as supplying information actually used on the farm or in the home. These limited data suggest that the average extension informant must reach the individual in two and one-half different ways before action is taken. It would also appear that within the current range of intensity of the extension teaching effort there is little or no diminution in returns per unit of that effort.

The problem of effectively reaching all segments of the extension clientele, the disadvantaged as well as the advantaged, appears to be primarily one of coverage or contact rather than lack of response to educational stimuli. It is, of course, more difficult for extension workers to get the same intensity of coverage of the disadvantaged groups as of the advantaged segments of the population, since the former are not so apt to participate in extension activities or otherwise seek extension assistance of their own volition.

When the 1,202 homemakers interviewed in sample areas of 5 States are grouped according to intensity of extension coverage and each resulting group is subdivided according to years of school attendance, the ratios of those changing behavior to those exposed to information are practically identical for the educational subgroups getting extension information with the same degree of intensity (fig. 9). As information was obtained in an increasing number of ways the percentage adopting practices increased in a like manner for the subgroups with contrasting years of school attendance. Proportionately, more homemakers with more than 8 years of schooling received extension information 5 or more ways than was true of the homemakers who attended school for fewer years. The pattern of behavior change associated with increased intensity of extension information coverage in figure 9 is very similar to that in figure 7.

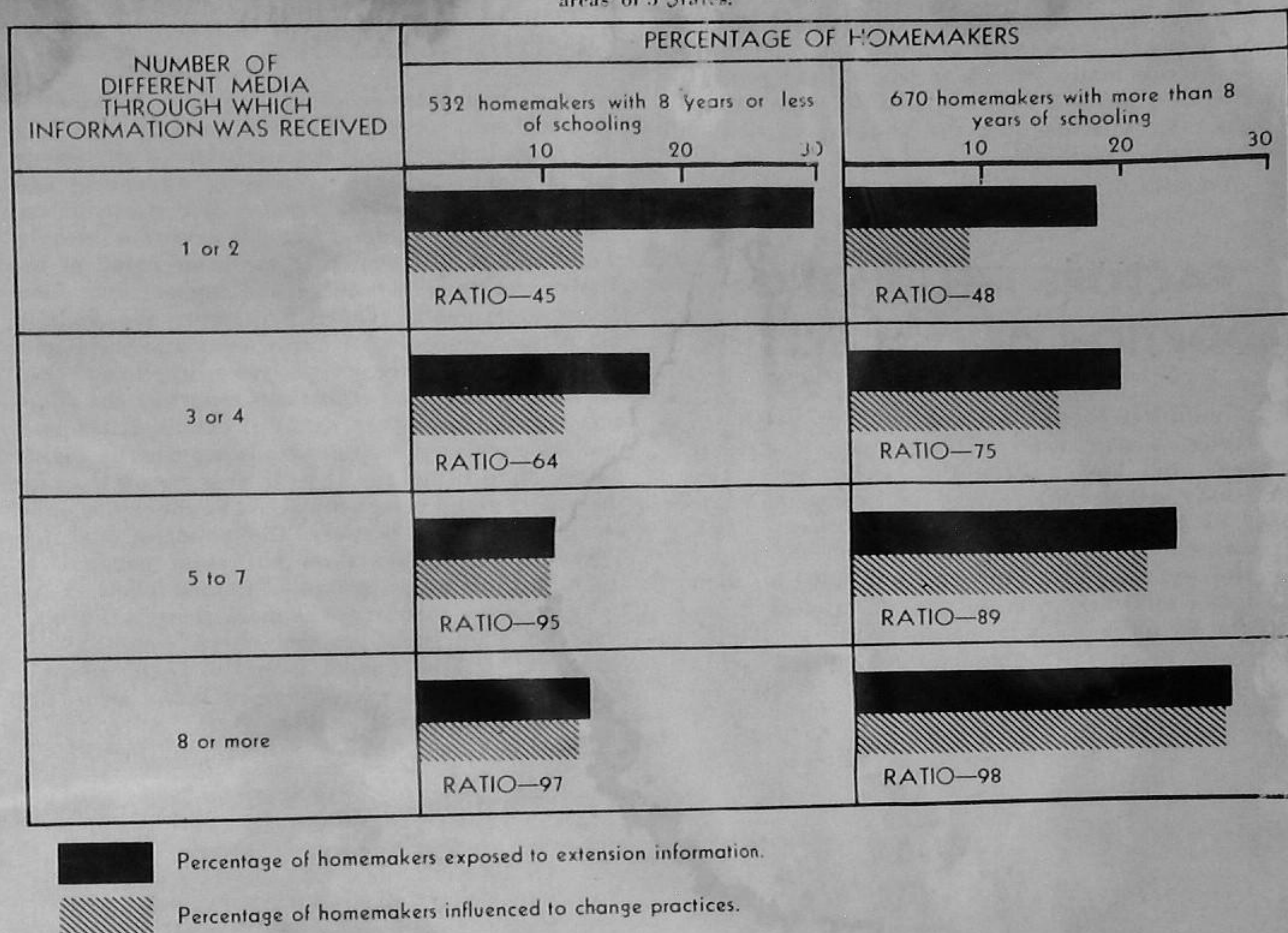
INTERRELATIONSHIP OF METHODS

As has just been pointed out the accumulated influence of several methods is usually necessary to accomplish a desired change in practice. In an on-going extension situation there is a complex intermingling of teaching methods and activities. There are few, if any, situations where a single method has had free play. Other extension teaching methods have also made their contributions at some time or other. This makes it necessary to evaluate the role each method plays when combined with other methods under practical teaching conditions. While the available data do not permit of detailed analysis some general deductions can be made.

Correlation studies indicate that the total number of practices adopted as the result of extension teaching in a given area is more closely associated with certain methods than with others. The degree of relationship between the number of practices credited to a particular method and the number of practices changed as the result of the combined influence of all extension methods may be expressed mathematically.

In the case of indirect influence, the office call, the news story, and meetings (especially the method

FIGURE 9.—Intensity of coverage and change of practice in relation to educational training of 1,202 homemakers in sample areas of 5 States.



demonstration meeting in home economics extension). the coefficient of correlation between the number of practices per 100 farms or homes credited to each method and the total practices per 100 farms or homes changed as the result of the entire teaching effort is significant.³

The high degree of relationship between the amount of indirect spread and total extension accomplishment is a logical expectation, since the amount of satisfaction derived from the better practices influences the extent to which neighbors pass on information about the practice to each other.

The influence of office calls and method demonstration meetings probably reflects better than other methods the degree of confidence rural people have in the Extension Service and the county extension personnel. Farmers and homemakers visit the local extension office and attend extension meetings of

their own volition. The influence of the news stories reflects the extent to which rural people are informed regarding the information being taught through extension.

The influence of bulletins does not seem to be an indication of total extension accomplishment, suggesting that the greatest value of the bulletin is as a supplement to other direct teaching, such as the meeting and the office call. The same is apparently true of the farm or home visit.

Surprising as it may seem, the coefficient of correlation between the influence of result demonstrations and total extension influence is not very significant and is negative in character.⁴ Result demonstrations are heavy consumers of the extension worker's time (see fig. 4) and reach few people other than the farmer or homemaker conducting the demonstration. Unless there is a clear need for the establishment of local proof of the desirability of the practices demonstrated, there is real danger that the time required for the unnecessary repetition of

⁴ The coefficient of correlation for adult result demonstrations is -0.419 ± 0.117 .

³ These coefficients of correlation are:
 Indirect influence $+0.814 \pm 0.044$
 Office calls $+0.656 \pm 0.075$
 News stories $+0.738 \pm 0.060$
 Method demonstration meetings $+0.605 \pm 0.095$
 General meetings $+0.368 \pm 0.130$

demonstrations may be at the expense of time that would be more productive if devoted to methods better suited to reaching large numbers of people. This should be interpreted as a caution. There are undoubtedly many situations where local proof is lacking and where a few good result demonstrations would greatly strengthen the teaching carried on through other methods.

FACTORS INFLUENCING ADOPTION OF PRACTICES

In addition to the teaching methods which the extension worker uses to bring about changes in farmers and homemakers, there are other factors that may influence the extent and rate of the adoption of extension recommended practices. These factors are frequently completely outside the control of the extension worker. An awareness of their probable influence upon the use of extension information by farmers and homemakers is helpful to the extension agent in selecting the teaching tools and in fitting them into a plan of work likely to yield the desired end product.

AGE AND PREVIOUS EDUCATIONAL TRAINING OF THE LEARNER

Interest of older people in acquiring information that will help solve problems or contribute to farm and home improvement counterbalances any lessening in ability to learn because of advancing age. *Age of the adult farm population of a county is apparently not an important factor in extension teaching.* The findings are essentially the same in all of the study areas where farmers and homemakers have been interviewed. Table 1 presents the findings when the farmers in 5 sample areas and the homemakers in 7 areas are grouped according to age. In the case of men the percentages reporting the adoption of practices as the result of extension teaching and the number of changes made are slightly higher for the 36 to 40 and the 41 to 45 year groups than for the younger and older groups. The difference of 10 percentage points between the youngest and the oldest age groupings does not seem particularly significant. The age groups of women follow essentially the same pattern as the men, though the high point in adoption-of-practice curve comes at an earlier age. The women over 50 years adopted about as many practices owing to extension as did the women 30 years and under.

TABLE 1.—Age in relation to adoption of practices

AGE GROUP	PERCENT OF TOTAL	PERCENT ADOPTING A PRACTICE	NUMBER OF PRACTICES ADOPTED PER 100 FARMERS OR HOME-MAKERS
<i>Farmers and agricultural practices (1,978 farmers in 5 areas)</i>			
30 and under years.....	10	78	295
31 to 35 years.....	11	78	287
36 to 40 years.....	15	80	321
41 to 45 years.....	14	82	320
46 to 50 years.....	13	74	301
51 to 55 years.....	11	77	284
56 to 60 years.....	10	73	283
61 and over years.....	15	68	223
No age given.....	2	74	182
<i>Homemakers and home economics practices (2,359 homemakers in 7 areas)</i>			
30 and under years.....	16	34	83
31 to 35 years.....	13	43	131
36 to 40 years.....	15	40	114
41 to 45 years.....	13	38	101
46 to 50 years.....	13	34	101
51 to 55 years.....	3	36	86
56 to 60 years.....	8	33	88
61 and over years.....	10	30	76
No age given.....	4	8	22

TABLE 2.—*Educational training in relation to adoption of practices*

CLASSIFICATION GROUP	PERCENT OF TOTAL	PERCENT ADOPTING A PRACTICE	NUMBER OF PRACTICES ADOPTED PER 100 FARMERS OR HOME-MAKERS
<i>Farmers and agricultural practices (2,895 farmers in 7 areas)</i>			
Some college.....	4	94	515
Some high school but no college.....	14	88	383
Grade school only.....	79	78	277
<i>Homemakers and home economics practices (3,159 homemakers in 9 areas)</i>			
Some college.....	6	63	196
Some high school but no college.....	23	58	167
Grade school only.....	66	35	83

Quite a different picture is presented when farmers and homemakers are arrayed on the basis of previous educational training (table 2). For both men and women a *significantly higher proportion of those with some college training reported the adoption of practices than those with high school but no college training.* The high school group was in turn superior to the group with no educational training beyond the eighth grade. The rate of adoption of practices resulting from extension teaching increased even more rapidly as the amount of formal schooling increased. Since two-thirds of farm homemakers and more than three-fourths of farmers stopped school attendance before they reached high school, the importance of aiming the extension teaching plan at the 6 to 7 grade level of education becomes obvious, if the goal is to reach the bulk of the farm population effectively.

Figure 9 suggests that the higher rate of adoption on the part of those adults with more formal education is largely owing to greater intensity of extension

coverage. In other words, the degree to which adults expose themselves to extension sources of agricultural and home economics information is likely to be proportionate to their educational training when young. This is further evidence of the influence of motivation upon learning.

SIZE OF FARM, TENURE, AND LOCATION OF FARM OR HOME

The percentage of farmers and homemakers adopting new practices and the rate of adoption of such practices tend to increase with the size of the farm as is indicated in table 3. The advantage of large farms is not great, but has a like effect upon the adoption of both home economics and agricultural practices. It is highly probable that the men and women on the

TABLE 3.—*Size of farm in relation to adoption of practices (10,733 farms in 17 areas in 16 States)*

CLASSIFICATION GROUP	PERCENT OF TOTAL	AGRICULTURAL PRACTICES		HOME ECONOMICS PRACTICES		ANY PRACTICE	
		PERCENT OF FARMERS ADOPTING A PRACTICE	NUMBER OF PRACTICES ADOPTED PER 100 FARMS	PERCENT OF HOME-MAKERS ADOPTING A PRACTICE	NUMBER OF PRACTICES ADOPTED PER 100 HOMES	PERCENT ADOPTING A PRACTICE	NUMBER OF PRACTICES ADOPTED PER 100 FARMS AND HOMES
Small farms.....	33	68	185	26	51	70	236
Medium sized farms.....	37	76	248	32	73	81	312
Large farms.....	30	82	293	38	96	74	390

TABLE 4.—Condition of land occupancy in relation to adoption of practices (10,733 farms and homes in 17 areas of 16 States)

CLASSIFICATION GROUP	PERCENT OF TOTAL	AGRICULTURAL PRACTICES		HOME ECONOMICS PRACTICES		ANY PRACTICE	
		PERCENT OF FARMERS ADOPTING A PRACTICE	NUMBER OF PRACTICES ADOPTED PER 100 FARMS	PERCENT OF HOME-MAKERS ADOPTING A PRACTICE	NUMBER OF PRACTICES ADOPTED PER 100 HOMES	PERCENT ADOPTING A PRACTICE	NUMBER OF PRACTICES ADOPTED PER 100 FARMS AND HOMES
Owners	68	77	250	31	73	81	323
Tenants	32	72	209	34	72	77	282

larger farms exert greater effort than others to obtain the assistance of extension agents and specialists.

Whether the family owns or rents the farm on which it lives seems to have little bearing upon the extent of use of extension information. This is brought out by table 4. The 5 point higher percentage of owner families reporting adoption of agricultural practices is largely balanced by the 3 point lower percentage of such families adopting home economics practices.

The data from field studies consistently show no difference in adoption of extension-taught practices by farm families living within a 10-mile radius of the county extension office and those living beyond the 10-mile limit.

Whether the farm home is situated on an improved highway or on an unimproved road also seems to have no bearing upon the extent or rate of adoption practices by farm men and women, according to the same data.

SOCIOECONOMIC STATUS OF THE FARMER AND HOMEMAKER

An analysis of a series of studies made in 1951 and 1952 in Louisiana indicates that where farmers and homemakers are high on the socioeconomic scale, greater use is made of extension information.

As a measure of socioeconomic status, the Sewell Scale (12) short form, is used. The households are divided according to score into "low" and "high" groups. Education which has been discussed earlier is one of the items which make up the Sewell Scale, therefore education and socioeconomic status are closely related variables. Other items on the short form of the farm family socioeconomic status scale are:

Construction of house
Room-person ratio
Lighting facilities
Water piped into house
Power washer

Refrigerator
Radio
Telephone
Automobile
Daily newspaper
Wife's education
Husband's education
Wife attends church or Sunday school
Husband attends church or Sunday school

These studies indicate that the higher a person's socioeconomic level, the more likely he or she is to adopt improved practices (table 5). No doubt the farm people in the higher socioeconomic groups are easier to work with as they have more formal schooling and communication is easier. These people tend to ask for help while those persons at the other end of the scale have to be sought out, informed about available services and persuaded to use them.

CONTACT WITH EXTENSION WORKERS

The extent to which farmers and homemakers make contacts with members of the extension staff largely determines the adoption of recommended practices.—It is a question of motivation, since participation in extension activities, calls at the office, and requests that the agent visit the farm or home to discuss some problem are entirely voluntary. The extension workers' selection of teaching methods may stimulate motivation and also make for greater or lesser opportunity for people to make individual or group contacts with representatives of the extension service.

Field studies involving interviews with 10,733 farm families in sample areas of 16 States reveal that in the case of 3 families out of 4 some member of the farm family—man, woman, or boy or girl 10 years of age or older—had at some time contacted an extension worker (table 6). Of the contact group, 8 percent reported the adoption of agricultural practices.

TABLE 5.—*Socioeconomic status in relation to adoption of practices (600 farmers and homemakers in 4 parishes in Louisiana)*

SOCIOECONOMIC SCALE	PERCENTAGE ADOPTING PRACTICES			
	WASHINGTON	LAFOURCHE	RED RIVER	MADISON
<i>Farmers and agricultural practices</i>				
High.....	63	62	70	81
Low.....	48	38	47	66
<i>Homemakers and home economics practices</i>				
High.....	70	47	62	76
Low.....	51	38	55	66

tices in contrast with 38 percent of the no contact group. Home economics practices were adopted by 39 percent of the families with contacts compared to 8 percent of the families with no contacts. Expressed in terms of numbers of changes in practice made, 4 to 5 times greater adoption of extension taught practices occurred when at least one member of the family had had some contact with an extension worker.

The adoption of practices by the no contact group was the result of extension teaching through mass media and of indirect influence. As brought out in the discussion of influence of subject matter to effectiveness of teaching methods (p. 14), the news story seems to be more effective in teaching agricultural practices than in home economics practices. There is also less indirect spread of practices from neighbor to neighbor in home economics than in agriculture.

Field study data consistently show that a higher percentage of families on the larger farms and of the farmers and homemakers with more years of formal schooling make more contacts with extension workers

than do others. These findings were verified by Gibson (5) who found the percentage of farmers reporting three or more different types of contacts with the Extension Service increased from 4 percent for the lowest quintile to 15 percent for the middle quintile, to 38 percent for the highest quintile, when grouped according to Sewell's socioeconomic scale.

The evidence is overwhelming that the effectiveness of the extension teacher in bringing about changes in farm people, as measured by adoption of better farm and home practices, is largely dependent upon an extension program which meets the felt needs of rural families and the employment of methods well suited to the particular teaching situation.

OTHER FACTORS

It is recognized that in addition to the factors considered above, there are many other factors extension workers need to take into consideration. There are no studies of them which have direct application to

TABLE 6.—*Contact with extension workers in relation to adoption of practices (10,733 farms in 17 areas of 16 States)*

CLASSIFICATION GROUP	PERCENT OF TOTAL	AGRICULTURAL PRACTICES		HOME ECONOMICS PRACTICES		ANY PRACTICE	
		PERCENT OF FARMERS ADOPTING A PRACTICE	NUMBER OF PRACTICES ADOPTED PER 100 FARMS	PERCENT OF HOME-MAKERS ADOPTING A PRACTICE	NUMBER OF PRACTICES ADOPTED PER 100 HOMES	PERCENT ADOPTING A PRACTICE	NUMBER OF PRACTICES ADOPTED PER 100 FARMS AND HOMES
Contact with extension workers.....	76	87	299	39	92	92	382
No contact.....	24	38	71	11	11	11	82

extension work. For example, race, nationality, religion, employment of married women, and communication and transportation facilities available, should be considered by the agent when determining methods.

SUBJECT MATTER IN RELATION TO METHODS

Differences in the relative effectiveness of methods in influencing the adoption of improved practices in agriculture and in home economics were pointed out earlier in this bulletin (pp. 14 to 16, and fig. 3). When both relative effectiveness and relative cost of the various methods are considered together, the differences between agriculture and home economics are even more pronounced (pp. 16 to 19, and figs. 5 and 6). Within each of these two large groups of subject matter there is also considerable variation in the percentages of practices influenced by the different methods.

Analysis of 34,330 instances of adoption of practices in terms of specific lines of subject matter throws further light on the problem of selecting teaching methods to fit the subject matter involved (table 7).

UNLIKE SUBJECT MATTER

Where the lines of subject matter being taught in extension are quite dissimilar there is a marked variation in the influence of teaching methods upon adoption of practices. *Tree fruits and alfalfa* present a striking contrast (fig. 10). More than twice as many tree fruit practices were associated with farm visits than was true of alfalfa practices. Office calls influenced the adoption of many more alfalfa practices than tree fruit practices. The method demonstration meeting was a dominant influence in teaching tree fruit practices, but did not influence the adoption of many alfalfa practices. The general community meeting accounted for 1 in 4 of the alfalfa practices in contrast to 1 in 12 of the tree fruit practices. Only 1 tree fruit practice in 30 was credited to the news story compared to 1 out of every 6 alfalfa practices. On the other hand, circular letters influenced the adoption of three times as many fruit practices as alfalfa practices. Indirect influence accounted for the adoption of nearly three times as many alfalfa as tree fruit practices.

Dairy and food preparation subject matter present even more striking differences in relative effectiveness of methods upon adoption of recommended practices (fig. 11). More than six times as many dairy practices as food preparation practices were adopted due to farm or home visits and office calls. The method demonstration meeting accounted for nearly half of the food preparation practices adopted but had little influence upon adoption of dairy practices. Bulletins and news stories were more effective

in changing food preparation practices than dairy practices. The opposite was true for circular letters. The amount of indirect spread due to extension teaching was nine times as large for dairy as for food preparation practices.

Poultry and swine are both in the livestock subject-matter group. The differences in subject matter between poultry and swine are much less than in the case of dairy and food preparation just considered, but are still significant from the extension teaching standpoint (fig. 12). Personal contact methods, such as the farm visit, office call, and result demonstration influenced the adoption of many more swine practices than poultry practices. Personal letters in this group were more effective in changing poultry practices than in changing swine practices. Group contacts accounted for the adoption of many more poultry practices than swine practices, the method demonstration meeting being responsible for most of the difference. In the mass contact group of methods the bulletin, the circular letter, and the radio influenced substantially higher percentages of poultry practices than of swine practices. Indirect influence was markedly greater in the case of swine subject matter.

Because certain teaching methods have proved effective in a particular subject-matter field, it does not follow that the same methods will be equally effective in another subject-matter field. Consideration must be given to the character of the subject matter to be taught.

LIKE SUBJECT MATTER

If it is true as appears above that teaching methods influence the adoption of varying percentages of practices when wide differences in subject matter exist, there should be a tendency for teaching methods to influence the adoption of like percentages of practices where lines of subject matter are similar or present similar teaching problems.

