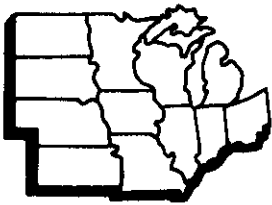


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How Farm People Accept New Ideas

Special Report No. 15



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Farm Foundation and United States Department of Agriculture, cooperating

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Preface

The basic framework for this report is the result of the group efforts of the Subcommittee for the Study of the Diffusion of Farm Practices; an adjunct of the North Central Rural Sociology Committee which is sponsored by the Farm Foundation, Chicago, Ill.

The original draft was integrated by George M. Beal and Joe M. Bohlen of Iowa State University as a flannelgraph presentation entitled "The Diffusion Process."

Associate Director Marvin A. Anderson of the Iowa State University Co-operative Extension Service made several valuable suggestions and was instrumental in hastening the completion of this publication.

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How Farm People Accept New Ideas

Some farmers will try any new idea that comes along, while others will accept an idea only after it is proven in their neighborhood. A major concern of agricultural leaders is that of narrowing the time gap between the early and late adoptions of recommended practices. Some new ideas and practices are accepted quickly and with little apparent effort, while others are accepted only after years of effort on the part of agencies and leaders working with rural people.

This lag between *what is known* and *what is done* by most farmers has been the focus of considerable research in recent years by rural sociologists and others. Some aspects of the problem have been more adequately studied than others. Many of the studies are explora-

tory, resulting in only tentative findings. Despite the many gaps in our present knowledge, there is a need for bringing together and interpreting the results of the various studies for use by agricultural leaders and agencies.

The major purpose of this publication is to show the process by which ideas become accepted. This diffusion process will be discussed from three points of view:

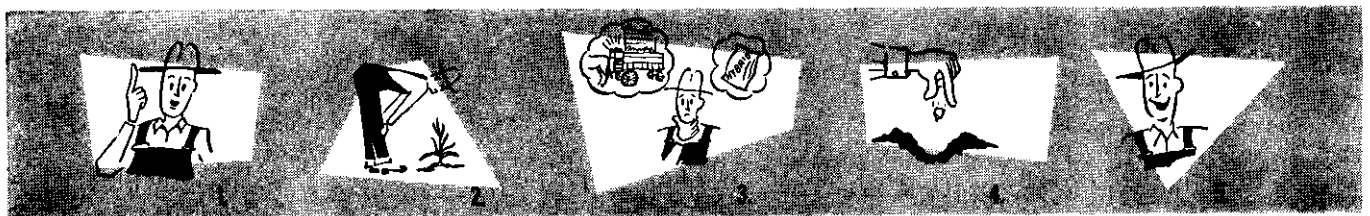
1. The stages through which an individual goes from the time he first learns of an idea until he adopts it, and the media which are most effective at these various stages.
2. Some situational and group influences affecting adoption.
3. Some of the characteristics of farm people as they relate to rate of adoption.

Stages in the Process of Acceptance

The acceptance of a new idea is a complex process involving a sequence of thoughts and actions. Usually decisions are made after multiple contacts with various communication channels. These contacts are made over a period of time. For instance, the average time span from awareness to adoption of hybrid seed corn in Iowa was 7 years. Adoption of most

of acceptance. This process may be broken down into five stages as follows:

1. **AWARENESS:** At this stage the individual learns of the existence of the idea or practice but has little knowledge about it.
2. **INTEREST:** At this stage the individual develops interest in the idea. He seeks more



other hybrid seeds has come more rapidly. Changes which involve new skills or techniques usually require longer periods of time. However, once an idea has been introduced and the process initiated in any given community, some people can be found at all stages in the process

information about it and considers its general merits.

3. **EVALUATION:** At this stage the individual makes mental application of the idea and weighs its merits for his own situation. He

obtains more information about the idea and decides whether or not to try it.

4. **TRIAL:** At this stage the individual actually applies the idea or practice—usually on a small scale. He is interested in how to apply the practice; in amounts, time and conditions for application.
5. **ADOPTION:** This is the stage of acceptance leading to continued use.

An integral part of the acceptance process is the communication of information at these

various stages. Information is communicated through various channels which may be generally classified as follows:

1. Mass communications media (newspapers, magazines, radio, TV and circular letters)
2. Neighbors and friends
3. Salesmen and commercial dealers
4. Direct contacts with agricultural agencies (professional workers in Extension, Soil Conservation Service, Agricultural Conservation Program and Vocational Agriculture)

THE DIFFUSION PROCESS

In the Awareness Stage

At this stage the individual knows little about the new idea beyond the fact that it exists.

More people become aware of new ideas from mass communications media than from other sources. This is supported by studies in different parts of the country. Some studies, such as that of hybrid corn in Iowa, indicate that salesmen are important in creating awareness of new ideas which involve the use of a commercial product. Neighbors and friends are important creators of awareness of new ideas among the lower socio-economic groups.