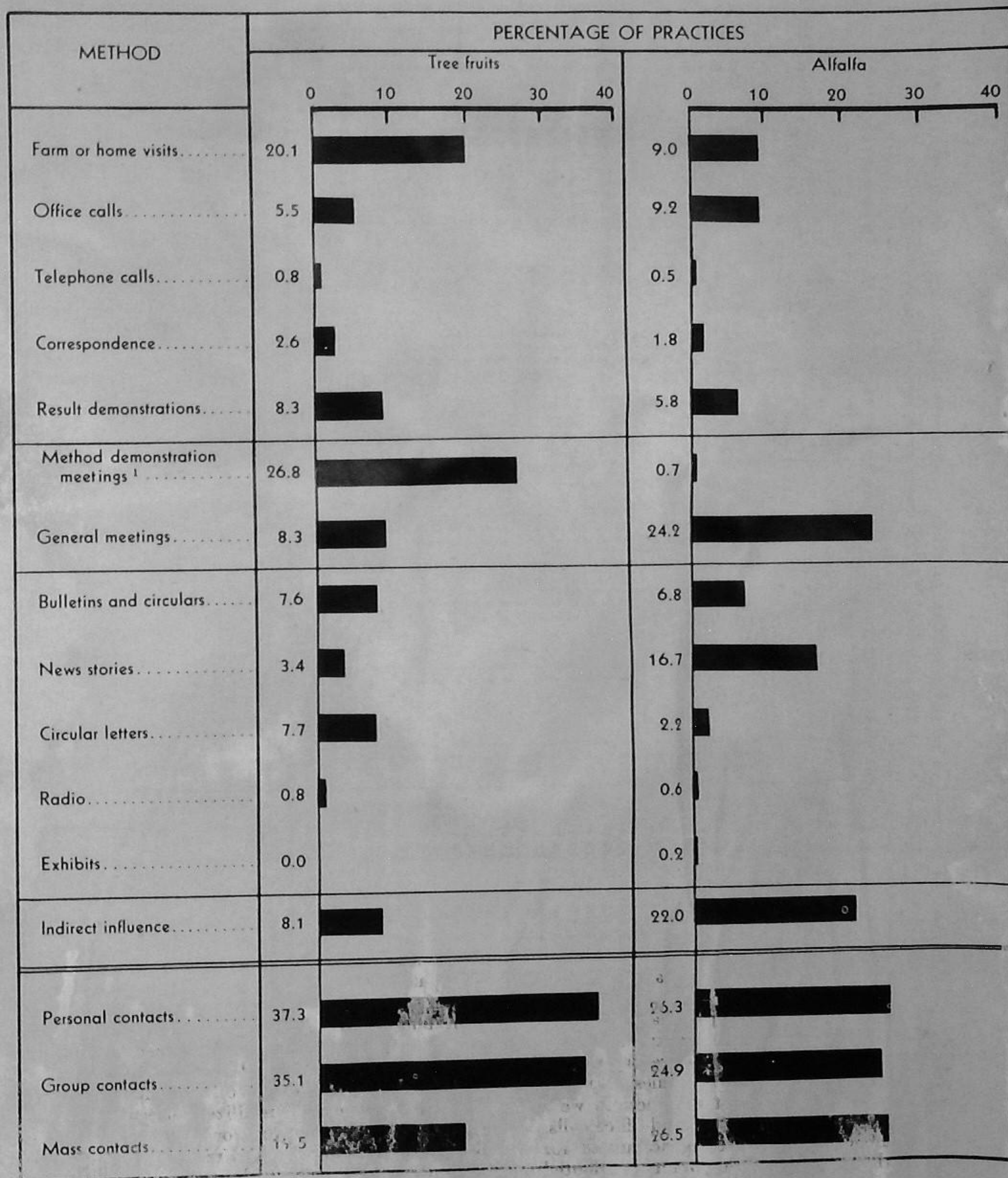
It is obvious from table 7 that the pattern of influence of the different methods is essentially the same for corn, oats, and wheat which fall in the cereal group. The methods pattern for alfalfa, soybeans, and other legumes is again quite uniform for those crops.

Cotton and potatoes (white) are another illustration of similar influence of methods upon adoption of practices. These crops are grown in widely separated parts of the country where supposedly certain teaching methods have received different emphasis as extension has developed, and yet one graph serves equally well to depict the influence of methods upon the practices adopted in either subject-matter field (fig. 13). The extension teaching problems of good seed, commercial fertilizer, disease, and insect control are much the same for both crops. The use of mechanical equipment to reduce hand labor also presents a like problem. Personal contact methods influenced the adoption of 29 percent of the potato practices and 34 percent of the cotton practices.

Group contact methods influenced 20 percent of the potato and 23 percent of the cotton practices. Mass contact methods accounted for 20 percent of the

potato practices and 14 percent of the cotton practices. Indirect spread of influence was high in the case of both potato practices and cotton practices.

FIGURE 10.—Relative influence of methods upon adoption of 1,378 tree fruit practices and 1,306 alfalfa practices.



¹ Includes leader training practices.

TABLE 7.—*Variation in percentages of subject-matter practices adopted due to influence of the different teaching methods, 1923-35¹ (34,330 practices, 11,222 farms or homes, 18 study areas)*

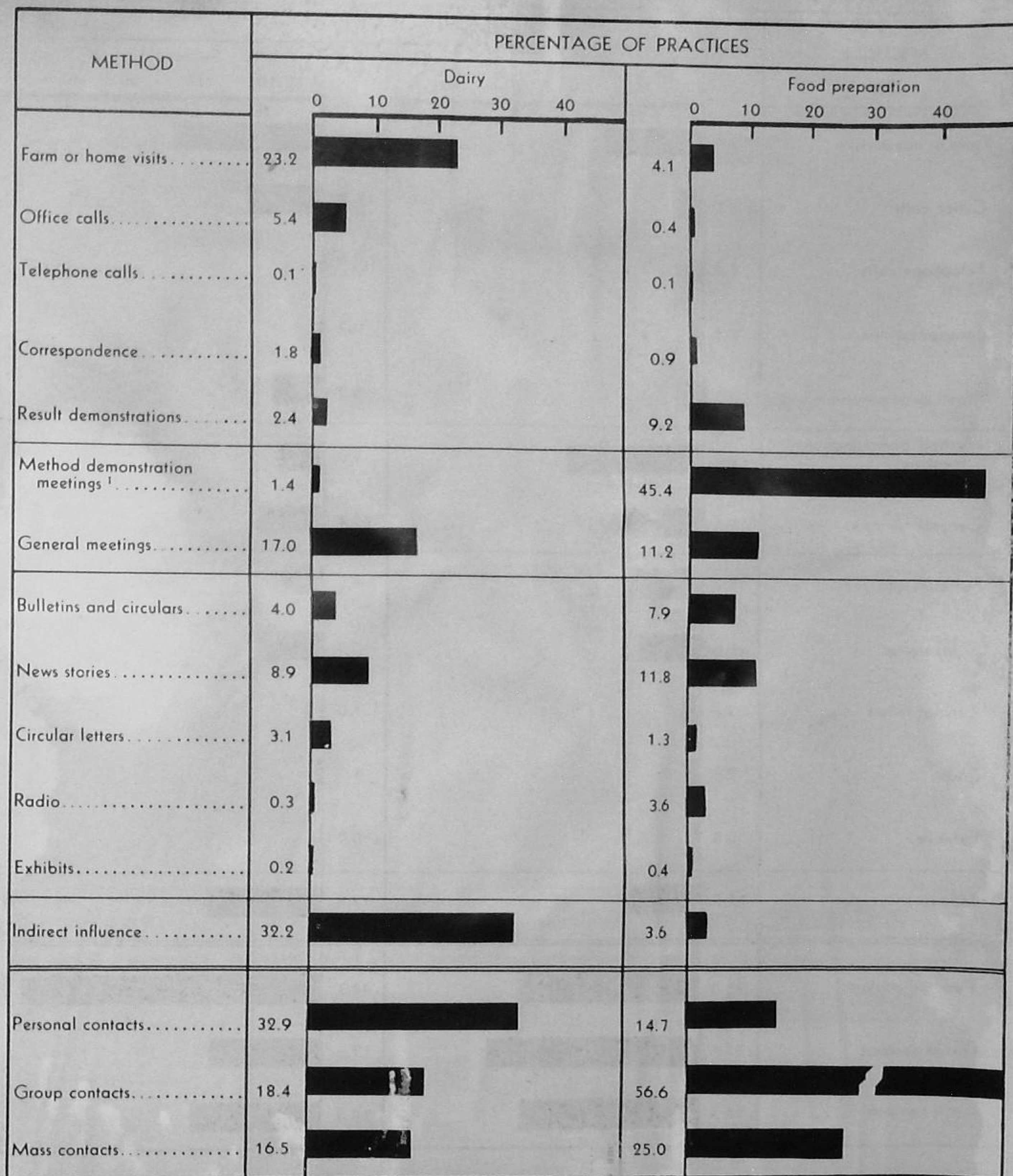
SUBJECT MATTER ²	NUMBER OF PRACTICES	PERSONAL CONTACTS					GROUP CONTACTS		MASS CONTACTS					INDIRECT INFLUENCE
		FARM OR HOME VISITS	OFFICE CALLS	TELEPHONE CALLS	CORRESPONDENCE	RESULT DEMONSTRATIONS	METHOD ³ DEMONSTRATION MEETINGS	GENERAL MEETINGS	BULLETINS AND OTHER PUBLICATIONS	NEWS ARTICLES	CIRCULAR LETTERS	RADIO	EXHIBITS	
Soils.....	1,571	18.0	13.0	0.4	1.2	8.7	7.9	12.4	3.6	10.4	3.1	0.6	.....	20.8
Corn.....	1,354	9.5	9.7	.4	.9	12.2	8.1	11.3	4.3	13.4	1.2	1.2	1.0	26.8
Wheat.....	1,103	6.8	7.4	.4	.6	3.8	8.2	6.4	4.6	17.0	2.1	1.8	.7	39.9
Oats.....	1,234	4.5	6.0	.2	.8	2.5	5.4	10.1	7.5	16.6	1.5	1.8	.5	42.8
All other crops.....	1,306	9.0	9.2	.5	1.8	5.8	.7	24.2	6.8	16.7	2.2	.6	.2	22.0
Soybean.....	463	9.2	16.9	.2	.7	6.9	1.5	16.1	2.8	18.9	.5	.....	.....	26.2
Other legumes and forage crops.....	1,217	10.4	11.8	.2	.9	5.8	2.9	12.8	4.4	18.0	2.3	1.9	.1	28.6
Potatoes.....	1,463	9.8	6.0	.4	1.1	12.3	5.2	15.3	6.9	9.8	2.1	.2	1.2	29.8
Cotton.....	1,269	12.4	8.6	.1	.2	13.3	5.2	17.9	3.7	8.2	1.6	.....	.3	28.4
Tree fruits.....	1,378	20.1	5.5	.8	2.6	8.3	26.8	8.3	7.6	3.4	7.7	.8	.....	8.1
Vegetables.....	280	18.2	4.8	.4	1.2	14.1	15.6	20.2	11.5	4.2	2.6	1.3	.....	6.0
Dairy.....	2,993	23.2	5.4	.1	1.8	2.4	1.4	17.0	4.0	8.9	3.1	.3	.2	32.2
Swine.....	1,403	23.0	12.2	.6	.7	8.2	7.2	10.4	6.3	10.7	1.0	1.1	.7	17.8
Poultry.....	3,285	15.2	4.1	.6	2.3	4.8	21.2	12.4	11.7	9.6	3.4	2.8	.8	11.2
Rural engineering.....	831	18.8	7.1	.3	1.9	4.5	18.2	18.9	6.8	6.6	2.4	2.4	.2	12.0
Marketing.....	1,055	13.0	6.4	.7	2.1	.8	2.9	23.1	.9	17.2	4.6	1.7	.2	26.2
Food preparation.....	754	4.1	.4	.1	.9	9.2	45.4	11.2	7.9	11.8	1.3	3.6	.4	3.6
Food preservation.....	2,305	4.7	.9	.2	.4	7.0	38.2	10.3	13.3	5.8	.8	.8	1.6	15.8
Nutrition.....	645	2.7	1.2	.1	.9	3.3	42.8	23.3	9.0	6.1	1.2	2.1	.5	6.4
Clothing.....	2,601	3.1	.6	.1	.4	7.7	62.2	13.7	3.2	1.3	1.1	1.2	.8	4.7
Home management.....	423	6.1	.7	.....	1.9	3.5	52.7	19.3	5.0	3.7	1.9	.2	.2	4.9
Home improvement.....	363	5.2	1.1	.2	.....	6.1	53.2	21.1	5.9	1.8	1.1	.5	.....	3.6
Health and sanitation.....	276	4.9	.8	.....	1.0	4.0	34.0	27.0	9.5	5.4	.8	1.7	2.2	8.7

¹ Computed to basic total influence of all methods equals 100 percent.

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.

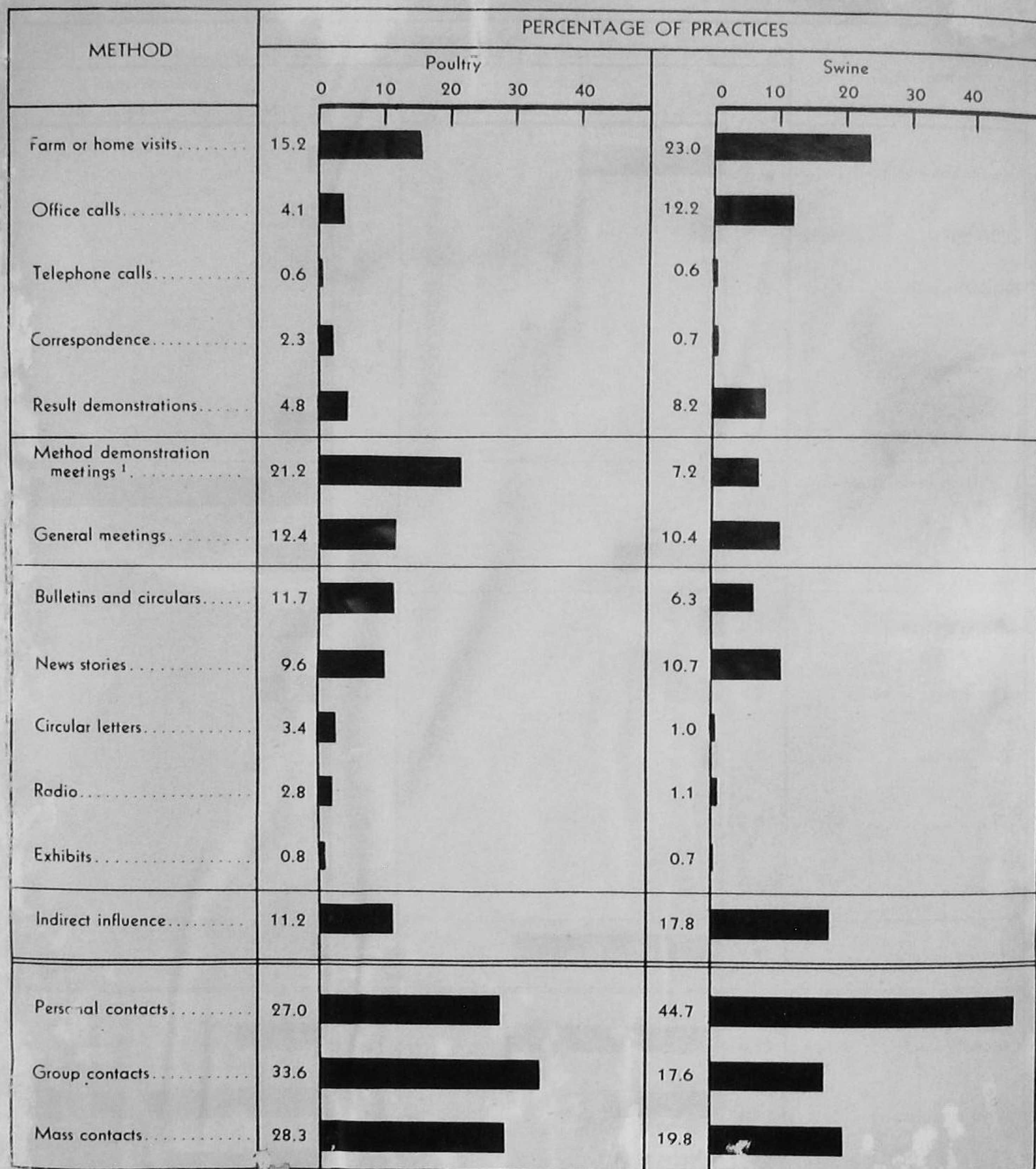
³ Includes leader-training meetings.

FIGURE 11.—Relative influence of methods upon adoption of 2,993 dairy practices and 754 food preparation practices.



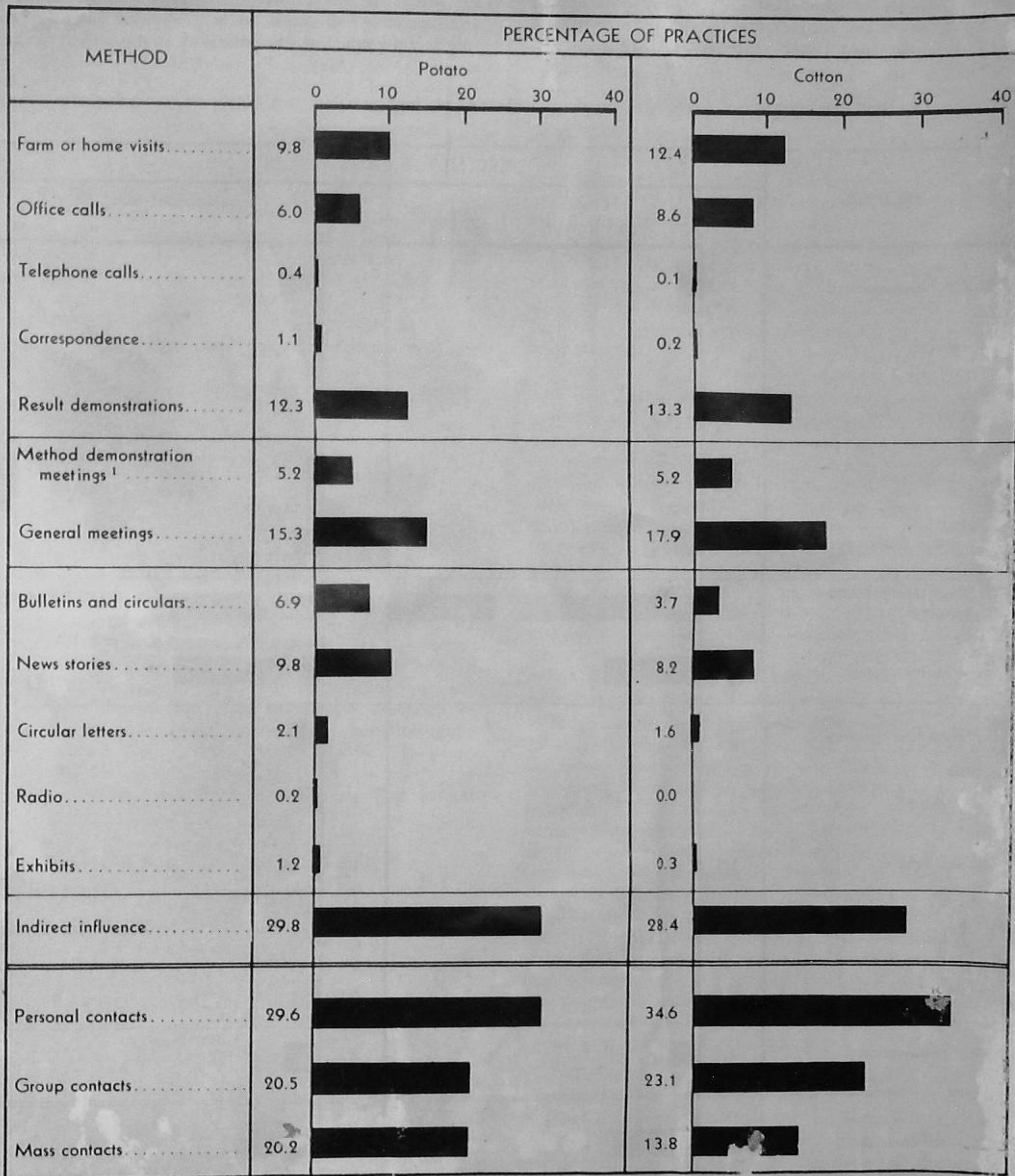
¹Includes leader training meetings.

FIGURE 12.—Relative influence of method upon adoption of 3,285 poultry practices and 1,403 swine practices.



¹ Includes leader training meetings.

FIGURE 13.—Relative influence of methods upon adoption of 1,463 potato practices and 1,269 cotton practices.

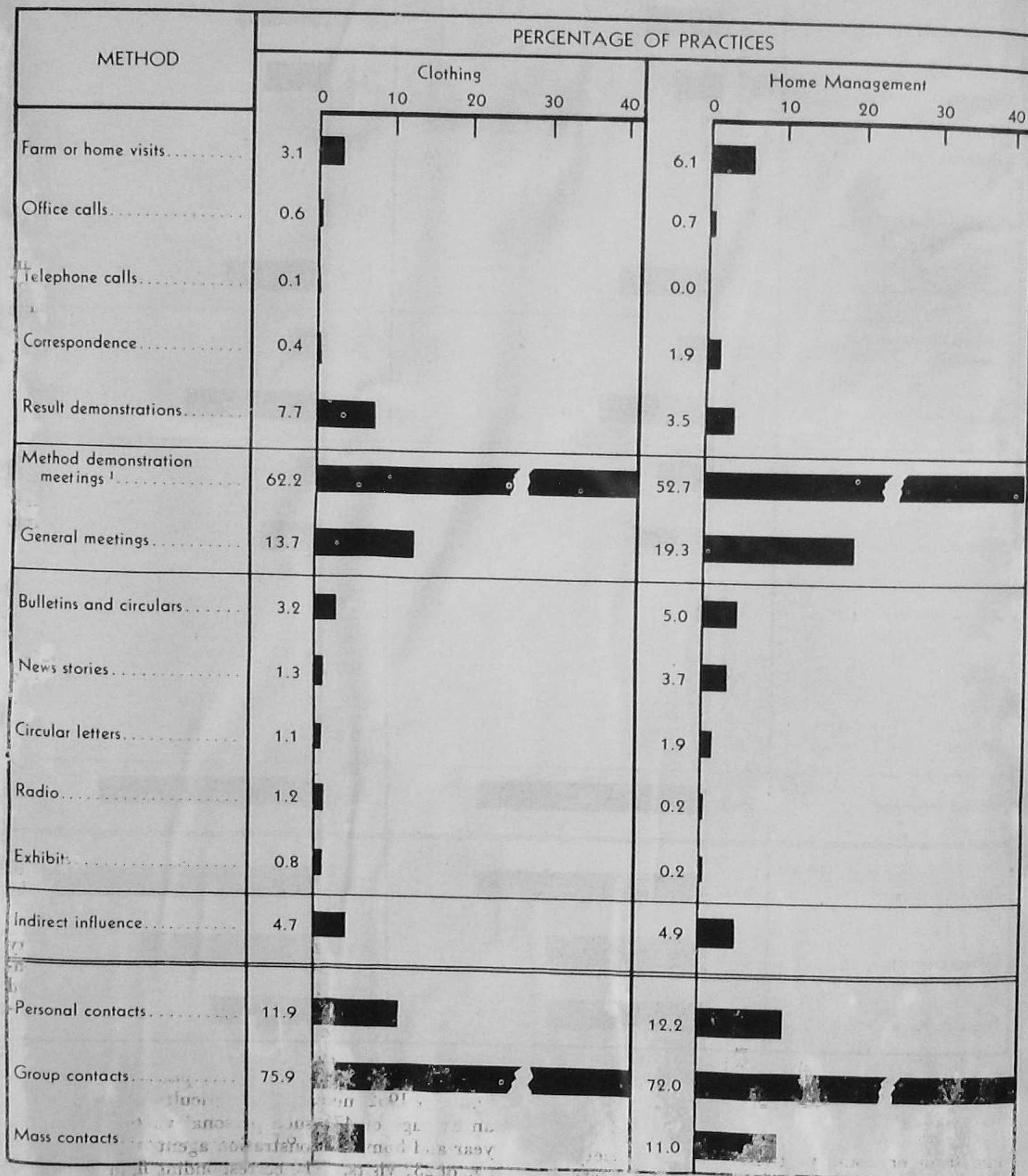


¹ Includes leader training meetings.

Clothing and home management in the home economics group provide another example of like influence of methods when the subject matter presents problems that require practically identical teaching ap-

proaches (fig. 14). Much of the extension teaching in both of these subject-matter fields involves the teaching of skills to a group of people. As might be expected the method demonstration has

FIGURE 14.—Relative influence of methods upon adoption of 2,601 clothing practices and 423 home management practices.



¹ Includes leader training.

been the predominant teaching method responsible for the practices changed in both clothing and home management. Together the method demonstration meeting and the general meeting account for approximately 3 out of 4 practices changed. Indirect influence is relatively small, slightly less than 5 percent, in both cases. Personal contacts influenced the adoption of 1 clothing or home management practice in 8. Mass contacts were responsible for changing 1 out of 13 clothing practices and 1 out of 9 of the home management practices.

Where experience has shown that methods have influenced the adoption of given percentages of practices in a particular subject-matter line of work it is highly probable that the same methods will follow a like pattern of influence when other closely related subject matter is involved. Since the converse appears to be equally true the character of the subject matter to be taught becomes an important consideration in developing the extension teaching plan.

THE DIFFERENT METHODS ANALYZED

The extension teacher is constantly faced with the practical problem of selecting the teaching method, or combination of methods, best suited to do a specific teaching job with certain people under the special circumstances existing at the time. A critical analysis of each method will be helpful in identifying its chief characteristics, its inherent values and limitations, the key steps involved in its use, and other considerations that may influence the emphasis placed upon it in the teaching plan. The methods will be considered in the order in which listed in methods classified according to use (p. 4).

INDIVIDUAL CONTACT METHODS

FARM AND HOME VISITS



*Personal
Practical*

The farm or home visit may serve a variety of purposes. It may be in the nature of a service call made upon request to give advice or assistance

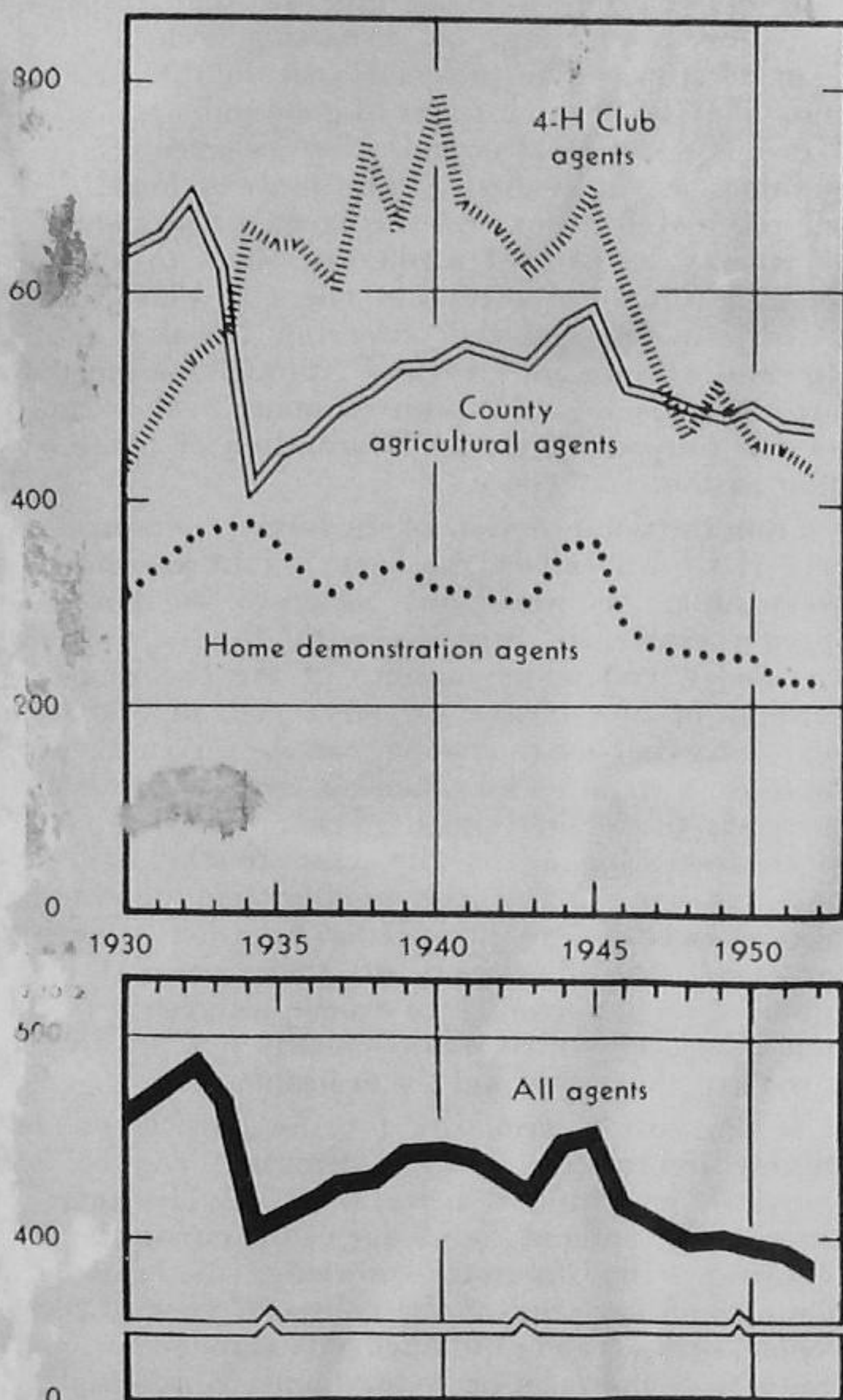
on a wide range of farm or home problems. It may be part of the teaching plan outlined at the beginning of the year to forward some phase of the county extension program. It may be for the purpose of securing a cooperator or demonstrator, arranging a meeting, or discussing a local 4-H Club activity. The personal visit to the farm or home may be in the interest of good public relations with officers of local organizations, elected officials, or other key individuals. The farm or home visit may be merely to extend the agent's acquaintance. Or it may be part of a planned effort to interest those in the total extension clientele who do not participate in organized extension teaching activities and who are not "reached" through mass media. Broadly speaking, the farm or home visit is made for the purpose of giving information or obtaining information.

From the point of view of the farmer, homemaker, or 4-H Club member, the agent's visit provides an opportunity to work out practical solutions of specific problems. Starting with the individual's knowledge and understanding of the problem, regardless of how meager or advanced that knowledge may be, consideration can be given to the succeeding steps to be taken to enable the learner to reach the desired goal. From the standpoint of the extension agent the visit to the farm or home makes possible the modification of general recommendations to fit specific situations, thereby increasing the likelihood of their use. It also provides an opportunity to arouse interest in farm, home, or community improvements not yet recognized by the individual as desirable.

If the visit is primarily for the purpose of obtaining information, that information can be interpreted and utilized more effectively because of the agent's firsthand knowledge of the circumstances involved. The intimate knowledge of farm and home conditions and of the points of view of rural people, such as can be obtained only through personal contacts at the farm or in the home, is essential to program determination and the selection of effective local leaders. Farm and home visits contribute greatly to the effectiveness of the teaching done through meetings, the press, radio and television, and circular letters. The agent knows at firsthand the problems of his clientele and at least part of the farm people know from experience that the agent has his feet on the ground.

VOLUME AND TREND. The present size of the county extension teaching staff is inadequate to visit personally each year the 2,000 farms and farm homes, and the even larger number of nonfarm homes that constitute the extension clientele. In practice, the average county extension worker makes approximately 400 farm or home visits for all purposes each year. Data for 1952 indicate that agricultural agents made an average of 176 such personal visits during that year and home demonstration agents made an average of 222 visits. The corresponding figures for 1930 were 644 visits for agricultural agents and 316 visits

FIGURE 15.—Farm and home visits per county extension agent, 1930-52.



for home demonstration agents. The evidence indicates little change in emphasis on the farm and home visit by the average county extension agent during the past 25 years (fig. 15). The increase in the grand total of personal visits to farms and homes throughout the United States from 2,305,000 in 1930 to 3,614,000 in 1952 is due to the increase in the total number of county extension workers employed rather than to any change in emphasis by the individual county extension worker.

TEACHING EFFECTIVENESS. Measured in terms of influencing farmers and homemakers to change practices, personal visits from extension agents account for about one-ninth (10.8 percent) of the practices changed as the result of all extension teaching (fig. 1). Figure 1 shows that the proportion of agricultural practice credited to farm visits (13.0 percent) is much higher than the proportion of home economics changes credited to home visits (4.7 percent). Much

of this difference is undoubtedly due to the larger number of personal visits made by agricultural agents than personal visits made by home demonstration agents. The remaining difference is probably a question of subject matter. Teaching homemakers the knowledge and skills of sewing may not be influenced greatly by the specific home situation, while advice relative to a soil erosion control problem will frequently require inspection of conditions on the individual farm.

Relative to other teaching methods, the cost of influencing the adoption of an improved practice through farm and home visits is about 10 percent less than the average of all methods (fig. 4).

ESSENTIAL ELEMENTS. The following selection and arrangement of elements, and the similar analyses of other methods of teaching discussed later, reflect the authors' experiences and observations consistent with the available findings of scientific research. Some of the more important steps and points under each in using the farm and home visit as a teaching method are:

1. Decide upon the place of the farm and home visit in the teaching plan outlined to advance a particular phase of the extension program.
 - a. Consider alternative methods which might be employed.
 - b. Decide whether the visits are primarily for direct teaching or are needed to increase the effectiveness of group methods and mass media.
2. Clarify the purpose of the visit. Is the visit expected to:
 - a. Obtain firsthand information on farm and home conditions?
 - b. Give advice or assistance with a problem?
 - c. Arouse interest of those not reached by other methods?
 - d. Aid in the selection of local leaders, demonstrators, or cooperators?
 - e. Promote good public relations?
 - f. Otherwise contribute to strengthening the extension organization or advance the program?
3. Plan the visit.
 - a. Review previous contacts with members of family.
 - b. Check subject-matter information likely to be needed.
 - c. Arrange schedule of visits in community to save time and expense.
 - d. Consider best approach in view of individual family situations.
4. Make the visit.
 - a. Be friendly, sympathetic, and complimentary.
 - b. Gain and deserve interviewee's confidence.
 - c. Arouse interest and create a desire to take action.

- d. Render interviewee a real service.
 - e. Leave clear impression as to object of visit.
 - f. Avoid waste of time on part of interviewee and agent.
5. Record the visit.
 - a. Enter on the family record card in the extension office the date and purpose of visit, what was accomplished, and followup commitments made.
 - b. Make sure through appropriate office device that followup at appropriate time is not overlooked.
 6. Follow up the visit.
 - a. Mail applicable literature.
 - b. Add to mailing list to receive appropriate circular letters.
 - c. Extend invitation to attend meeting.
 - d. Make another visit if situation requires it.

ADVANTAGES AND LIMITATIONS. In determining the amount of emphasis to place upon the farm or home visit in the total extension teaching plan for a county during a given year, the extension agent must also weigh the strong and weak points inherent in this method of teaching. They may be briefly summarized as follows:

Advantages

1. Provides agent with firsthand knowledge of farm and home conditions and the point of view of farm people.
2. If made on request, the farmer or homemaker is likely to be ready to learn. The ratio of "takes" to "exposures" is high. Builds confidence in agent and may in-



FIGURE 16.—The county agent helps the farmer work out problems on his farm. (Ext. Serv., Arkansas.)

- crease greatly the effectiveness of group methods and mass media.
4. Contributes to selection of better local leaders, demonstrators, and cooperators.
5. Develops good public relations.

FIGURE 17.—The county home demonstration agent consults a homemaker relative to home problems in the county.



6. Useful in contacting those who do not participate in extension activities and who are not reached by mass media.

Limitations

1. Requires a relatively large amount of agent's time.
2. Number of contacts possible definitely limited.
3. Cost per practice adopted rather high though not above average for all methods.
4. Time of visit not always opportune from standpoint of farmer or homemaker.
5. Danger of concentrating visits on the most progressive families and neglecting those where personal contact is most needed.

OFFICE CALLS

*Specific
Cordial*



Like the farm or home visit the office call involves direct personal contact between the extension worker and the individual desiring information or assistance. There are two important differences, however: (1) With the office call the learner seeks out the extension teacher instead of the extension teacher seeking out the learner; and (2) the personal contact or interview is removed from the farm or home setting. The fact that the farmer or homemaker calls on the agent indicates a recognition of the problem to be solved and a strong desire to solve it. The climate of "readiness" is even more favorable to learning and action than in the case of the visit to the farm or home. Confidence in the extension service as a reliable source of information may be taken for granted, otherwise the individual would not devote the time and go to the travel expense of making the call. The cordiality with which office callers are received and the satisfactory manner in which the desired information or advice is given have an important bearing on repeat calls.

An analysis of the purpose of 687 office calls (10) received by agricultural agents in 14 Minnesota county offices during 2-week periods scattered throughout the year indicates the 863 requests for information were distributed as follows:

Specific farm practice problems.	42 percent
Technical advice or information.	31 percent
Principles of organization and management.	18 percent
Extension organization, including local leader training.	9 percent

Even though the preceding sample may not be entirely typical of all office calls, it is obvious that the great majority of office calls on agricultural agents are requests for subject-matter information with a minor fraction concerned with problems relating to operational aspects of the extension program in the county.

The Minnesota study throws some light on the interrelationship between office calls and other extension methods. Nearly one-fourth were a follow-up of extension meetings. It was judged that about every sixth call could have been handled by the office secretary had the agent not been present, by making use of bulletins, leaflets, and other duplicated material available in the office.

VOLUME AND TREND. During a 12-months' period the average county extension worker handles between 900 and 1,000 office callers. Considering all county extension agents, the average number of calls per agent has been essentially the same in the 1950 period as it was during the early 1930 period (fig. 18). A tremendous increase in office calls occurred during the 1930's due to the responsibilities for Agricultural Adjustment Administration programs assumed by county agricultural agents during the depression years. The emergency farm labor program continued to bring large numbers of callers to county extension offices during the war period 1942-47. Agricultural agents receive several times as many office callers as do home demonstration agents. The average number of office calls for each agricultural agent in 1952 was 1,102 and for each home demonstration agent 474. The corresponding figures for 1930 were 1,332 for agricultural agents and 436 for home demonstration agents. The volume of office callers received by 4-H Club agents follows closely that of home demonstration agents.

There is a wide variation among county extension offices in the number of office calls handled. The rural population of the county, geographical location of the county seat in relation to the rest of the county, and accessibility of the office to the public, account for much of the variation. Other things being equal, the number of callers at the county extension office appears to reflect the general status of the confidence of the people of the county in the extension office as a reliable source of unbiased information on agricultural and home economics matters.

TEACHING EFFECTIVENESS. Field studies indicate that approximately 6 percent of all practices changed as the result of extension teaching may be credited to office calls (fig. 1). The proportion of agricultural practices credited to office calls is much higher than in the case of home economics practices (fig. 3). Apparently a large proportion of the office calls handled by home demonstration agents relate to extension organization matters rather than to subject-matter problems.

The relatively low extension cost of teaching through office calls places this method fairly high on the list of methods from the standpoint of returns

the conviction of experience. The fact that the practice has been successfully carried out by a neighbor builds confidence of farmers and homemakers in the soundness of the practice and in the extension agent who directed the demonstration.

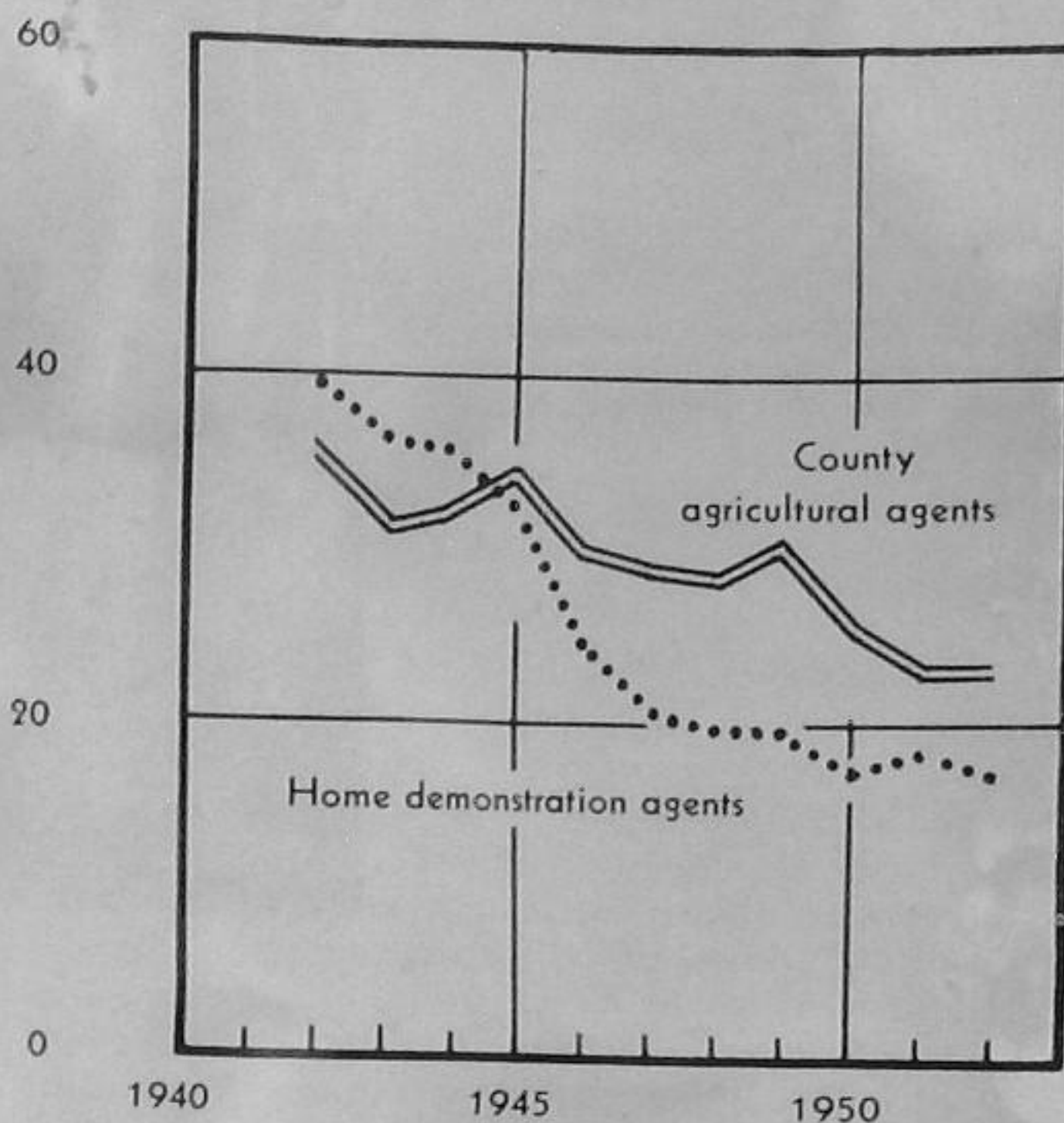
VOLUME AND TREND. Now that the cooperative extension system has become well established and farm people have acquired confidence in the information supplied by extension workers, it seems logical that the result demonstration should receive less emphasis as a method of teaching. In other words, successful result demonstrations tend to reduce the need for more such demonstrations. The establishment of local proof is, of course, a continuing aspect of the introduction of new farm enterprises and new findings of research. There are also segments of the extension clientele with which extension agents have had too little contact for a high degree of confidence to develop.

The trend in the use of result demonstrations in extension teaching has been consistently downward over the years (fig. 22). In 1952 the average county agricultural agent reported 23 result demonstrations supervised. The corresponding figure for 1942 was 35. Comparable data are not available for earlier years. While not brought out in figure 22, reports indicate a decrease in meetings held to observe result demonstrations about in line with the fewer demonstrations carried out.

TEACHING EFFECTIVENESS. The direct influence of the result demonstration upon the adoption of improved practices is substantial, though much less than that of many of the other methods of extension teaching. Six practices in each 100 adopted were credited to result demonstrations in the areas in which field studies have been made (fig. 1). The proportion is slightly higher for home economics practices, 6.7 percent, than for agricultural practices, 5.9 percent, (fig. 3). The influence of the result demonstration was highest in soils, corn, soybeans, potatoes, cotton, tree fruits, vegetables, and swine in the agricultural group, and in food preparation, food preservation, clothing, and home improvement in the home economics group. Five percent or more of the practices adopted in corn, potatoes, vegetable crops, swine, food preservation, food preparation, and clothing, were credited to result demonstrations conducted by 4-H Club members.

The result demonstration is one of the most expensive methods of extension teaching due to the large amount of the agent's time and travel required to plan the demonstration, select the demonstrator, start the demonstration, keep in touch with its progress, see that it is properly completed, and that sufficient records have been kept to establish proof of the value of the practice demonstrated. A comparatively small number of people see result demonstrations at the stage when convincing. Result demonstrations started but not completed, duplicated needlessly, or which tend to be experiments rather than demonstrations, increase the cost still further. Expressed in terms of cost the result dem-

FIGURE 22.—Result demonstrations per county extension agent, 1942-52.



onstration is only about half as efficient in influencing the adoption of practices as the average of all extension methods (fig. 5). There is little difference between agriculture and home economics subject matter in this respect.

In view of the high cost and relatively low influence, it is not surprising that the relationship between the direct influence of result demonstrations and total extension accomplishment in the areas studied is negative (p. 21). This would indicate that where confidence in the Extension Service is reasonably adequate, the unnecessary repetition of result demonstrations tends to curtail the use of other teaching methods better adapted to teach larger numbers of people at lower cost. There are many situations where the county extension agent can use for teaching purposes local illustrations of good practices without going to the trouble and expense of establishing proof through result demonstrations. A few leading farmers and homemakers in the community may already be carrying out the improved practices which are being recommended. These illustrations speak for themselves and can be used effectively by the agent for teaching purposes. Where confidence in extension workers is unsatisfactory and with practices that are totally new to an area, a few good result demonstrations are likely to be highly important (fig. 23). Other methods, such as news stories, circular letters, and talks at meetings and over the radio are likely to be more effective if data from local result demonstrations are cited.

ESSENTIAL ELEMENTS. The substantial teaching investment in the result demonstration, represented

FIGURE 23.—Result demonstration shows effect of fertilizer on corn, left not fertilized—right fertilized.



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by agent's time and travel and by the expense incurred by the demonstrator, emphasizes the importance of foresight in planning and care in execution. The more important elements involved in the conduct of a successful result demonstration are outlined below:

1. Analyze situation to determine if establishment of further confidence in local application of research findings is necessary.

- a. What has been the experience of the agent in supervising the carrying out of the practice under similar conditions?
- b. Is it possible to locate a good illustration of practice locally, obviating the necessity of expensive result demonstration?

2. Decide upon the purpose of result demonstration.

- a. To give agent confidence and provide teaching material.
- b. To establish confidence of farmer or home maker in the new practice.
- c. To develop confidence in extension on the part of a minority group with whom extension agent is not well and favorably known.

3. Plan the result demonstration.

- a. Consult subject-matter specialist.
- b. Make as simple and clear cut as possible.

- c. Decide upon evidence needed and how local proof will be established.
- d. Determine number of demonstrations needed to accomplish purpose.
- e. Locate sources of material.
- f. Reduce plans to writing.

4. Select the demonstrators.

- a. Advise with local leaders.
- b. Visit prospective demonstrators to make sure that all conditions for success of demonstration are favorable.
- c. Explain and agree upon procedure with demonstrator and leave written instructions.

5. Start the demonstration.

- a. Review written plan with demonstrator.
- b. Assist in getting demonstration under way to make certain that the omission of some key point will not make later work fruitless.
- c. Arrange for a method demonstration meeting where a skill may be involved in beginning stage of demonstration.

6. Supervise the demonstration.

- a. Visit with sufficient frequency to maintain demonstrator's interest, check on progress, and see that suc-

ceeding steps are performed as outlined.

- b. Place appropriate signs to attract public attention to basic elements in demonstration.
- c. Mention in news stories, circular letters, and radio talks at critical stages.

7. Complete the demonstration.

- a. See that final steps to complete demonstrations are taken.
- b. Take pictures.
- c. Hold meeting at demonstration where visual evidence will contribute to confidence.
- d. Summarize records. Analyze and interpret data in terms of farm or home practices.

8. Follow up demonstration.

- a. Report results of demonstration through press, radio, and circular letters.
- b. Have demonstrators report at meetings.
- c. Use visual aids to present factual proof supplied by the demonstration.

ADVANTAGES AND LIMITATIONS. More judgment is involved in the use of result demonstrations than in the case of most other methods of extension teaching. Failure to use the result demonstration, when the situation requires its use may seriously lessen the effectiveness of group methods and mass media. There is also serious danger of wasting time on demonstrations after confidence of people in extension or in the practice has been fully established.

Advantages

1. Gives agent extra assurance that recommendation is practical and furnishes specific local evidence of its advantages.
2. Increases confidence of farmers and homemakers in Extension and in agent's recommendations.
3. Useful in introducing a new project.
4. Important in working with minority groups with whom extension workers have had little contact.
5. Contributes to discovery of local leaders.

Limitations

1. Requires large amount of agent's time.
2. Cost high per practice changed.
3. Good demonstrators difficult to find.
4. Few people see the demonstration at the stage when it is most convincing.
5. Teaching value frequently destroyed by unfavorable weather and other factors.

GROUP METHODS

THE METHOD DEMONSTRATION

Skillful

*Visually
clear*



In contrast to the result demonstration conducted by the farmer or other person under the supervision of the extension worker to prove that the extension recommended practice will work locally, the method demonstration is given by an extension worker or other trained leader for the purpose of teaching a skill to a group. The method demonstration is not concerned with proving the worth of a practice but with "how-to-do" something. That something may be the pruning of a fruit tree, the adjustment of a tractor plow, the renovation of a piece of furniture (fig. 25), the making of an article of clothing, or some other skill involved in farming and home-making. Where the group is composed of local leaders, meeting for training purposes, the method demonstration may even deal with such matters as how to organize a 4-H Club or how to lead a discussion at a home demonstration club meeting.

In the role of a skilled technician the extension worker or leader shows the step-by-step procedure in the operation, explaining each succeeding step as he proceeds (fig. 26). The learners watch the process, listen to the oral explanation and ask questions during or at the close of the demonstration to clear up points about which there is uncertainty. Where practicable one or more members of the group repeats the demonstration in the presence of the others. This helps to fix the process in the minds of the audience and increases confidence in their ability to master the technique.

Where the group is small it is frequently possible for all members to participate by performing each step as the demonstration progresses. For example, in a sewing machine clinic or work meeting each person repeats on her own machine the steps in the cleaning and adjusting process demonstrated by the extension agent or local leader (fig. 27). Each member learns and practices the new skill under the supervision of the teacher.

The combining of "seeing" and "hearing" makes a strong impression, further strengthened by practice through participation in the demonstration. The listing of the steps on the blackboard or flannelgraph

for rapid review and the distribution of outlines, blueprints, or leaflets at the close of the method demonstration are also useful in fixing the steps in the learner's mind.

VOLUME AND TREND. During 1952 county extension workers held 780,000 method demonstration meetings with a total attendance of 16,600,000. This is an average of 21 persons per meeting. The average county extension worker holds 81 method demonstration meetings per year. The great emphasis placed on this method of teaching by home demonstration agents is indicated by the average of 139 method demonstration meetings held per year as compared to 45 per agricultural agent and 61 per 4-H Club agent. As will be noted from figure 24 the use of the method demonstration by agricultural agents and 4-H Club agents has changed little during the 1930-52 period. The number of method demonstrations held per home demonstration agent has declined gradually throughout most of the 20-year period. Because of the common practice in home demonstration work to train voluntary local leaders to repeat method demonstrations to their respective groups, the trend in the number of training meetings

held for local leaders should also be considered in this connection. During the 1930-52 period the number of local leaders per home demonstration agent increased from 76 to 151. The number of training meetings held for local leaders by the home demonstration agent increased from 13 to 21 during the same period. The decrease in number of method demonstration meetings per home demonstration agent would appear to be a shift from agent-given demonstrations to demonstrations given by trained leaders rather than lessened emphasis upon the method demonstration in the extension teaching of home economics subject matter.

TEACHING EFFECTIVENESS. Because of the extensive use of local leaders to repeat method demonstrations after appropriate training by the extension agent, an evaluation of the effectiveness of the method demonstration meetings must include the meetings held for the purpose of training local leaders in the subject matter of the demonstration and the method of presentation.

Field studies indicate that 18 percent of all practices adopted as the result of extension teaching were credited to the method demonstration and leader training meetings (fig. 1). In the case of home economics subject matter the method demonstration accounted for more than 47 percent of the practices adopted, in striking contrast to the 8 percent of agricultural practices associated with this method of teaching. As might be expected method demonstrations have had their greatest influence in those subject-matter fields where much depends upon acquiring specific operating skills. In no field of home economics does the influence of method demonstration and leader training meetings fall below 30 percent. In the extreme case of clothing nearly 2 out of every 3 practices adopted were credited to this method. Fruit growing and poultry raising are the two fields of agriculture where the method demonstration was credited with more than 20 percent of the practices adopted. Rural engineering and vegetable growing are the only other agricultural subjects where the influence of the method demonstration exceeded 10 percent.

It is easy to understand how the giving of a method demonstration to a group is an effective means of teaching farmers how to prune or spray an orchard, cull poultry, grade vegetables, and ventilate a dairy barn, and of teaching farm women how to preserve fruits, vegetables and meats, prepare food, rearrange a kitchen, decorate a room, refinish furniture, and similar skills.

That the influence of the method demonstration is an indication of total extension accomplishment in an area has been pointed out previously (p. 21). The cost of influencing the adoption of extension recommended practices through method demonstrations and leader training meetings is about average for all methods when both agricultural and home economics practices are considered together (figs. 3 and 4). There is a wide difference in the cost of

FIGURE 24.—Method demonstration meetings held per county extension agent, 1930-52.

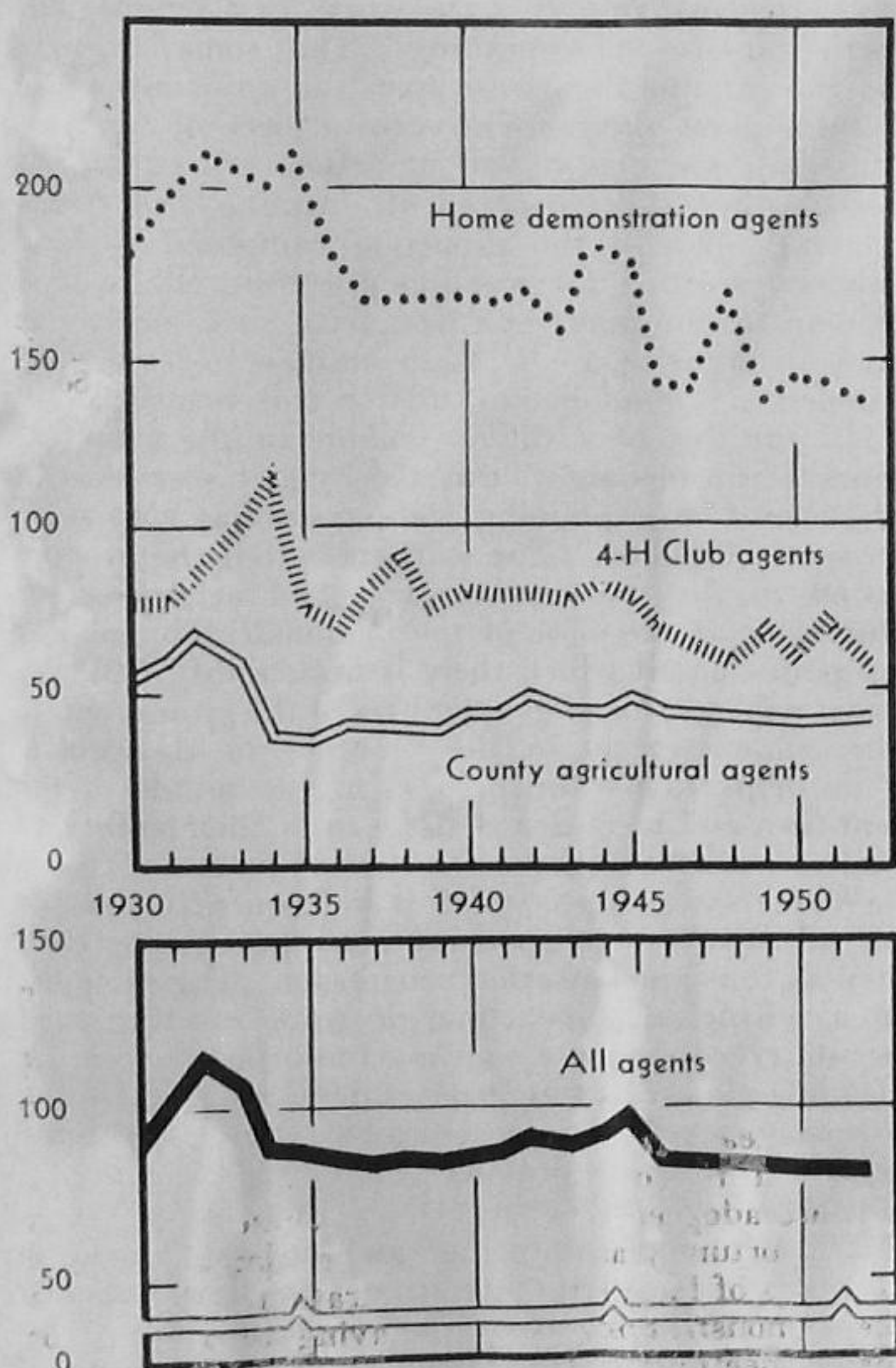


FIGURE 25.—Homemakers learn how to upholster furniture at a method demonstration meeting (Ext. Serv., Wisconsin).



FIGURE 26.—Tobacco growers are shown how to bale aromatic tobacco for market (Ext. Serv., South Carolina).

influencing the adoption of practices relating to home economics and agriculture through method demonstration and leader training meetings. In the case of home economics the number of practices influenced per unit of cost is 36 percentage points above average, while in agriculture the number of practices changed per unit of cost is 22 percentage points below the average for all methods. Apparently the repetition of method demonstrations by trained leaders increases the teaching accomplished without a commensurate increase in extension costs.

The emphasis on the teaching of skills in home economics may also be an important factor in reducing the per unit cost of getting practices adopted through method demonstrations combined with use of local leaders. Possibly an even more important factor in reducing the cost per home economics practice adopted through method demonstrations is the opportunity afforded by the regularly scheduled meetings of local home demonstration clubs to give the demonstration, without having to arrange for special meetings for the purpose.



FIGURE 27.—A sewing machine clinic to show homemakers how to clean and adjust their own sewing machines.

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ESSENTIAL ELEMENTS. The principal steps involved in the use of the method demonstration in extension teaching together with some of the more important points to be considered under each are listed below:

1. Determine that the subject-matter practice involves skills which need to be demonstrated to many people.
 - a. Are new skills developed through research, or old skills not being performed successfully, involved?
 - b. Is it suitable for visual presentation to a group?
 - c. Can the demonstrations be repeated satisfactorily by local leaders?
2. Plan the demonstration in detail.
 - a. Outline operations in logical steps.
 - b. Identify the key points to be emphasized under each operation.
 - c. Select demonstration materials and equipment likely to be available or readily obtainable.
 - d. Arrange for diagrams, directions, and other teaching materials, to be distributed.
 - e. Prepare kits of special material needed by local leaders if they are to repeat demonstrations.
3. Rehearse the demonstration.
 - a. Practice demonstration until operation can be performed in a manner to inspire confidence.
 - b. Make sure key points will be clear from audience's point of view.
 - c. Check time required to make sure there is opportunity for audience questions and other expected participation.

4. Give the demonstration.

- a. Explain purpose and show application to local problem.
- b. Show each operation slowly step by step; repeat where necessary.
- c. Use simple words to explain each step of the operation.
- d. Make sure audience can see and hear clearly.
- e. Emphasize key points and tell why they are important.
- f. Solicit questions at each step before going on to next step.
- g. Distribute supplemental material.
- h. If demonstration is given before local leaders who will repeat it, emphasize teaching points to be made. Explain contents of demonstration kit.
- i. Summarize steps covered in demonstration.

5. Follow up.

- a. Get names and addresses of persons in attendance and some indication of probable use of skills demonstrated.
- b. Arrange for reports on number and attendance at demonstrations given by local leaders.
- c. Make a sample check to learn use of skill and satisfaction derived by those attending the method demonstration.

ADVANTAGES AND LIMITATIONS. When the subject matter to be taught involves special skills, the method demonstration has many advantages. The limitation can be easily overcome through detailed planning and careful checking to make sure that audience can see as well as hear.

Advantages

1. Peculiarly suited to teaching skills to many people.
2. Seeing, hearing, discussing, and participating in a group stimulates action.
3. Builds confidence in extension worker if demonstration is performed skillfully.
4. Simple demonstrations readily lend themselves to repeated use by local leaders.
5. Influences changes in practice at below average cost.

Limitations

1. Frequently considerable portion of audience cannot see clearly.
2. May require considerable equipment to be transported to meeting place.
3. Requires a certain amount of showmanship not possessed by some agents.

GENERAL MEETINGS

Informing
Motivating



The term "general meetings" includes all kinds of meetings held by extension agents other than method demonstrations and leader training meetings. The variety of other meetings is almost infinite. In size, they run from the small committee meeting to the Farm and Home Week attended by thousands. Geographically, the meeting may be held in a neighborhood, community, county, or State. The method of presentation may be the lecture or formal talk, informal or formal discussion, or the using of slides or a motion picture film. The meeting may be held in a hall, home, barn, or field. Local custom often determines whether the meeting is referred to as a school, institute, forum, conference, discussion group, club meeting, project meeting, or just "meeting." Special kinds of meetings often take the name of the meeting objective, i. e., program planning meeting, annual meeting, achievement day, rally or roundup, tour, working conference, meeting at result demonstration, or other objective.

Meetings at which method demonstrations are given make it possible for groups of people to learn new or improved skills. General meetings (other than method demonstrations) make it possible for large numbers of people to acquire subject-matter

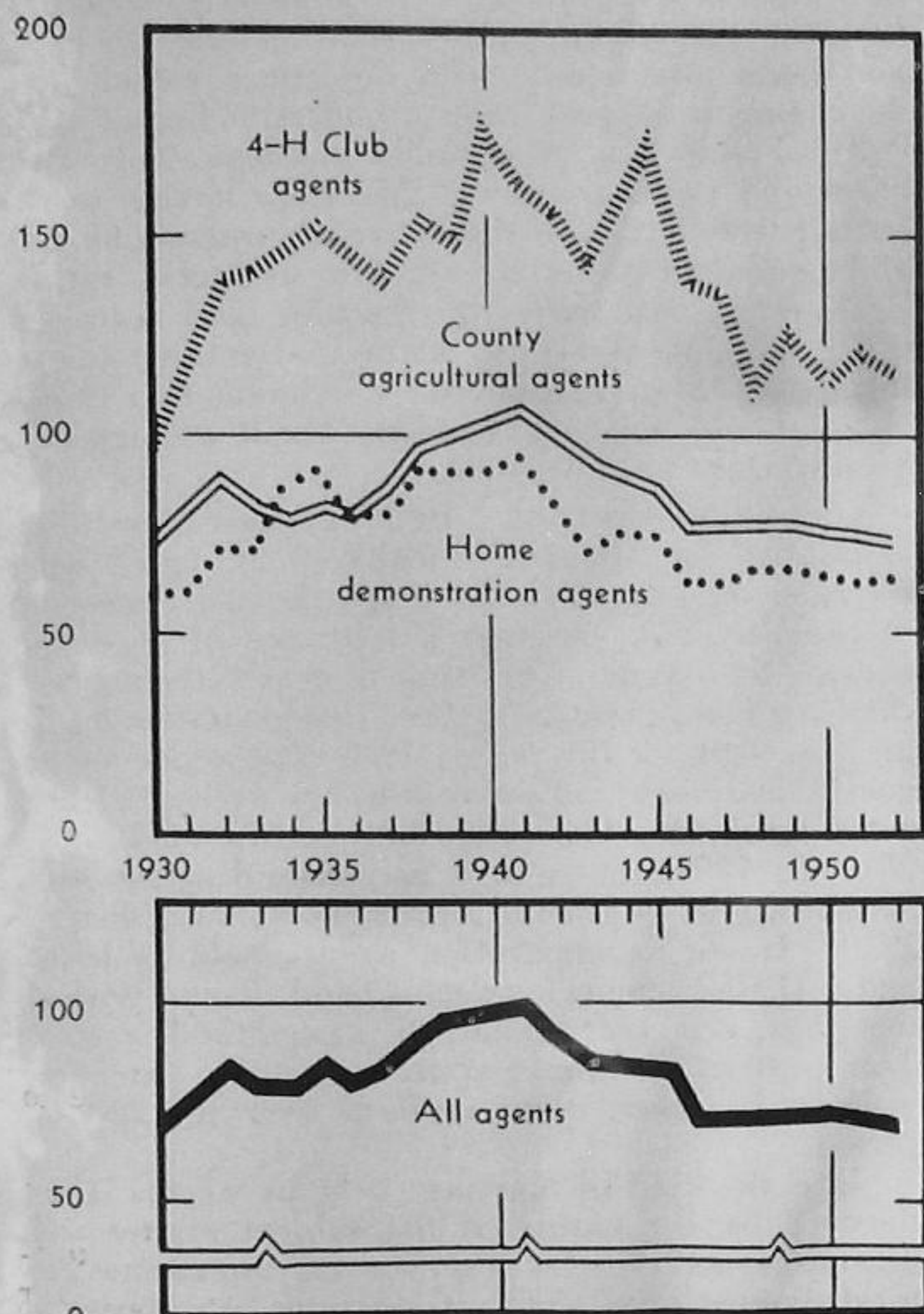
information. The group approach makes it possible to share knowledge and experience with others, thereby strengthening learning. General meetings may also involve objectives only indirectly connected with the dissemination of information on better farm and home practices. Such objectives include the development of local leaders, understanding of agricultural policy and other public problems, and recreation and social contacts. Meetings having to do with determination of the extension program for the club, community, or county are, of course, rather definitely associated with teaching and learning. Such meetings serve to attract attention, arouse interest, and strengthen the conviction that something should and can be done about problems of vital concern to individuals.

VOLUME AND TRENDS. In 1952, general meetings accounted for about two-fifths of all agent held meetings and for two-thirds of the total meeting attendance. The average attendance of about 60 persons at a general meeting is nearly three times that at a corresponding method demonstration meeting. Except for the period 1938-42 the number of general meetings held per year by the average county extension worker has varied between 70 and 85 (fig. 28). In 1952, the county agricultural agents held an average of 74 general meetings or 2 more than in 1930. Home demonstration agents hold 11 fewer and 4-H Club agents between 40 and 50 more general meetings per year than do agricultural agents. This pattern of difference among county extension workers has been quite uniform over the 22-year period.

Since the kind of meetings held by agents is influenced by the nature of the subject matter and other considerations, it is interesting to examine the total number of all kinds of meetings held during a 12-month period by the three kinds of county extension workers. In figure 29, method demonstration meetings, leader training meetings, and general meetings have been combined. The average county worker held 167 meetings of all kinds in 1952. The 1930 average was 172 meetings. County home demonstration agents held an average of 223 meetings during 1952, as compared to 247 held in 1930. The corresponding figures for county agricultural agents were 134 each year, and for 4-H Club agents 192 in 1930.

MEETING EFFECTIVENESS. In terms of practices adopted, general meetings rank third in importance, with method demonstrations being first and leader training being second. Data show that 14.6 percent of the practices adopted by extension were credited to this method. The proportion is slightly higher for agriculture than for home economics, 15.2 percent compared to 12.5 percent. In this connection it is interesting to note that meetings account for 1 practice in every 3 adopted by farmers and homemakers. In the case of agricultural practices this proportion is 1 in 3, and for home economics practices it is 1 in 3 out of every 3 home economics practices changed are the result of some kind of a meeting.

FIGURE 28.—General meetings held by county extension agents, 1930–52. (Includes all agent-held meetings except leader training and method demonstration.)

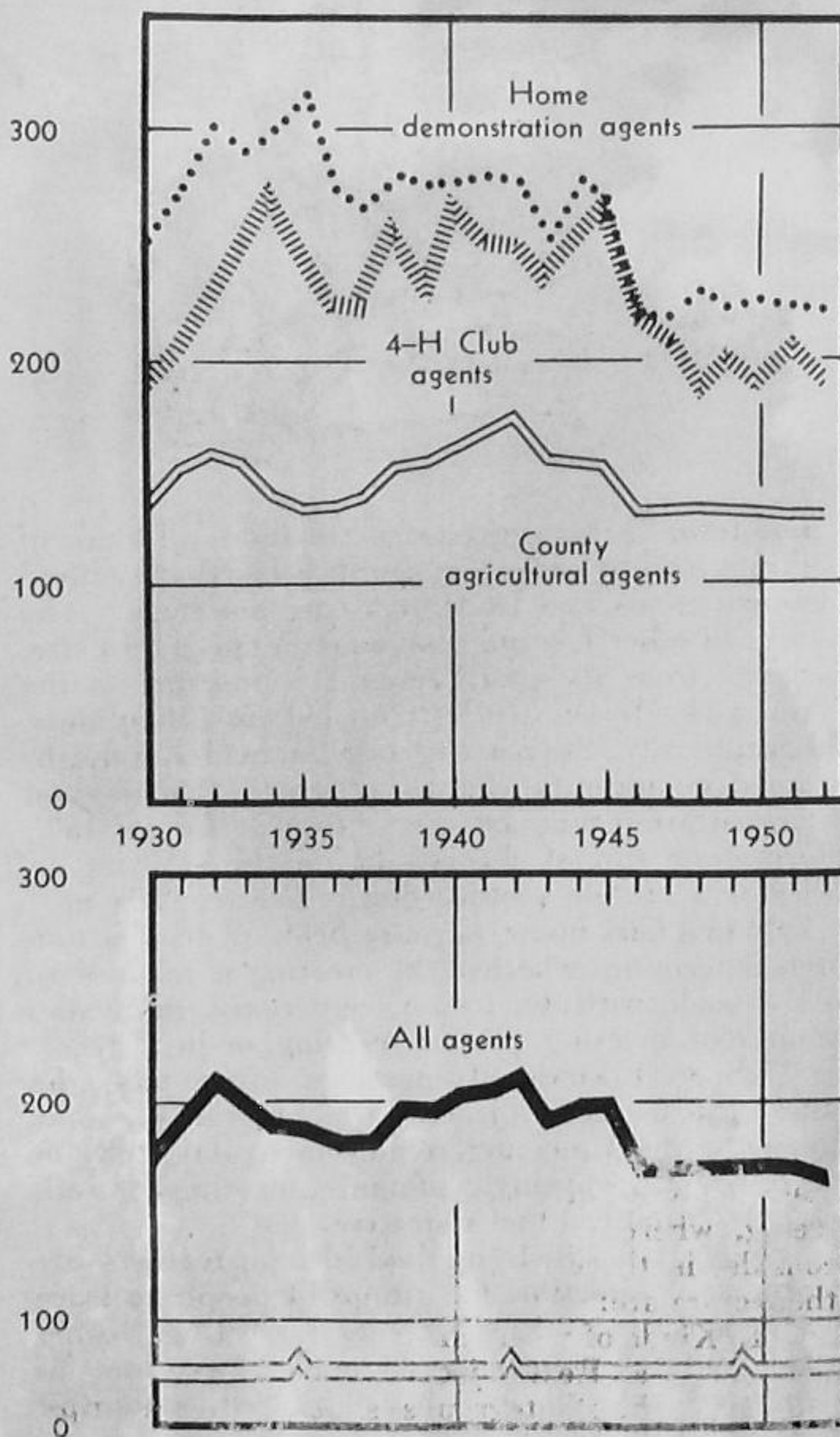


method is for the most part one-way communication from speaker to audience. Frequently questions at the end of the lecture establish some interaction between the speaker and members of the audience (fig. 32). The illustrated lecture should not be confused with the method demonstration.

The essentials of a good speech are:

1. It is on a subject of interest to the audience.
2. It usually starts with a challenge.
3. It establishes a common ground between the speaker and the audience.
4. Familiar, concrete words are used that exactly express the thought.
5. It is well organized; ideas are presented in logical sequence; each idea is explained before going to the next idea; relationships are shown between ideas, with proper transition; and less important ideas are subordinated.

FIGURE 29.—All meetings held per county extension agent, 1930–52.



From a cost standpoint the general meeting is more efficient than the method demonstration meeting (fig. 4), due, no doubt, to the larger attendance at general meetings. In agriculture, the index of practices adopted per unit of cost is 145 for general meetings compared to 78 for method demonstration and leader training meetings. The corresponding index figures for home economics are 153 and 136. The combination of large numbers of contacts and high returns per unit of cost undoubtedly account for the sustained emphasis extension workers place upon meetings as a means of disseminating subject matter knowledge and skills.

LECTURE MEETINGS. The lecture or talk is used extensively by county extension agents and subject-matter specialists to present authoritative or technical information (fig. 30) to develop background and appreciation, and to integrate ideas. At the lecture-type meeting the speaker presents a specific subject to a particular audience. The subject of the meeting should be clearly understood by both the speaker and the audience. The speaker should be advised of the probable character of the audience and why the subject is of local interest. The lecture



FIGURE 30.—The extension speaker presents technical information to a group of people (Ext. Serv., Kansas).

6. It integrates ideas.
7. Each of the main points or ideas is given consideration.
8. It has unity, coherence, and emphasis.
9. It ends by giving a summary and drawing conclusions.
10. It is, wherever possible, supplemented by visual aids.

Visual Aids

*Appropriate
Vivid*



USE OF VISUAL AIDS IN MEETINGS. Appropriate visual aids may contribute much to the success of any meeting. The very nature of the lecture meeting makes it desirable to supplement hearing with some seeing, wherever possible. Some of the points to consider in the use of visual material to strengthen the lecture are:

1. Kinds of visual aids:

- a. Real objects and models.
- b. Photographs, slides, and film strips.
- c. Movies.

- d. Blackboard and flannelgraphs.
- e. Graphs and charts.

2. Illustrative materials should be used:

- a. When difficult, complex facts are to be presented.
- b. When abstract or other ideas, difficult to grasp, are to be conveyed.
- c. When teaching time can be shortened—as it usually can—by their use.

3. A good visual aid has certain characteristics:

- a. It is physically adapted to use.
 - (1) Is large enough to be clearly seen.
 - (2) If a model, it is to scale.
 - (3) If a picture, it emphasizes the salient points.
 - (4) If labeled, large, plain letters are used.
- b. It is intellectually adapted to use.
 - (1) It is arranged logically.
 - (2) It emphasizes the desired points to be illustrated.
 - (3) If labeled, it uses language familiar to the group.

4. Tests for good illustrative material:

- a. Will it help achieve purpose?
- b. Will it give true impression?
- c. Will it stimulate imagination?
- d. Will it add to knowledge of audience?
- e. Will it focus attention on main idea?

5. When using visual material:

- a. Have it accessible and in proper order.
- b. Keep it out of sight until ready for it.
- c. Present it at crucial moment.



FIGURE 31.—A visual aid helps 4-H Club girls to understand the basic 7 food groups (Ext. Serv., Florida).

- d. Stand beside aid.
 - e. Speak to group.
 - f. Remove all unrelated material.
 - g. Display one aid at a time.
 - h. Avoid misunderstanding by discussion and application.
6. Value of visual or lecture aids; research has shown that:
 - a. Audience members learn more.
 - b. Remember longer.
 - c. Learn faster.
 - d. Learn uniformly.
 - e. Give better attention.

GROUP DISCUSSION. Discussion may be described as the process whereby two or more persons express, clarify, and pool their knowledge, opinions, and

feelings (fig. 33). The combined and cooperative thinking of several persons is likely to be superior to that of the individual. Group discussion stands in contrast to the method demonstration used to teach skills and the lecture meeting used to present new technical information. It is employed to develop desirable attitudes, relate knowledge to experience, deepen understanding, reach agreement, and plan action. The role of the discussion leader is that of traffic manager rather than a source of new information. He stimulates and facilitates participation by all members of the group, prevents traffic jams, shunts aside the would-be "road-hog," keeps the meeting on the "concrete," and moving in an orderly manner in the direction of the main purpose of the meeting. Some of the common types of discussion meetings together with a brief summary of their differentiating characteristics are:

DISCUSSION FOLLOWING LECTURE. This is often called a lecture forum or discussion forum. The plan is simple; any member of the audience who desires more information asks a question of the speaker. Anyone who desires to add to the speaker's statements makes his remarks usually disguised as a question.

It is a familiar device. Its difficulty lies chiefly in the reticence of people to rise and ask questions, especially if the audience is large and the speaker is a noted person. As a result, the members of the audience will often hesitate and the speaker, after standing embarrassed for a moment, will sit down.

To avoid this, the chairman at the beginning of the meeting should state clearly whether or not a discussion will follow the lecture, so that members of the audience may think of questions which they would like to ask. Where the audi-



FIGURE 32.—Opportunity is provided for those in attendance at the meeting to ask questions of the speaker (Ext. Serv., Texas).

ence is large, it is often well to ask the members to present their questions in writing at the end of the meeting. The speaker is then given an opportunity to select those questions which he believes would be most interesting to the audience before beginning his answers.

Sometimes members will ask questions to heckle the speaker, or will ask him about matters of purely local interest. Here, a good leader will distinguish between the questions needing specialized knowledge and those best answered from local experience, and will turn the latter questions back to the audience for answer.

THE FILM FORUM. A discussion preceding and following the viewing of a film is similar to the lecture forum except that the film takes the place of a speaker. The audience, therefore, is presented with only one point of view and one which can be highly charged emotionally. As the film cannot answer questions, the leader of the meeting must take over the question-answering function of the lecturer in the film forum. He should, for this reason, see the film in advance and should familiarize himself with facts likely to come up in discussion.

The film is an excellent method of getting information before people, and almost always stimulates interest; but it requires skill on the part of the leader to direct the discussion after showing the film.

SYMPOSIUM. This is a short series of lectures, usually by 2 to 5 speakers, each with a different viewpoint. The subject is not necessarily controversial, but sometimes each speaker is allowed a second speech in which he comments on the remarks made by the other speakers. Members of the audience are then encouraged to address questions and comments to any of the speakers. The symposium is a modification of the lecture; it differs in that there is more than one speaker and more than one point of view. However, unless speakers of approximately equal ability can be obtained, one speaker may dominate the meeting.

PANEL DISCUSSION. In this, a group of speakers, usually from 2 to 8, participate in a supposedly informal conversation on a topic for the benefit of the hearers. A leader presides, introduces the speakers, and encourages the less talkative by questions.

In actual practice, the discussion is often previously rehearsed. As the discussion may be difficult to get started, the members often begin with brief set statements previously prepared, or the leader may begin by addressing questions to each member. These expedients, though violating the spirit of the panel, make sure that the audience learns the basic facts and attitude on which the discussion is based.



FIGURE 33.—Group discussion, in small huddle groups, gives an opportunity to get ideas, solve problems, and exchange opinions (Ext. Serv., New York).

A panel discussion is really a small group discussion, put on in public by selected and usually better informed members of the group. As a teaching means it has most of both the strength and the weaknesses of the group discussion, but, as the panel members are supposed to be well informed, it may be used to present new information. It is best, however, for showing varying points of view, and is excellent for presenting controversial subjects. It also is effective for starting audience discussions.

There is a danger of the panel lapsing into a series of set speeches with no real discussion. A little preliminary explanation to the panel by the leader will often minimize this.

THE GROUP INTERVIEW. In this method, the leader, sometimes called "the inquiring reporter," interviews persons on the platform. It can be used to obtain information from experts or it can be used to obtain opinions from members of the audience. Following this procedure members of the audience are invited to participate. The group interview is really an informal leader-dominated panel discussion. It is excellent for getting from experts the exact information the group desires, and for starting discussion, especially in large groups.

FORMAL DIALOGUE. In this, also called "public conversation," two persons, usually volunteers selected from the audience, discuss a question on which they may or may not have opposite views. This is followed by discussion by the audience.

This method, again, is similar to a panel discussion but simpler and less formal. It is excellent for stimulating audience participation.

DEBATE DISCUSSION. Two teams of usually 2 or 3 persons discuss controversial subjects. Each speaker has time allotted for speech and rebuttal. After the formal debate is over the audience may be invited to join the discussion.

Dividing a subject into *pro* and *con* arguments tends to clarify the discussion. The debate is often a good means of conveying information. Both sides of a question are presented. Knowing that a speaker's statements may be attacked, the hearers are apt to give them more careful attention. It is a good method for getting the audience to participate.

The debate, on the other hand, encourages the speaker to color information and to suppress facts not favorable to his side. Victory in debate, rather than the whole truth, can become the main object. Emotions may become unduly aroused. It is well, as a rule, to have a no-decision debate, but this is not always easy.

PROGRAM PLANNING MEETINGS. In the course of a year the extension worker holds or participates in many meetings concerned primarily with the basic question, "What should be included in the extension



FIGURE 34.—County representatives of local 4-H Clubs meet to decide what will be included in the county 4-H Club program for the year.

program?" The term "program" or "program planning" as used in extension may refer to the topics to be discussed and the activities to be conducted incident to a series of meetings being scheduled for the local 4-H Club or home demonstration group (fig. 34). It may refer to the list of events incident to the holding of a particular meeting, or it may mean the subject-matter problems selected for extension attention over a given period of time, usually during the current year, but may contemplate a much longer period.

Local planning meetings may involve a committee of voluntary leaders, the entire membership of an organized group, or those in attendance at a publicly advertised neighborhood or community meeting. County planning meetings are likely to be delegate groups selected or appointed to represent organizations, geographical areas, segments of the population, or subject-matter interests. The county planning meeting may deal with a specific subject-matter enterprise like tobacco production, or a line of work such as 4-H Club, young men and women, and home demonstration work. It may consider the entire Extension program for the county for a given year or it may deal with all problems of the county affecting agriculture and rural life, with the extension program becoming an integrated part of a larger whole.

Regardless of the nature, size, and scope of the program planning meeting, there are certain basic characteristics common to all such meetings. This does not mean that each meeting may cover the entire range. Several meetings may be required to complete the program planning objective. One or more of the following elements will be present in every extension planning meeting, even though at times they are partially disguised:

1. The identification of problems needing extension attention. What is the situation and what are the underlying problems? Factual information on the prevalence, seriousness, and causes of the problem becomes all important.
2. The determination of the most practical solution to each problem. What is the local experience? What findings of research supply the answer?
3. The outlining of a plan of action to put the agreed upon solution into effect and solve the problem. What will be done to reach reasonable goals or targets? How will it be done, by whom, when, and where? How can progress be measured or evaluated?
4. The revision of the program or plan in view of progress made and current developments.

From an extension worker's point of view the program planning meeting has a definite teaching objective. Such meetings arouse interest, increase understanding and contribute to educational growth through involvement and participation of learners in helping to decide what should be taught and how the teaching should be conducted. Ordered discussion is, of course, the backbone of the program planning meeting.

FIELD OR BARN MEETINGS. Such meetings are likely to be especially effective, since the groups are usually small and plenty of material is at hand for discussion and illustrative purposes. Many such meetings are held to start, inspect progress, or witness the outcome of a result demonstration (fig. 35). The practical



FIGURE 35.—Extension agents explain results of demonstration (Ext. Serv., North Carolina).

FIGURE 36.—Dairy problems are discussed at barn meeting (Ext. Serv., Vermont).



setting stimulates informal discussion, the extension agent becomes just one of the group, application of the new practice to the farm of each participant is readily understandable, and acceptance of the practice is likely to follow in a high percentage of cases (fig. 36).

TOURS. The tour is in reality a series of field and demonstration meetings arranged in sequence (fig. 37). The scheduling of several such meetings for a single day gets wide publicity and attracts more than usual attention and interest. The tour may be

devoted to a single project or activity. The cumulative influence of several remodeled kitchens is more likely to stimulate action than a single illustration. Or the tour may be planned to include a variety of subjects selected to attract wide participation and acquaint the public with important aspects of the extension program.

ACHIEVEMENT DAYS. As the name implies, the achievement day meeting is held for the purpose of giving public recognition to worthwhile accomplishment. It may be an all-day affair, frequently held



FIGURE 37.—The home demonstration tour includes a stop to inspect a new home (Ext. Serv., Kansas).

in 4-H Club work, with members exhibiting their project work, teams giving demonstrations, winners of awards announced, delegates chosen for statewide events, and outstanding local leaders honored. Three out of 4 achievement days in extension are incident to 4-H Club work. In home demonstration work the achievement meeting may be an afternoon session devoted to reports of the activities of local clubs and a talk by a representative of the State extension office.

Other achievement day meetings may take the form of a luncheon, dinner, or banquet held to mark the reaching of some specific objective, or to celebrate a milestone in the conduct of extension.

ESSENTIAL ELEMENTS. It is obvious that elements which make for a successful meeting will vary greatly with the kind of meeting being held. The procedure for a small group meeting to consider some aspects of next year's extension program for the club, community, or county, will differ from that followed in a large meeting relying upon a lecture presentation. And yet there are certain elements which are essential in practically all meetings.

The kind of meeting must be appropriate for the problem involved. The purpose of the particular meeting must be clearly defined. Planning, to insure attendance by those the meeting is intended to reach, and to accomplish some worthwhile teaching objective, is necessary. The actual conduct of the meeting must be such as to provide a satisfying experience and lead to the kind of action the majority of the group thinks desirable. Appropriate use of the meeting event for publicity purposes, and appropriate followup will tie the meeting into the overall teaching plan. Some of the points to be considered

under each of these essential elements are outlined below:

1. Determine the place of the meeting in the teaching plan.
 - a. Is group action required? Will the group approach contribute to learning?
 - b. Is it desirable to reach many people quickly?
 - c. Will it serve to focus attention on the problem, and provide excuse for news stories, radio talks, and circular letters, as additional means of teaching?
2. Define the specific purpose of the meeting and the segment of the extension clientele to be reached.
 - a. To develop interest in a new subject.
 - b. To disseminate subject-matter information.
 - c. To change attitudes toward a problem.
 - d. To deepen understanding of public problems.
 - e. To determine program or plan of action.
 - f. To develop leadership and local responsibilities.
 - g. To provide an opportunity for social contacts.
3. Advance planning for meeting.
 - a. Decide number of meetings, places to be held, and tentative dates.
 - b. Outline tentative meeting program.
 - c. Discuss arrangements with local leaders and agree upon part each will take.

- d. Obtain speakers or resource persons as needed.
 - e. Select the visual aids best suited to occasion.
 - f. Utilize the methods of publicizing the meeting that are necessary to insure satisfactory attendance of those people the meeting is intended to reach.
4. Conduct the meeting.
 - a. Chairman, usually a local extension leader, opens meeting promptly.
 - b. Purpose and plan of meeting is clearly stated.
 - c. The meeting program is developed in an orderly manner, the procedure of course depending upon kind of meeting, i. e., lecture, discussion, motion picture, program planning, or other kind.
 - d. At appropriate time, meeting takes action on matters calling for decision.
 - e. Names of those interested in further information or followup are obtained.
 - f. Meeting closed on time following a brief summary by chairman.
 5. Follow up the meeting.
 - a. What happened at meeting utilized in news stories and radio broadcasts.
 - b. Additional information sent and farm or home visits made to persons requesting such followup.
 - c. Sample check made to determine satisfaction with meeting and use being made of information.

ADVANTAGES AND LIMITATIONS. From an extension teaching standpoint general meetings have certain recognizable advantages. There are also certain limitations. These may be summarized briefly as follows:

Advantages

1. Reaches a larger number of people.
2. Adapted to practically all lines of subject matter.
3. Recognizes basic urge of individuals for social contacts.
4. Group psychology stimulates conviction to act.
5. Has great news possibilities.
6. Effective in influencing adoption of many practices at a relatively low cost.

Limitations

1. Wide diversity in character and interests of audience may create a difficult teaching situation.
2. Available meeting place often inadequate.
3. May require an undue amount of night work on the part of extension agents.
4. The holding of a meeting may become the "real" objective, rather than the purpose the meeting was intended to advance.

MASS MEDIA METHODS

In addition to the personal contact methods and the face-to-face group teaching methods, mass media enable extension workers to greatly increase their teaching efficiency. Publications, news stories, circular letters, radio, television, exhibits, and posters, provide helpful repetition for those contacted personally or through groups. They also make possible the dissemination of information to a much larger and different clientele. Even though the intensity of the teaching contact through mass media is less, the large number of people reached and the low cost per unit of coverage more than offset the lack of intensity. The extension teaching plan which neglects the communication possible through mass media fails to fully capitalize on what has already been invested in the more intensive contact methods.

PUBLICATIONS (BULLETINS, PAMPHLETS, CIRCULARS, AND LEAFLETS)

*Authentic
Reinforcing*



Prior to the establishment of the Cooperative Extension system under the Smith-Lever Act, the agricultural bulletin was the principal method employed to inform the public of the findings of scientific research. Bulletins, pamphlets, circulars, and leaflets dealing with agricultural and home economics subject matter continue to play an important role in the present day highly developed system of mass communication available to extension teachers.

Publications fit in with and reinforce other methods of reaching and influencing people. They are distributed in connection with office calls, farm and home visits, and extension meetings. They are a convenient way to answer requests for information received by letter or phone. They are supplied to local extension leaders and cooperating commercial agencies. They amplify and reinforce the news story, the radio talk, and the telecast; in fact they supply the subject-matter base for many news stories, radio and television programs. Much of the technical information needed by 4-H Club members is supplied through circulars and leaflets.

The procedure of writing, editing, and publishing information in printed or mimeographed form for

general distribution tends to promote clarity and accuracy. The fact that the publication carries the name of the State agricultural college or experiment station or that of the U. S. Department of Agriculture makes it authentic. The definite and detailed information set forth on the printed page can be studied at leisure, reread at intervals, and kept for later reference.

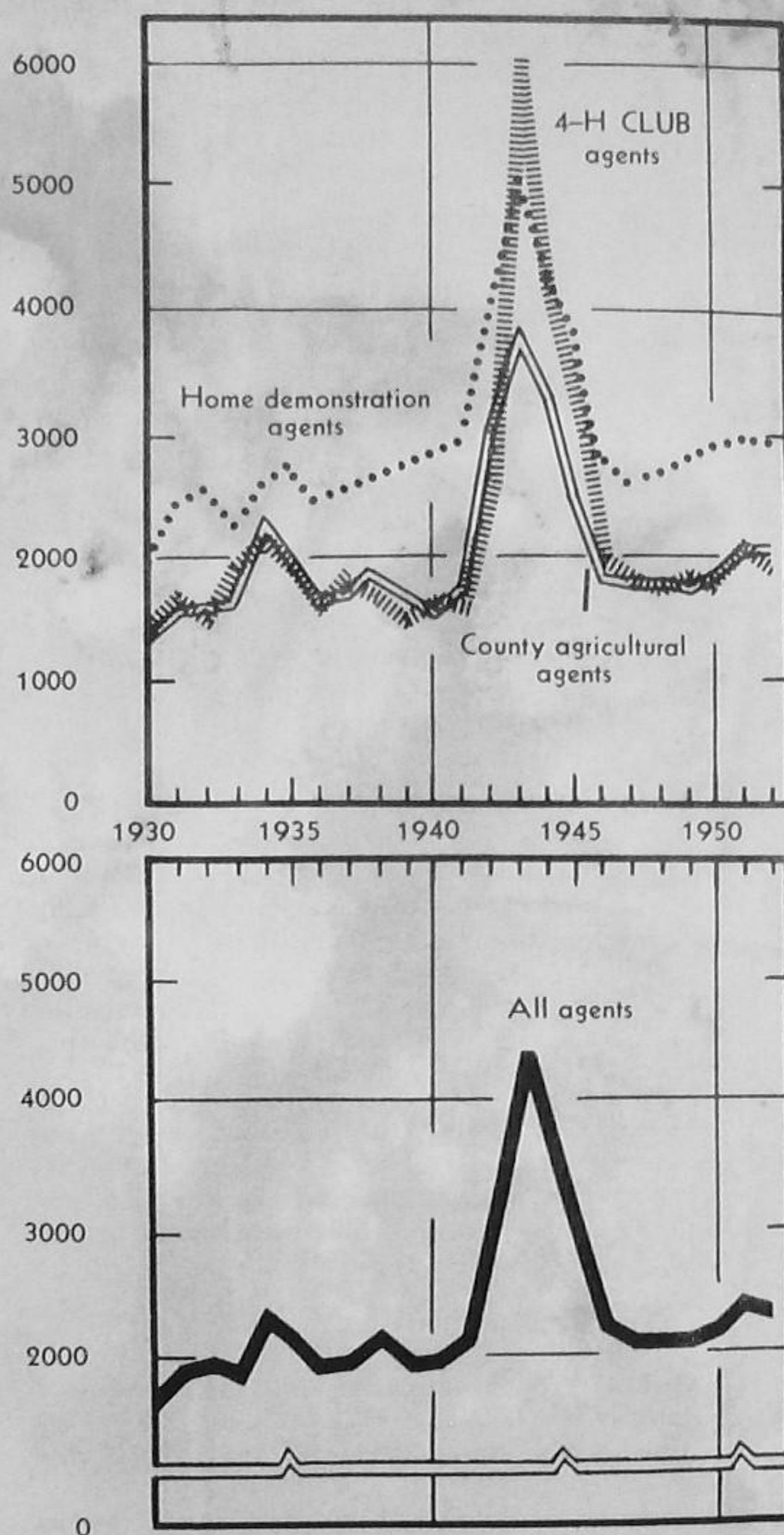
VOLUME AND TREND. While some States continue to distribute bulletins to general and special mailing lists, and while the majority of the popular publications of the U. S. Department of Agriculture are mailed out by members of the Congress, the trend is toward the county extension office being the distribution center for publications. Many people write directly to the college and USDA for copies of publications mentioned in radio and television programs, referred to at fair exhibits, and announced through newspapers and farm and home magazines.

During 1952 more than 23 million copies of agricultural and home economics publications were distributed through county extension offices. It is probable that an equal number was distributed through other channels, including those purchased by commercial agencies for distribution to clientele and customers. The average county extension agent distributes about 2,500 copies of publications per year. Home demonstration agents distribute about 1,000 more publications per year than do agricultural agents and 4-H Club agents (fig. 38). The very large increase in publications distributed by all county extension agents during the 1943-45 period reflected the emphasis on printed material in connection with the food production, food conservation, and related programs of the war emergency. Overlooking the war period, it will be noted that since 1930 all three kinds of county extension agents have gradually increased the emphasis placed upon bulletins and circulars in the teaching plan.

Emphasis has been gradually shifting from the comprehensive publication to the short circular or leaflet dealing with a specific problem. Economy has undoubtedly been a factor in this shift. Advantage is being taken of progress in the publishing art. Artistic cover pages, appropriate illustrations, color printing, and more easily read type are contributing to the attractiveness of extension publications and stimulating interest in their content. An even more important trend relates to the readability of bulletins, circulars, and leaflets. Simple sentences, short paragraphs, and the choice of readily understood words increase both the likelihood of the publication being read and the information being utilized. All such refinements undoubtedly enhance the usefulness of extension publications, but can never take the place of subject-matter content and the basic strength of the printed page.

TEACHING EFFECTIVENESS. According to the farmers and homemakers interviewed in 32 study areas of 27 States, bulletins accounted for 8.5 percent of all practices adopted as the result of Extension influence

FIGURE 38.—Number of bulletins distributed per county extension agent, 1930-52.



(fig. 1). The relative influence of bulletins compared to other teaching methods was substantially greater in the later study areas than in the earlier study areas. Bulletins influenced the adoption of 11.6 percent of home economics practices compared to 7.5 percent of agricultural practices (fig. 3). The extension dollar spent on bulletins changed 40 percent more practices than the average of all expenditures for extension teaching (fig. 4). The influence of bulletins is not, however, a good index of total accomplishment, suggesting that bulletins are best used to supplement other teaching methods than for initiating the teaching process.

Studies indicate that 7 out of 8 persons receiving bulletins read them and about 3 out of 5 persons

(11) Bureau of Extension, U.S. Department of Agriculture



FIGURE 39.—Extension publications supplement other methods and cover a wide range of subjects (Ext. Serv., Maine).

Score Card for Extension Bulletins⁶

1. General appearance.....	15
a. Cover.....	7
(1) Compels interest with: Title, type, illustrations.....	7
b. Makeup.....	8
(1) Practical width of columns with interesting arrangement of mar- gins, illustrations, paragraphs, and effective use of boxes, sub- heads, and type.....	6
(2) Paper.....	2
2. Presentation.....	45
a. Introduction.....	5
(1) Arrests attention, arouses interest creates desire.....	3
(2) Purpose clear.....	2
b. Body.....	35
(1) Language: Simple, vivid, and direct.....	5
(2) Subject matter presented con- cisely with sentences and para- graphs short and to the point. Illustrations, graphs, and tables easily understood by reader. Directions simple and complete...	20
(3) Technical and historical material subordinated.....	2
(4) Subject matter thoroughly cover- ed but not too long.....	5
(5) Interest maintained throughout.....	3
c. Summary.....	5
(1) Concise, well written.....	3
(2) Material easy to locate.....	2
3. Subject matter.....	40
a. Content.....	35
(1) Meets definite need for informa- tion by presenting only facts sig- nificant to reader.....	12
(2) Contributes to better standards by emphasizing tested and ap- proved procedure.....	10
(3) Information up-to-date.....	10
(4) Free from bias.....	3
b. Conclusions justified by text.....	5
Total.....	100

⁶Prepared by Sophia K. Ormrod (11)

make some use of the information in them. Where bulletins are supplied upon request, farmers are more likely to use the information than when received in some other way. Distribution by the county extension agent is the next most common, followed in order by distribution at meetings, by mailing lists, and by members of Congress. Where either the farmer or the homemaker have attended high school the likelihood of bulletins having been received is 40 percent greater. The likelihood of the bulletins received being utilized is also 40 percent greater where farm family members attended school beyond the 8th grade. (15)

ESSENTIAL ELEMENTS. The responsibility for providing the publications needed for teaching purposes by county extension workers rests largely with State subject-matter specialists. They are in best position to interpret the findings of State and Federal research agencies and prepare the kinds and varieties of publications that will arrest the attention of farm men, women, boys, and girls, and arouse their interest and create a desire to act. The preceding score card for extension bulletins sets forth in an objective way the many elements which are considered important in an extension publication. (11)

READABILITY. One test for a good extension publication is ease of reading. Unless written material is read and understood it is not an effective teaching device. Short sentences, short words, and human interest are the guideposts for writing easy reading emphasized in the Flesch readability formula. (4)

The average sentence length in words, the syllables per 100 words, and the personal references per 100 words are first determined by counting. By fitting these three measurements into the following table (table 3), also prepared by Dr. Rudolf Flesch, you can express the reading levels of any written material

Table 8.—Reading levels ¹

READING LEVEL	VERY EASY—5TH GRADE AND UNDER	EASY—6TH GRADE	FAIRLY EASY—7TH GRADE	STANDARD—8TH AND 9TH GRADE	FAIRLY HARD—H. S. (3 YRS.)	HARD—COLLEGE	VERY HARD—COLLEGE GRADUATE
Average sentence length in words.....	8	11	14	17	21	25	29
Syllables per 100 words.....	127	134	142	150	158	166	175
Personal references per 100 words.....	19	14	10	6	4	3	2
Typical magazines.....	Comics	True Story	Colliers, Ladies' Home Journal	Reader's Digest, Time Magazine	Atlantic Monthly, Harper's	Scholarly—Yale Review	Scientific and professional

¹ Prepared by Dr. Rudolf Flesch. Used with his permission.

in terms of school grades completed and typical magazines. Most extension publications should be aimed at *standard* reading level: Sentences should average about 17 words. Each 100 words should average about 150 syllables and contain 6 personal references.

ADVANTAGES AND LIMITATIONS. There are many advantages in the use of bulletins, pamphlets, circulars, and leaflets in extension teaching. There are also certain limitations associated with the use of publications. These may be briefly summarized as follows:

Advantages

1. In general, people have confidence in the printed page.
2. Publications of State colleges and USDA are accepted as unbiased and reliable.
3. Written material can be read and studied at leisure and kept for future reference.
4. Necessary supplement to other teaching methods, such as news stories, radio, television, meetings, and demonstrations.
5. Information usually definite, well-organized, and readily understood.
6. Influences adoption of practices at relatively low cost.

Limitations

1. Not suited for teaching people with limited education.
2. Frequent revision necessary to keep abreast of current research.
3. Information prepared for general distribution may not fit local conditions.
4. Impersonal. Lacks social value of meetings and personal contacts.

NEWS STORIES

*Frequent
Interesting*



The function of the news story in extension teaching is primarily one of stretching or expanding coverage. It is the chief means of getting information about extension activities and better farm and home practices to the many rural and urban people of the average county who are not contacted individually, do not attend meetings, or participate in other extension activities. The county extension worker who neglects to make full use of the available newspaper resources is definitely curtailing the influence of his total teaching effort. The well-planned meeting to discuss the problem of control of army worms may be attended by 50 farmers. The news story account of the meeting giving specific directions for controlling this pest will be read by many times that number of people.

The very large potential coverage of the extension

news story is, of course, made possible by the nearly universal practice of reading newspapers. About 85 percent of the total adult population read 1 or more newspapers and 65 percent read 1 or more magazines more or less regularly. (2) The 1930 farm census indicated that approximately 80 percent of the rural farm families take either a daily or a weekly paper and that 70 percent of them receive at least one magazine. These percentage figures are somewhat higher for the northern States and somewhat lower for the States in the South.

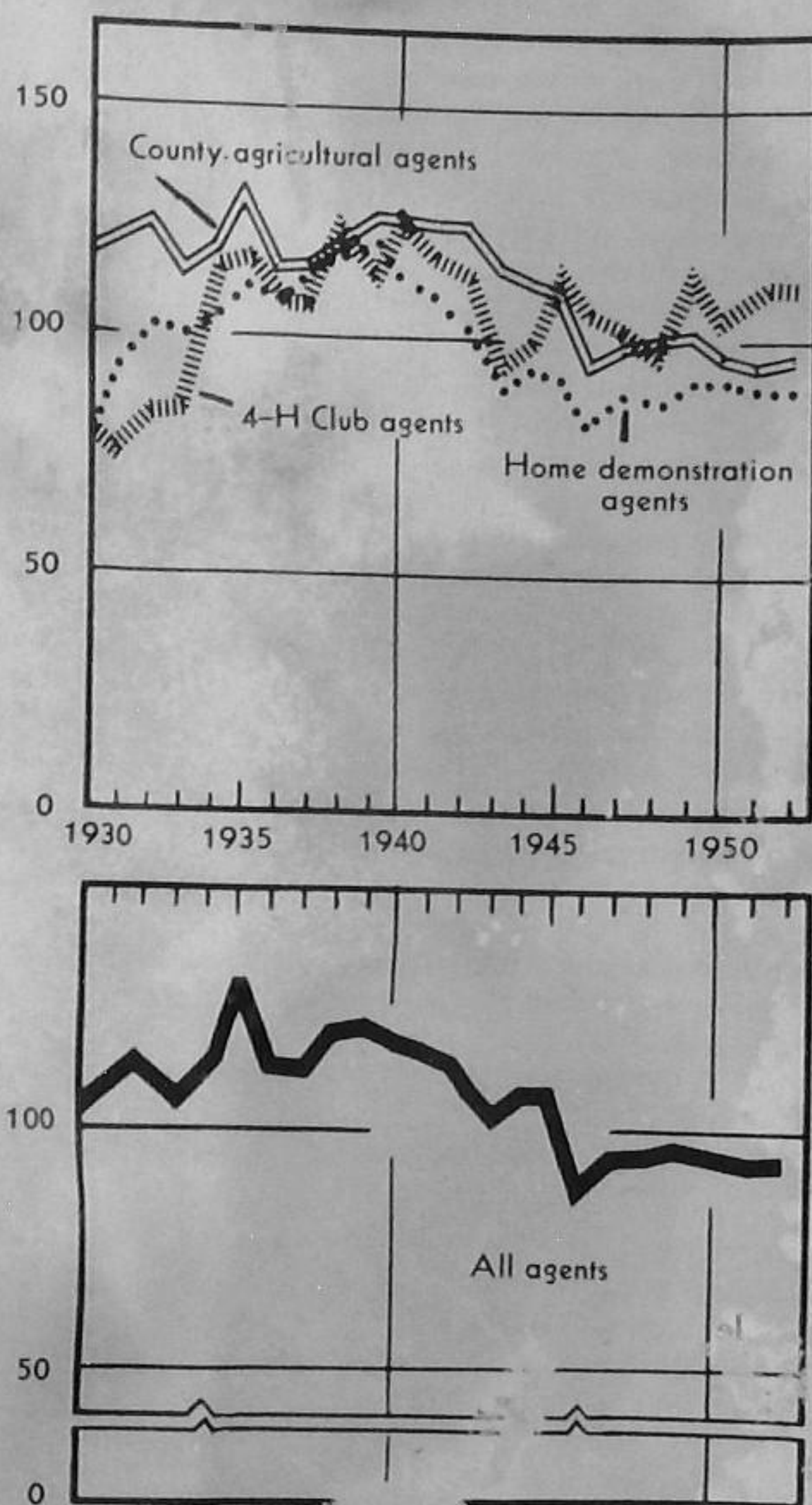
The very conduct of extension teaching generates news. Good news material is available at all times. It is largely a question of planned attention to this means of teaching and the development through practice of the skill required to recognize and present the essential news elements in a manner likely to be read.

The extension news story may give the results of a field demonstration, tell what took place at a meeting, review the findings of scientific research contained in a bulletin, or recite the accomplishments of local farmers, farm women, boys, and girls, who are following an extension recommended practice. In addition to the local news stories supplied newspapers by the county extension worker, much news material is distributed to daily and weekly newspapers and to farm and home magazines by the central information office of the State extension service. Suggested news stories for teaching purposes are frequently prepared by the State subject-matter specialists and furnished county workers for local adaptation before the material is supplied to the newspapers of the county.

An analysis (13) made several years ago of extension news, then currently appearing in newspapers and farm magazines, provides a general clue as to the proportion of news articles mentioning sources of information which the readers might recognize as reliable and trustworthy. Of the 2,800 articles included in the national sample, 15 percent mentioned the State experiment station, 31 percent cited the experience of named farmers and farm women, and 49 percent made reference to the county extension agent or State specialist as the source of the news story. Only 5 percent of the news stories tied in with result demonstrations, meetings, or other activities conducted by extension workers.

NUMBER AND TREND. During the year 1952 slightly more than 900,000 news stories supplied by county extension workers were published. This was an average of 95 articles per agent or assistant agent—about 2 per week. The corresponding figure for the year 1930 was 103 (fig. 40). Since 1943 county extension agents have averaged writing about 10 percent fewer news stories than for the 13-year period prior to that date. Home demonstration agents on the average write fewer news stories than do agricultural agents. Since 1944, 4-H Club agents have written slightly more news stories on the average than have agricultural agents.

FIGURE 40.—News stories per county extension agent, 1930-52.



TEACHING EFFECT. The influence of the news story upon agricultural and home economics practices is substantial—about 10 (9.7 percent) being credited to this method of teaching according to field studies (fig. 1). The proportion of agricultural practices adopted through the influence of the news story is about three times as large as for home economics practices, the percentages being 11.8 and 3.8 respectively. The news story seems to exert its greatest influence on adoption of practices in the subject-matter areas of soils, field crops, livestock, and marketing in the agricultural group, and food preparation in the home economics group.

The importance of the news story in extension teaching is, further emphasized when cost is considered. The news story is outstandingly at the top of the list of teaching methods in cheapness of influencing change in people, sharing the honor of that

position with radio (fig. 4). The return from a unit of extension teaching costs expended on the news story is 3 times as large as the return from the average of all methods and 16 times that derived from the most expensive teaching method. The news story is also the cheapest method of changing practices in home economics, but the difference is not so great between it and other methods of teaching as in the case of agriculture. One explanation of the low cost of the practices changed through news stories is the fact that Extension bears only the cost of the preparation of the news story. The printing and distribution costs are borne by the newspaper and magazine publishers.

Confidence of the reader in the reliability of the source of the news story and in the accuracy with which the information is reported are the two most important factors entering into the effectiveness of the news story. When confidence is combined by wide coverage of clientele it is not surprising that the influence of the news story in a given area is a highly reliable indication of total extension accomplishment in that area as brought out on page 21.

ESSENTIAL ELEMENTS. Inadequacy of the newspaper resources of the area and inability of small segments of the people to read are about the only handicaps to the general use of the news story in the extension teaching program for a county. The extension editor at the college can materially assist

county workers in planning news stories and in getting entree to the news columns of local papers. The necessary skill in preparation of the news story can be readily acquired through inservice training and practice. Suggested stories outlined by the State subject-matter specialist can be localized by the county worker. The news material distributed directly to papers and magazines supplies much news-story support to county extension programs. The principal step in the use of the news story in extension teaching and some of the points to be considered under each are given below:

1. Determine the place of the news story in the teaching plan.
 - a. News possibilities of project.
 - b. The relationship of the news story to other means and agencies included in teaching plan.
 - c. Assistance specialists can give.
2. Determine specific purpose of the news story.
 - a. Develop interest.
 - b. Inform general public.
 - c. Disseminate subject-matter information.
 - d. Create favorable attitude.
 - e. Reinforce meetings and demonstrations.
3. Inventory the news agencies serving the county.
 - a. Number of papers.
 - b. Circulation of each.
 - c. Day of issue and day copy must be in.
 - d. Local correspondents of outside dailies.
 - e. Discuss problems with editors and reporters and what they hope to accomplish.
 - f. Learn individual editor's preference for copy and other preferences.
4. Determine types of news stories.
 - a. Weekly column when applicable.
 - b. Special news items when needed (front page news).
 - c. Announcements that are interesting and timely.
 - d. Feature stories.
5. Outline news calendar for year.
 - a. Plan stories to cover project.
 - b. Time stories to fit in with news-creating activities.
6. Follow logical steps in preparation of news story copy.
 - a. Take advantage of suggested stories outlined by specialist.
 - b. Localize State stories backing up project.
 - c. Prepare news stories called for in calendar. Use accepted principles of good reporting:
 - (1) Tell who, what, when, and why.
 - (2) Begin with summary and facts follow with details.



FIGURE 11.—The local newspaper brings extension news to the home.

- (3) Write in simple language.
 - (4) Refrain from using personal opinion.
 - (5) Be accurate, fair, and brief. Use knowledge of local situation.
 - (6) Include motivating appeals—advantages of adopting recommended practices.
- d. Prepare different copy for different papers.
 - e. Make practice of keeping field notes on observations to be used in news stories.
 - f. Arrange for editors and reporters to attend special meetings and other activities.
7. Use local pictures or other appropriate illustrations.
 - a. Take pictures of local interest and value.
 - b. Select pictures that tell the story.
 8. Maintain file of clippings and articles prepared by agents and specialists.
 - a. Clip articles from papers regularly and file according to projects.
 9. Evaluate effectiveness of news stories.
 - a. Record amount of news material published.
 - b. Make notation of comments of editors and public.
 - c. Keep record of attendance at meetings and requests for publications that are mentioned in news articles.

ADVANTAGES AND LIMITATIONS. The teaching effectiveness and relative low cost of the news story as a method of extension teaching indicate that the advantages far outweigh the limitations to the general use of this means of disseminating information. Some of the more obvious advantages and a few of the more significant limitations to the use of extension news stories may be summarized as follows:

Advantages

1. Gets information to large numbers of people.
2. Reaches those who might not otherwise seek information of extension agents.
3. Carries the prestige and confidence of the printed word.
4. Least expensive method of influencing adoption of practices.
5. Frequency and regularity with which newspapers enter home makes information timely.
6. Repetition of stories on same subject in succeeding issues of newspaper convinces reader of soundness and popularity of practice recommended.
7. Informing urban people about farmers' problems an important byproduct.
8. News stories from State college support teaching of extension staff.

Limitations

1. Of no value where people cannot read or do not take newspapers.
2. Writing a good news story requires special training.
3. Newspaper editing may occasionally destroy teaching value of extension news story.
4. Difficult to check results.

CIRCULAR LETTERS

*Specialized
Selective*



The form letter, which may be either printed or mimeographed, is another means of communication used by extension workers to reach people in substantial numbers. Circular letters serve two general purposes: (1) To publicize an extension activity like a meeting, exhibit, or television program; and (2) to give timely information on farm and home problems. The form letter may provide an additional contact which helps to maintain the interest of 4-H Club members, local leaders, and other extension co-operators. It may provide additional information to supplement the meeting or radio talk. Or it may be the carrier of helpful information to many who seldom, if ever, attend meetings or participate in other extension activities.

Statistics on the number of circular letters mailed from county extension workers have been not collected since 1941. That year the average county extension worker wrote 74 circular letters—agricultural agents, 77; home demonstration agents, 75; and 4-H Club agents, 71 such letters.

While no evidence is available to indicate that county extension agents are mailing out more or less circular letters than formerly, a marked improvement in the quality of letters is noticeable. Current circular letters are more attractive than formerly due to more illustrations and better reproduction. They are so easier to read because of easier words and shorter sentences. Subject-matter and information specialists have contributed much to the changed character of extension circular letters. The preparation of a single circular letter or a series of letters relating to a particular subject-matter field, which can be readily adopted to the local situation by county workers throughout the State, justifies

des adequate attention by a State project leader. It is probable, however, that the improvement in extension circular letters has little more than kept abreast of the general improvement that characterizes the use of most other teaching methods.

EFFECTIVENESS. The total influence of circular letters is not great—3 practices per 100 adopted due to extension influence (fig. 1). Considering the low cost of the circular letters utilized for extension teaching, the effectiveness ratio for circular letters is high—83 points above the average (fig. 4). For each dollar expended, the returns on the investment in circular letters seems to be much higher for agricultural practices than for home economics.

The potentialities of circular letters as a means of influencing changes in practices under optimum conditions is brought out by a recent study in Louisiana (9), where 16 practices out of each 100 credited to extension influence were associated with circular letters.

Circular letters are a quick, effective, and relatively inexpensive means of influencing the adoption of extension recommended practices.

ESSENTIAL ELEMENTS. As in the case of other methods of extension teaching there are certain elements which are essential to the use of circular letters as a part of the overall teaching plan. Some of the more important steps and the points to be considered under each are listed below:

1. Determine the place of the circular letter in the teaching plan.
 - a. Is it desirable to reach many people quickly?
 - b. Will it convey timely information to special groups of people?
 - c. Will it encourage or persuade people to do things that will further their best interests?
 - d. Will it supplement and reinforce other teaching methods?
2. Determine specific purpose of circular letter and the segment of the extension clientele to be reached.
 - a. To stimulate interest in a subject.
 - b. To give subject-matter information.
 - c. To announce meetings.
 - d. To obtain information about farm and home problems with a simple questionnaire.
 - e. To maintain interest and cooperation of 4-H Club members, local leaders, and other cooperators.
3. Plan the use of the circular letter.
 - a. Plan letter to serve a definite purpose.
 - b. Should be important, timely, and show definite relationship to needs and interests.
 - c. Indicate for each subject-matter problem involved the number of letters, nature of contents, and approximate date of distribution.

- d. Consider the advisability of organizing letters on a series basis.
 - e. Develop specialized, up-to-date classified mailing lists, according to problems and interests of people. Revise frequently.
 - f. Check duplicating and mailing equipment to see if satisfactory for contemplated use.
4. Write circular letters and have them duplicated.
 - a. Write circular letters called for in plan.
 - b. Take advantage of circular letters prepared by specialists.
 - c. Cultivate a forceful, popular style of writing, incorporating clarity and conciseness.
 - d. Make letter attractive by using wide margins, clear-cut typing or duplicating, orderly arrangement, and illustrations that have appeal and force.
 - e. Use good grade of paper.
 - f. Provide easy and convenient means for reply—if a reply is needed.
 - g. Use a courteous conclusion.

ADVANTAGES AND LIMITATIONS. As indicated by the summary which follows, the weight of the evidence is on the side of increased emphasis on the circular letter in extension teaching, both as a supplement to other teaching methods and as a means of influencing people who do not participate in other extension activities. The limitations listed are largely cautions against the unwise or overuse of this medium of communication.

Advantages

1. Reach large numbers of people, including those who do not participate in extension activities.
2. Reach people quickly.
3. Convey timely information effectively to special interest groups.
4. Are adapted to wide range of subject matter.
5. Serve as effective supplement and reinforcement to other teaching agencies.
6. May be read at leisure and filed for reference.
7. Influence changes of practices at relatively low cost.

Limitations

1. Special equipment and clerical help necessary.
2. Too frequent use may minimize the effectiveness.
3. Impression that funds are being wasted may be given by poor composition, improper mechanical preparation, or improper use.
4. Influence limited to people who can read intelligently.

RADIO

Quicker

Interest-
arousing



Although a comparatively new means of communication, radio is the most widely accessible of all mass media. More than any other medium it has the ability to disseminate information to the largest number of people in the shortest time. It is unrivaled as a means of getting emergency or timely information to rural people, due to the presence of a radio in 93 percent of all farm homes and in 98 percent of other homes. Extension workers use the radio to disseminate timely information on market conditions of interest to both producers and consumers of agricultural products; to inform the public regarding the functions and activities of the Extension Service; to advertise meetings, tours, field demonstrations, and other scheduled activities; and to teach improved farm and home practices. In connection with the presenting of subject-matter information over the radio, listeners are frequently invited to write for extension literature which supplies greater detail and may be kept for reference use. Like the extension news story, the extension radio talk extends and intensifies coverage, thereby augmenting the total teaching accomplished.

TRENDS IN USE. As indicated by figure 42, the number of radio talks given each year by the average county extension worker has trebled in the 5-year period 1947-52. The pattern of use of the radio has been essentially the same for agricultural agents, home demonstration agents, and 4-H Club agents throughout the 1930-52 period. A recent study (3) of the extent of use of radio by extension workers in 9 North Central States indicates that 60 percent of all 3 kinds of county extension workers and 87 percent of State subject-matter specialists are utilizing the radio. County extension agents in 1952 reported a national total of 168,000 talks broadcast over 2,000 radio stations. Statistical information is not available on the large number of radio talks made by subject-matter specialists and other State extension personnel over college-owned and commercial radio stations.

TEACHING EFFECTIVENESS. In terms of practices changed by farmers and homemakers, the effectiveness of radio is small relative to other extension teaching methods. The comparison presented in

figure 43 was made prior to the large percentage upswing in the use of radio by county extension workers beginning with 1947 (fig. 42). The total volume of extension radio talks is still small compared to numbers of news stories and meetings. It must be recognized also that a substantial proportion of the radio talks by extension agents do not contain adequate subject-matter information to enable the listener to adopt the practice. Full information must be obtained from the bulletin, office call, meeting, or other medium.

In terms of cost of influencing changes in practices the radio shares the lowest cost position on the scale with the news story and for essentially the same

FIGURE 42.—Radio talks per county extension agent, 1930-52.

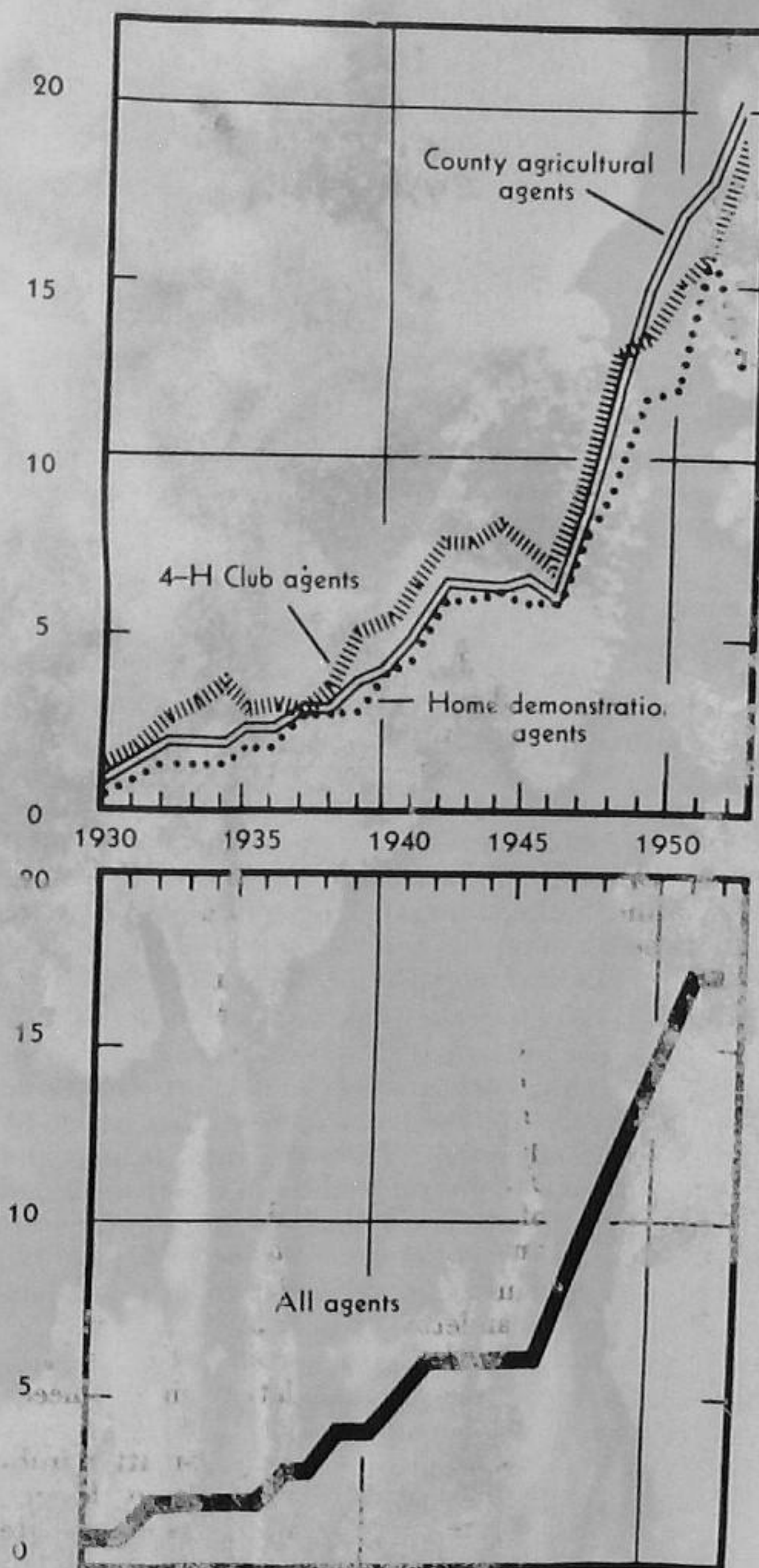




FIGURE 43.—Through radio the extension agent can quickly convey timely information to all people of the county (Ext. Serv., South Carolina).

reasons (fig. 4). The possibilities of the radio in doing an effective job of extension teaching under highly favorable conditions is brought out by a study (7) of the influence of radio station KSAC, owned and operated by the Kansas State College. A sample survey of farm homes in the six counties adjacent to the station made in 1948 indicated that some member of 80 percent of the families listened to the college educational broadcasts at some time during the year. Of the families who listen 26 percent were able to recall improved practices adopted which they attributed to station KSAC.

ESSENTIAL ELEMENTS. The use of radio in the extension teaching plan closely parallels the use of the news story, with a single important exception. The radio talk involves oral presentation heard by the listening audience. The news story is seen and read by those who are subscribers of newspapers and magazines. It is believed that the steps and points to consider under each, which appear on page 60, apply with equal force to the use of radio as a means of extension teaching.

ADVANTAGES AND LIMITATIONS. The strong and weak points of radio to be weighed in the balance are also quite similar to those listed for the news story. They may be summarized as follows:

Advantages

1. Can reach more people more quickly than any other means of communication.

2. Peculiarly fitted to handling of emergency and timely information.
3. Relatively cheap.
4. Reaches many who read little, or not at all.
5. Reaches young mothers and others unable to attend extension meetings.
6. A means of informing many urban people about agricultural matters.
7. Builds interest in other extension media.
8. Possible to build a substantial audience of sustained listeners.
9. Broadcasts from central stations by State staff back up teaching in counties.

Limitations

1. Broadcasting facilities not available in all counties.
2. Time assigned to Extension by commercial stations frequently poor from standpoint of farm listeners.
3. Frequently loses out in competition with entertainment.
4. Difficult to check on results.

TELEVISION



*Tells-how
Shows-how*

Television is the newest extension teaching tool. It is rapidly becoming available to extension agents, particularly in urbanized sections of the country. It is more personal than the radio. The viewer meets the speaker in a simulated face-to-face situation even though this relationship is not shared by the speaker. Opportunity is afforded the members of the audience to both see and hear, which greatly strengthens the likelihood of learning.

Over television the extension agent can give a "how-to-do-it" method demonstration and reach an audience many times larger than the attendance at a meeting. Closeup pictures may even make it possible for the viewer to see key operations more clearly than many of those present where the method demonstration is being given. The short talk can be made more effective with visual aids.

Through use of films and other visual aids, relationships can be clarified and comparisons made between the old and new, the before and after, the good and bad, and the right and wrong. Developmental processes involving passage of time can be telescoped

or shown in slow motion, depending upon the teaching point to be emphasized.

While superior to the radio because of the added eye-appeal (fig. 44), television still does not provide an opportunity for the viewer to ask questions of the speaker. Neither is opportunity afforded members of the audience to practice the new skill or method being taught as is frequently the case at method demonstration meetings. An abundance of inexpensive published material to supplement the television presentation is fully as important as in the case of radio.

The fact that the Federal Communications Commission has reserved a substantial number of television channels for educational use is assurance that educational programs can be broadcast at times convenient to farmers and homemakers. Too frequently the time allotted to extension agents by commercial radio and television stations is that which has little commercial advertising value and for the same reason is of small value in extension teaching.

Iowa State College owns and operates its own television station. Extension workers in 18 other States put on television programs at least weekly and 12 additional States report use of television for extension teaching.

TEACHING EFFECTIVENESS. The novelty of television in many areas and lack of extended general experience with this new teaching medium prevent an adequate appraisal of television in relation to other methods included in the teaching plan. Mention will be made of two studies which shed light upon the potentialities of television in teaching home economics subject matter.

In 1950 the USDA presented a series of eleven 12-minute programs, "Let's Make A Dress," over a Washington, D. C., television station under circumstances similar to extension teaching. A sampling of the 974 women who requested the bulletins distributed in connection with the programs revealed that 90 percent of the women viewed one or more of the programs; that 7 out of 8 of those who viewed the programs reported new ideas learned, and that 46 percent of viewers had actually used the information learned within 5 weeks of the completion of the series. (18)

The Iowa Extension Service also conducted a series of nine 30-minute television presentations, "Make a Dress TV," during 1951. Three thousand and four women enrolled for the course and received a publication. A stratified sample of approximately 420 homes was drawn in such a manner as to provide a cross section of station coverage, including place of residence and degree of sewing experience. Thirty-six percent of the women actually made a dress during the series. Fifty-eight percent of the women reported the series "very helpful" and an additional 37 percent said it was "helpful." (6)

ADVANTAGES AND LIMITATIONS. Several more years will need to pass before the novelty of television in new areas wears off and it becomes possible to form judgment as to the continuing value of television as an extension teaching medium. The advantages and limitations of television in extension would appear to be about as follows:

Advantages

1. Comes closest to a face-to-face approach of all mass media.

FIGURE 44.—Television is the newest extension medium. It combines visual with oral (Ext. Serv., Wisconsin).



2. Visual undoubtedly increases the effectiveness of audio which is the sole reliance of radio.
3. Reaches urban as well as rural people.
4. Reaches many, including mothers of small children unable to attend meetings regularly.
5. Clear view of key operations shown in slow motion possible.
6. Processes requiring much time can be telescoped into a few minutes.

Limitations

1. Intense competition with entertainment programs in which individual family members may be interested.
2. Sets and programs largely centered in urban areas at present.
3. Viewer cannot watch television and do other things at the same time as can be done in the case of radio.
4. A certain amount of showmanship is required to put on program.
5. Present cost of receivers and their upkeep relatively high.

EXHIBITS

Simple
Informative



In discussing the exhibit as a distinct method of extension teaching it is necessary to exclude those exhibits which are merely visual aids employed to strengthen the oral presentation at the extension meeting or make the demonstration, the office call, or the farm visit more convincing. The influence of such visual aid exhibits was included in the meeting or other method they supported. We shall consider here only those types of exhibits which are primary methods of disseminating information. The most common such extension exhibit is the one made at the local, county, or State fair. The central core of many 4-H achievement days is the exhibit of the articles made, crops produced, or livestock reared by the individual 4-H members in connection with their project work. The home demonstration achievement day often features exhibits by the organized extension units of the county. The window display is another illustration of the exhibit being used as a distinct means of disseminating information.

TEACHING EFFECTIVENESS. Extension exhibits may be a helpful means of acquainting the general public with extension work and what it accomplishes. But from the standpoint of influencing farmers and homemakers to adopt improved practices, the exhibit is apparently the least effective of all extension teaching methods. In none of the survey areas studied was the exhibit credited with as many as 2 percent of the farm and home practices adopted. In only one subject matter area, health and sanitation, did the influence of the exhibit rise above the 2 percent level. In one study area 70 percent of the dairy farmers interviewed had seen dairy extension exhibits, yet less than 3 percent of those seeing such exhibits reported any practice changed due to their influence.

The making of an extension exhibit requires considerable expenditure of extension agent's time—to plan and prepare the exhibit, set it up, provide personnel to explain it during the duration of the fair, and finally to dismantle and remove it. As brought out in figure 4, the effectiveness-cost ratio for exhibits is the lowest of all the methods employed in extension teaching. The conclusion must be drawn that public relations and considerations other than teaching should be given heaviest weighting in determining the emphasis to be placed upon extension exhibits.

ESSENTIAL ELEMENTS. Some of the more important steps involved in extension exhibits and the points to be considered under each are:

1. Consider how exhibits might contribute to the effectiveness of the teaching plan or otherwise promote extension.
 - a. Determine fairs and other events at which an exhibit might be made.
 - b. Decide upon the phases of work best promoted by exhibits.
2. Determine the specific purposes of the exhibit.
 - a. To acquaint the public with better standards.
 - b. To promote understanding and create good will toward extension on the part of nonfarm people.
 - c. To influence people to adopt better practices.
3. Plan and prepare exhibit.
 - a. Select type of exhibit appropriate to problem and situation.
 - b. Develop a written plan or diagram.
 - c. Locate and arrange for necessary materials.
4. Stage the exhibit.
 - a. Assemble materials and set up exhibit as planned.
 - b. Make necessary modifications to fit in with adjoining exhibits.
 - c. Properly label exhibit.
 - d. Provide a suitable attention-getting device.
 - e. Have informed representatives pres-



FIGURE 45.—A panel exhibit contributes to the orderly presentation of subject matter and has a wide variety of uses (Ext. Serv., Massachusetts).



FIGURE 46.—The fair exhibit calls attention to the recommendations of the Extension Service (Ext. Serv., Indiana).

- ent to explain exhibit and answer questions.
- f. Arrange for copies of literature to be distributed or get names of those desiring publication.
- g. Publicize exhibit through press, radio, circular letters, and other media.
5. Estimate effectiveness of exhibit.
 - a. Analyze attendance, inquiries, and requests for literature.
 - b. Watch public reactions, press comments, and other reactions.

- c. Make inquiries at meeting places or areas where exhibits were made.

ADVANTAGES AND LIMITATIONS. In weighing the advantages and limitations of the exhibit, the scale tips heavily on the side of limitations if one is thinking primarily of influencing the adoption of better farm and home practices (fig. 46).

Advantages

1. Many people may see the exhibit.
2. Promotes understanding and good will of village and city people toward extension.

3. Stimulates interest in higher standards and new varieties.
4. County fair exhibit provides a logical event to climax local 4-H Club competitions.

Limitations

1. Relatively expensive in terms of agent's time and other costs.
2. Few people are influenced to adopt better practices.
3. Vast majority of those in attendance are seeking recreation.
4. Many Extension exhibits not really aimed at teaching better practices.

Either exhibits are not well adapted to teaching improved practices or people do not go for information to places where exhibits are displayed, or both. Even though they are much less effective than other extension means of directly influencing the adoption of improved farm and home practices, exhibits still may have a place as a means of creating good will for extension on the part of county officials, fair boards, business men, city dwellers, and others.

INDIRECT INFLUENCE



FIGURE 47.—Farmer Brown tells neighbor Smith about an extension practice he has found profitable (Ext. Serv., Indiana).

of the neighbor's milk check, success in canning vegetables, or satisfaction with a convenient kitchen, all are powerful forces at work in bringing about the wider acceptance of improved practices.

In the first instance the information regarding the better practice is introduced into the county by a result demonstration, meeting, farm visit, radio talk, bulletin, or other direct teaching activity. A limited number of individuals try it out. The practice meets a need and they are pleased. The economic gain or other satisfaction coming to the individual clearly offsets any expense or inconvenience the use of the practice entails. The practice is accepted. The information is passed on to friends and neighbors (fig. 47). They try it and are satisfied. They, in turn, pass it on to others in a widening circle. Succeeding adoptions are not identifiable with the direct teaching activities which started the chain reaction. And yet there is a general realization that the information came from Extension.

The exact manner in which the first farmers or homemakers were convinced of the value of the new practice becomes less clear and relatively unimportant. It is of the utmost importance, however, that the extension program be economically sound and the practices advocated of such a nature

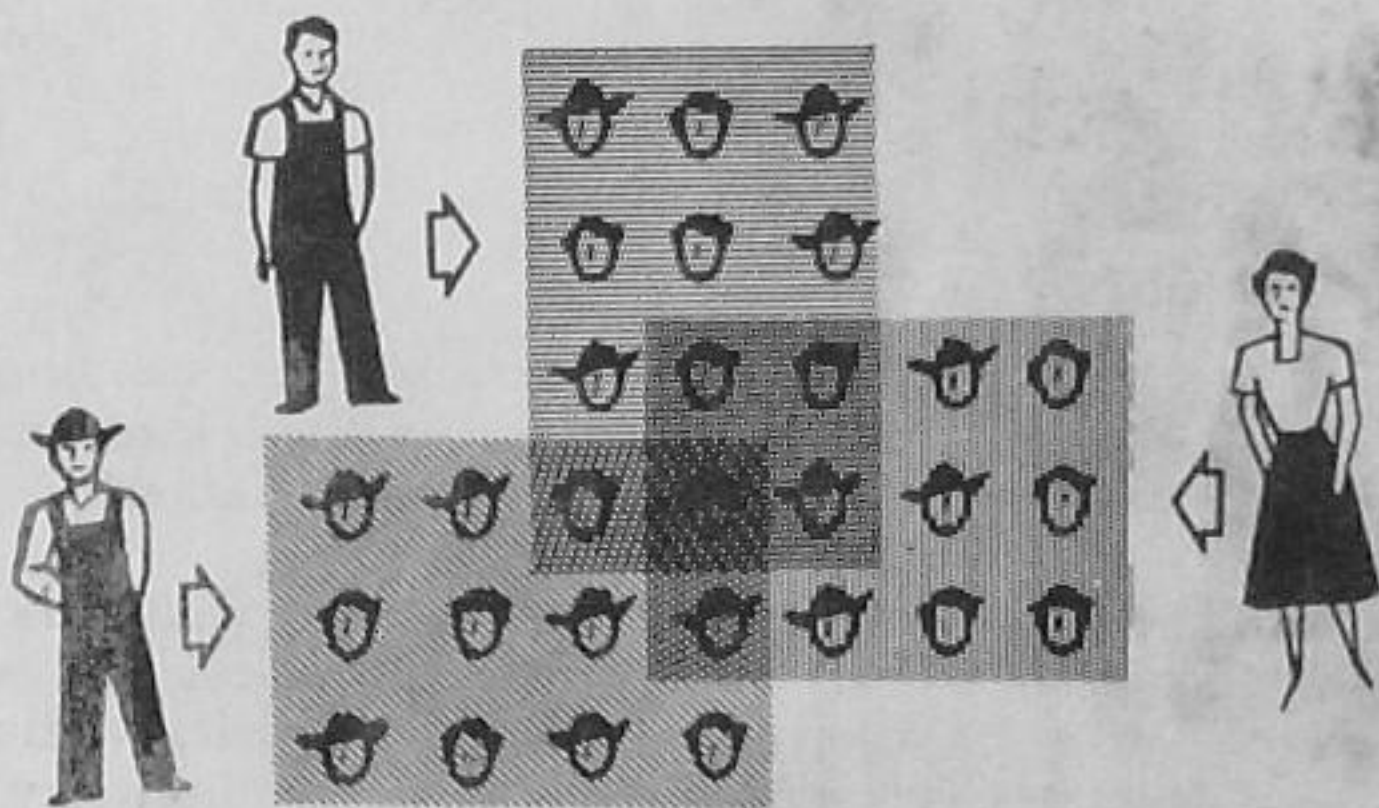
The discussion of relative effectiveness of methods (pp. 12 to 14, figs. 1 and 2) brought out the fact that for every 81 practices adopted by farmers and homemakers as the result of direct teaching activities, 29 additional practices are adopted due to the indirect influence of these same activities. This extra dividend from the teaching investment is larger than the direct returns from any one of the methods employed by extension workers. The amount of this indirect spread of information about improved practices is indicative of total extension accomplishment in a given area was also pointed out under interrelationship of methods (p. 23).

This passing on of extension information from neighbor to neighbor is an important consideration in extension teaching. The statement of a neighbor in good standing in the community, the reported yield of a new variety of wheat or cotton, the size

at those adopting the practice are stimulated to tell others about it. In other words, it becomes easier for the individual to adopt the better practice than not to accept it. When the acceptance of a seemingly desirable practice having general application to the farms and homes of an area lags unduly, it is important to check the teaching plan for coverage and reexamine the practice itself. Only a slight advantage of the new practice over the old may cast doubt upon its value and may not provide sufficient incentive to offset the inertia involved.

In the areas where field studies have been made, indirect spread was much larger in agriculture than in home economics. In the agricultural field indirect spread was highest in the case of wheat, oats, and dairy practices; fairly high for soils, corn, legumes, potatoes, cotton, and marketing; and lowest for tree fruits, vegetables, poultry, and rural engineering practices. Food preservation (canning) led all other home economics subjects in the indirect spread of better practices from one home to another.

TEACHING BY LOCAL LEADERS



The widespread utilization of the volunteer lay leader to enlarge extension coverage and increase the volume of extension teaching justifies a discussion of this extension procedure even though it does not represent a distinct method of teaching. Functioning to all intents and purposes as assistant extension teachers, the local leaders, trained by the extension agent to do a specific job, may employ any or all of the teaching methods available to the extension worker himself. Mention was made of the leader training meeting in connection with the method demonstration meeting (p. 44).

During 1952 county extension workers reported a total of 1,200,000 local leaders actively engaged in forwarding some aspect of the extension program; 46 percent of these leaders were women doing adult work, 29 percent were men working on adult projects, and 25 percent were men, women, and older youth

leaders of 4-H Club work. As indicated by figure 48, the number of extension local leaders per county extension worker increased at a fairly constant rate during the 1930-52 period, except for the upsurge during the Second World War.

The potentiality of the local leader procedure in enlarging extension's coverage and increasing the amount of extension teaching can be expressed mathematically. One million two hundred thousand local leaders devoting 11 days annually to their leadership activities equal more than 50,000 persons employed for a full year of 260 work days. This number is four times that of the total paid extension personnel.

In the average county there are approximately 400 volunteer workers aiding the various members of the paid county staff with the conduct of extension. Following training meetings they repeat method demonstrations, give talks at meetings and make calls on their neighbors. They may conduct result demonstrations; secure cooperators; arrange for and advertise meetings; assist with tours, achievement days, and exhibits; and promote and lead 4-H Clubs. Their experience enables them to participate constructively in revising the extension program to serve better the needs of communities.

In general these local leaders contribute to the advancement of extension in three ways:

1. Add local strength to the extension program.
2. Increase the volume of teaching done.
3. Increase the ability of rural people to cope with new problems as they arise.

Consideration here will be limited to the question of increased volume of teaching made possible through local leaders.

The use of local leaders as additional teachers varies greatly among the States, among the lines of

FIGURE 48.—Voluntary local leaders per county extension worker, 1930-52.

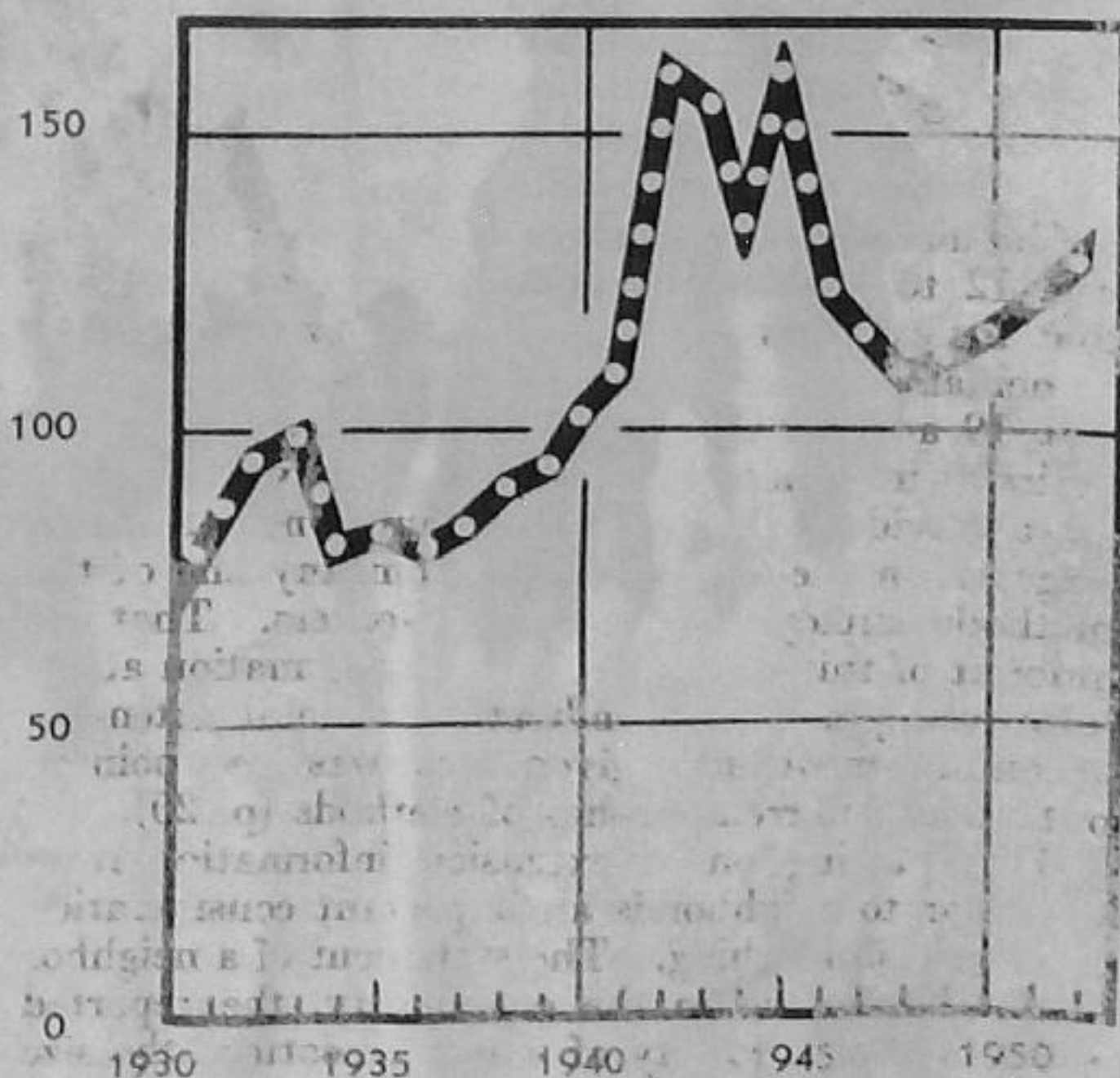


TABLE 9.—Extent to which local leaders pass on information to others

ITEM	KANSAS	NEBRASKA	NEW JERSEY	SOUTH DAKOTA
Number of leaders interviewed.....	171	155	247	169
Percent passing on information.....	86.6	83.9	87.4	87.0
Number of farms or homes influenced to change practices per leader.....	11.7	12.8	13.0	11.7
Number of practices changed per leader due to leader activities.....	29.1	42.8	18.3	18.6

work within a given State, and among the members of the extension staff in a given county. While adequate research is not available on the effectiveness of teaching through local leaders, extension studies have revealed that approximately 7 out of every 8 extension local leaders pass on information to others. The average local leader devotes approximately 11 days per year to leadership work and influences an average of 12 people to make 25 changes in farm or home practices.

That the above represents a fairly stable pattern of the assistance rendered by local leaders in increasing the volume of extension teaching is suggested by the surprising uniformity of data obtained from area sample interviews with local leaders in four States (table 9).

The combined data from these four leadership studies shed some light upon factors which may influence the effectiveness of local leaders in getting others to adopt improved practices. As indicated by table 10, the method of selecting the local leader, whether by election by neighbors at a meeting, by appointment by a local committee, by request of the extension worker, and through the volunteering of service, does not seem to have an important bearing upon the functioning of the local leader.

Success of local leaders in teaching others seems to be largely independent also of such factors as educational background, home ownership, and sex. The importance of agent-held training meetings for local leaders is clearly indicated by table 11. The local leaders who attended training meetings influenced 50 percent more people to make two and one-half times as many changes in practices than was true of the leaders who did not participate in such training activities.

The findings of the 4 leadership studies referred to above also indicate that 500 days of voluntary assistance contributed to extension by 100 voluntary local leaders will be substantially more productive in terms of numbers influenced to adopt improved practices than the same amount of time contributed by only 50 such local leaders. The establishment of more circles of local leader influence will likely reach more people than attempting to accomplish the same objective by enlarging the circles of influence of local leaders already operating. This suggests the inadvisability of involving the same leader in too many teaching activities at a given time even though the farmer or homemaker might be willing to accept the additional leadership responsibility.

ESSENTIAL ELEMENTS. Some general principles or guides to the successful use of voluntary local leaders in extension teaching are outlined below. Much more extension research is needed in this area.

1. Consider how use of local leaders might increase the effectiveness of teaching plan.
 - a. Analyze present functioning of voluntary local leaders.
 - b. Examine subject-matter solutions to problems from standpoint of teaching through local leaders.
 - c. Inventory potential leadership among rural people of the county in terms of specific subject-matter practices to be taught.
2. Decide upon specific duties to be performed by local leaders.
 - a. List jobs which might be performed by local leaders in connection with:

TABLE 10.—Methods of selecting leaders compared (four States)

METHOD OF SELECTION	NUMBER OF LEADERS IN GROUP	DAYS PER YEAR DEVOTED TO WORK	FARMS OR HOMES INFLUENCED PER LEADER	PRACTICES CHANGED PER LEADER
Elected by meeting.....	272	14.2	11.9	36.7
Appointed by a committee.....	105	12.5	10.5	19.7
Appointed by extension agent.....	355	8.0	12.2	16.8
Volunteered.....	40	14.2	14.7	24.4

TABLE 11.—*Importance of training meetings for local leaders (four States)*

ITEM	NUMBER OF LEADERS IN GROUP	DAYS PER YEAR DEVOTED TO WORK	FARMS OR HOMES INFLUENCED PER LEADER	PRACTICES CHANGED PER LEADER
Training meeting attended	515	14.0	13.7	
Training meetings not attended	227	6.7	9.3	

- (1) Determining extension program.
- (2) Arranging for teaching activities.
- (3) Teaching subject matter.
- (4) Checking progress and accomplishment.

b. Select specific jobs to be performed that:

- (1) Local leaders can do about as well or better than extension agents.
- (2) Will increase the number of people influenced.
- (3) Will strengthen leadership locally.

3. Guide selection of local leaders.

- a. Be constantly on the lookout for future leaders.
- b. Provide opportunities for potential leaders to perform some leadership function.
- c. Assist local groups to make intelligent selection of local leaders by:

- (1) Explaining function of leader in relation to problem.
- (2) Outlining qualification of good leader.
- (3) Emphasizing the desirability of spreading leadership responsibility.

4. Train leaders.

- a. Make personal calls on leaders to outline plans and discuss progress.
- b. Conduct formal training meetings for leaders to enable them to function more effectively (fig. 49).
- c. Follow up training meetings with circular letters, literature, and other pertinent materials.

5. Give public recognition to local leaders.

- a. Announce selection through press, meetings, and other media.
- b. Arrange for leaders to preside at otherwise prominent part

FIGURE 49.—Local leaders receive instruction from extension workers before presenting information to their respective groups (Ext. Serv., Colorado).



meetings, demonstrations, and other teaching methods.

- c. Give certificates of achievement or other suitable award.
- d. Give publicity to leaders' activities.

6. Check contribution of leaders.

- a. Ascertain percentage of leaders who function and the extent of their activities.
- b. Watch for evidence of additional people being influenced by local leaders.
- c. Observe how leaders conduct meetings and other activities.
- d. Make comparisons of extension accomplishment in situations where all factors are similar except the teaching done by local leaders.

ADVANTAGES AND LIMITATIONS. Some of the more important advantages and shortcomings of the local leader procedure in extension teaching may be briefly summarized as follows:

Advantages

1. Local leaders themselves are better taught because of the experience of teaching others.
2. People accept a new idea best from a local person who has given it a practical test.
3. Local leader is available for frequent personal consultation.
4. More teachers make possible a larger volume of teaching.
5. Prestige and personal following of the local leader increases likelihood of new practices being adopted.

Limitations

1. Person selected as leader may not have the expected following among neighbors, may not be willing to devote required time to work, or is a poor teacher.
2. Considerable time is required to locate and train local leaders.
3. Local leader may try to use prestige connected with position for personal advantage.
4. The more difficult task of arousing interest on the part of those not interested in extension is too often left to the inexperienced local leader.

SUMMARY

Extension education stimulates people to make changes that result in better farming and home-making. The extension cycle includes:

1. Developing a sound program related to the needs of people.
2. Preparing an intelligent teaching plan.
3. Carrying out the plan systematically.
4. Appraising progress and making indicated revisions in the program and plan.

Wise selection and use of teaching methods directly influence the extension worker's accomplishment. The methods used in extension teaching fall into three use classifications:

1. Individual contacts (farm visits, office calls, result demonstrations, and other individual contact methods).
2. Group contacts (meetings of all kinds).
3. Mass media (publications, radio, news stories, and other media).

The indirect spread of information from person to person which develops from the various teaching methods must also be recognized.

Understanding of the educational process is, of course, basic to the intelligent selection and use of the teaching methods.

Motivation largely determines the rate and amount of learning.

One learns best when there is a strong desire to learn, when the learning is purposeful, and when the effort put forth to learn yields the desired satisfactions.

The extension teacher arranges situations and provides opportunities for learning to take place. By means of appropriate teaching methods the learner is made aware of the farm or home problem to be solved, interest is stimulated, and the desire to do something is aroused.

The teacher gradually convinces the learner that he can and should act.

Opportunity for action is provided and the satisfactions flowing from the action are pointed out.

Field studies indicate wide differences in the influence of the various extension teaching methods upon the adoption of farm and home practices (evidence of the change in behavior of individuals).

Approximately 74 out of 100 practices reported adopted were credited to meetings (method demonstration and general), farm and home visits, news stories, publications, office calls, and result demonstrations. Nearly 7 percent of the practices adopted were associated with letters (individual and circular), radio, exhibits, and telephone calls.

Of the 81 practices in 100 adopted as the result of the various teaching methods, 25 were credited to individual contacts, 33 to group contacts, and 23 to mass media methods (fig. 2). The indirect influence resulting from the direct teaching effort accounted for 19 percent of the new practices.

The proportion of practices adopted due to indirect influence, farm and home visits, news stories, and office calls, was much higher in agricultural extension than in home economics extension. On the other hand the influence of method demonstration meetings and bulletins was far greater in home economics extension than in agricultural extension.

The relative influence of general meetings, result demonstrations, circular letters, radio, and exhibits was very similar in both lines of work.

Where dissimilar subject matter is involved there is a tendency for the percentages of practices credited to the various teaching methods to vary widely. (Examples: Tree fruits and alfalfa; dairy and food preparation.)

Where subject-matter lines of work are similar or present similar teaching problems the pattern of influence of teaching method is quite constant. (Examples: Cotton and potatoes; clothing and home management.)

When relative cost of teaching methods as well as relative effectiveness are both considered, news stories and radio are the cheapest methods of influencing changes in behavior (practices adopted). Next come circular letters, office calls, general meetings, and bulletins.

The farm and home visit and the method demonstration meeting represent about average returns per unit of cost.

Result demonstrations are about half as effective from a cost standpoint in influencing adoption of practices as the average of all methods.

The cost of influencing the adoption of practices through extension exhibits is 17 times greater than when news stories and radio are employed.

There are striking differences in the cost-influence ratios of methods as between agriculture and home economics.

In the case of agricultural practices mass contact methods as a group influence adoption of practices at lowest cost, followed by group contact methods and individual contact methods. In the case of home economics practices group methods are the least expensive, followed by the mass contact and individual contact groups of methods.

The use of several (about five) different methods to tell essentially the same story is of the utmost importance in extension teaching if coverage of clientele is important. However, the number of practices changed per 100 farms or homes increases at a fairly uniform rate as the number of ways people are exposed to extension teaching increases from 1 to 12.

The amount of indirect spread and the influence of office calls, news stories, and the method demonstration meeting are all good indicators of total extension influence in an area. The influence of these methods reflects soundness of the program, confidence in the extension staff, and the extent to which people are informed regarding extension teaching.

Such factors as age of the adult farm population, size of farm, tenure status, and location of the farm or home have little bearing upon the adoption of extension recommended practices by farm people.

The percentage of people adopting improved farm and home practices increases significantly as the amount of formal educational training of farm people increases.

The higher a person's socioeconomic level the more likely he or she is to adopt the practices advocated by Extension.

The extent to which farmers and homemakers are contacted by members of the Extension staff through the teaching methods utilized is a *most* important factor in obtaining the adoption of improved farm and home practices. This fact bears directly upon the selection of teaching methods which, over a period of time, bring many people into individual or group contact relationship with extension workers.

SELECTING TEACHING METHODS TO INCREASE THE EXTENSION WORKER'S EFFECTIVENESS

The extension worker who is interested in larger accomplishment will ask himself just how do the research data and other information relating to teaching methods apply to practical day-to-day extension teaching. There is no easy "patent" answer to the question, "How can I select and use the various methods available to me with greater confidence?" Extension teaching is far too complex for that. No single "rule-of-thumb" will insure successful results in each of the 3,000 counties with more than 12,000 county extension agents. Some general guides will be suggestive of how each individual extension teacher may arrive at a personal answer to the universal question.

Let us start with these basic assumptions:

1. That the extension worker has a keen appreciation of how a learner learns and a teacher teaches.
2. That the county extension program truly reflects the needs of the rural people and that the solutions to problems are practical and will bring satisfaction to learners.

3. That education is a growth process requiring time, with each individual moving from where he now is toward a limited number of learning goals to be achieved at some future time.

It must also be recognized that the selection and use of teaching methods will be conditioned by certain overriding considerations, some of which involve policy decisions at State level:

1. The number of people who make up Extension's clientele in the county—farm, rural nonfarm, and urban—must be considered.
2. The emphasis to be placed upon the alternatives of (a) influencing a large number of people slightly and (b) influencing a relatively small number of people to make maximum progress in improving their farm operations and family living, will influence choice of teaching methods.
3. The size of the county extension staff, the amount of supporting specialist assistance available from the State Extension office are other factors entering into the picture.
4. The availability of certain communication media, such as newspapers, telephones, radio, and television will also have a direct bearing upon the extent to which these means can be useful in extension teaching.

Against this background the following suggestions may be helpful to the individual extension worker in sizing up a particular teaching situation and in selecting teaching methods appropriate to the occasion:

THE AUDIENCE. The people of the county vary greatly in matters of educational training, age, income level, social status, nationality background, and religious beliefs. Some are progressively seeking change, others are slow to change. Some are "eye-minded" while others are "ear-minded." These individual and collective differences influence the teaching approach.

Young mothers unable to attend meetings or to otherwise participate in group activity may be effectively reached by circular letters, publications, radio, and television.

Isolated nationality and religious groups may require special meetings and the use of local leaders selected from their own number.

Disadvantaged segments of the population with little schooling and low incomes may respond to personal visits and result demonstrations, provided the latter are definitely geared to their needs and situations. Written or published materials must be couched in very simple terms.

Radio, television, newspapers, and exhibits are likely to be useful in working with part-time farmers and people living in fringe areas and urban centers.

The better educated and the more progressive elements of the population usually respond well to group meetings and discussions, method demonstrations, and written materials.

SUBJECT MATTER. What is being taught may be relatively simple or extremely complex. It may be familiar or strange. The change sought may involve a new skill or a new concept.

Where the new practice is simple or similar to those already being followed, the news story, radio, or circular letter will be effective, whereas complex or unfamiliar practices will require face-to-face contacts and written materials.

In the early stages of a project or in the early development of Extension in an area, attention must be given to the establishment of local proof of the practice and the building of confidence in the extension worker through result demonstrations, farm and home visits, and method demonstrations.

Manual skills can best be taught through method demonstrations and television, while critical thinking and public acceptance may require discussion meetings and the use of local leaders.

Teaching methods which have proven successful in one subject-matter project are likely to be equally successful where the second subject-matter line of work is similar. The opposite is true when the two lines of subject matter are unlike.

The satisfaction likely to follow the adoption of the recommended practice largely determines the extent to which that practice is passed on from one neighbor to another.

TEACHING METHODS. Understanding of the primary function and the strengths and weaknesses of each individual method is important. The methods selected should supplement and complement each other. Repetition in a variety of ways is highly advantageous in bringing about change. The characteristics inherent in the individual methods may be briefly summarized as follows:

Farm or home visit. Individualized teaching. Provides agent with intimate knowledge of farm and home problems. Essential to reaching those having little interest in extension.

Office call. Absence of local setting offset by readiness of caller to act; otherwise like farm and home visit but less expensive.

Telephone call. Very much like farm visit and office call. Greatest usefulness is in arranging for other teaching activities.

Personal letter. Shows strong interest on part of writer, but total volume of letters requesting information small.

Result demonstration. Provides local proof. Important in building confidence of both agent and farmer or homemaker. Relatively expensive. Danger of needless duplication.

Method demonstration meeting. Exceedingly useful in teaching skills. More important in home economics than in agriculture.

General meetings. Presents authoritative information through lectures. Through discussion

knowledge is shared and learning strengthened. Reduces cost of face-to-face contacts.

Visual aids. Add to effectiveness of meetings by supplementing hearing with seeing. Build meeting attendance and contribute to orderly presentation.

Bulletins, leaflets, and other publications. Authenticity of the printed word. Useful for reference, and relatively cheap. Necessary supplement to other methods, especially radio and television.

News story. Reaches large audience with periodic frequency. Inexpensive. Adds greatly to teaching effectiveness of other methods.

Circular letter. Carries a special message to a selected audience at a relatively low cost.

Radio. Quickest means of imparting timely and emergency information. Reaches many not otherwise in touch with Extension.

Television. Affords audience opportunity to see as well as hear. Shows large numbers of people "how-to-do-it."

Exhibit at fair or other event. More valuable in creating good will toward Extension than as a means of teaching improved practices.

In general the methods which deal with people as individuals, such as farm and home visits, office calls, the telephone, correspondence, and the result demonstration are useful and important in contacting those who do not participate in extension activities; where the changes being taught are complex; where there is need to increase the confidence of farmers and homemakers in extension and the extension worker needs firsthand knowledge of farm and home conditions. Individual contact methods are important in the selection of local leaders, demonstrators, and cooperators, and contribute greatly to the effectiveness of group methods and mass media. They are relatively expensive.

Group methods make possible face-to-face contacts with large numbers of people and facilitate the sharing of knowledge and experience, thereby strengthening learning. Meetings are adaptable to practically all lines of subject matter and recognize the basic urge of individuals for social contacts. The wide diversity in character and interests of the audience may create a difficult learning situation. The holding of the meeting may also become the "real" objective rather than the purpose the meeting was intended to advance. Group methods are less expensive than individual contact methods and are likely to be more effective in stimulating action than mass media.

Mass contact methods including publications, news stories, circular letters, radio, television, and exhibits repeat what is being taught through face-to-face methods and reach a much larger and diverse clientele. Even though less effective than face-to-face methods in bringing about changes in practices, the large number of people reached more than offsets the lack of intensity and low effectiveness. Mass

media complement and reinforce individual and group contacts and add greatly to total extension accomplishment at relatively little additional cost.

The use of local volunteer leaders for whom the necessary special training is provided can greatly increase the total teaching accomplishment. It is more productive to encourage more leaders to devote a small amount of time to extension, than try to extend the influence of a limited number of leaders. Local leaders may use any or all of the teaching

methods available to the professional extension teacher.

In the final analysis the extension worker is faced essentially with a series of compromises, as the selection of methods involves judgment of many factors. Attention must always be focused upon the sum total of teaching done as the result of the entire year's teaching effort rather than upon the return from a particular unit of time.

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