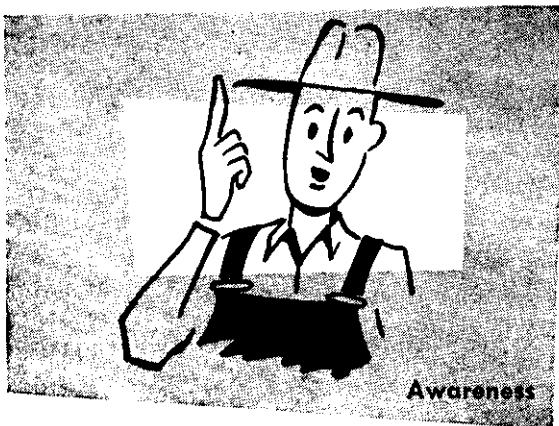
Some studies reveal that government agencies such as the Extension Service and other agencies are the second most important contact for informing people of the existence of an idea.

It is at the AWARENESS stage that the mass media devices have their greatest impact. The evidence is that for the majority, mass media become less important as sources of in-

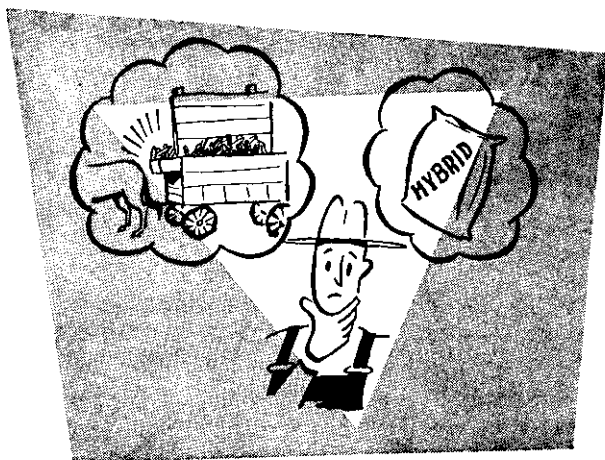
formation after the individual has become aware of the idea.

In the Interest Stage

At this stage, the individual obtains general information about the idea. Mass media still play an important role in providing this type of information. They provide information which is timely and readily available from a wide range of sources. Many rely upon agri-



cultural agencies at this stage while others rely upon neighbors and friends. Agencies can provide results of experiment station research. Farmers with outside contacts are also important in stimulating interest in new ideas and practices. The channels of communication which can provide general information which rural people will accept as valid are the most influential at this stage.



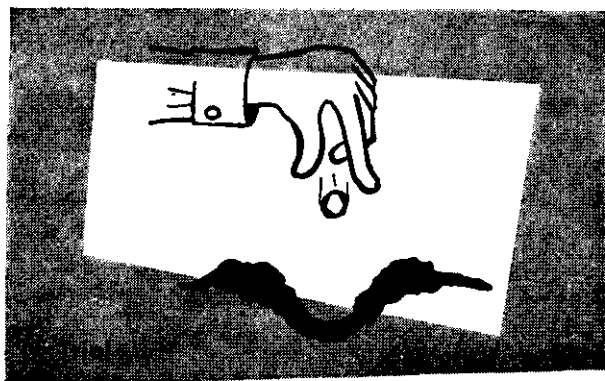
Evaluation

In the Evaluation Stage

In this stage the potential adopter evaluates the new idea in terms of his own situation. He weighs its economic aspects in terms of land, labor, capital and net returns. He also appraises it in relation to values other than economic—i.e., his personal preference in enterprises and activities, family resources, family goals and interests, and its effect upon his relationships with his neighbors and friends.

The data available indicate that as people are evaluating an idea for their own use, they usually consult with neighbors and friends whose opinions they respect.

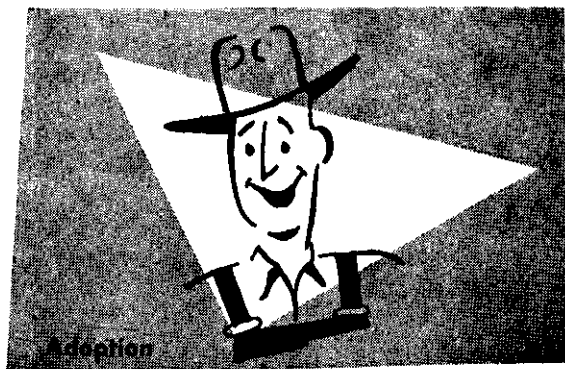
The earlier adopters tend to depend upon agricultural agencies during this stage. Farm people, in general, go to sources of information which they consider to be dependable for information at this stage. This usually means that the sources are ones with which the farmer has personal contact, i.e. his neighbors and friends. These sources have demonstrated ability to consider new ideas in terms of the local situation. The reasons for the apparent lack of importance of mass media and salesmen at this and later stages of the adoption



process are: (a) The information provided through these channels is too general; (b) the potential adopters mistrust some mass media information because they feel that the information is tempered by the business interests of those who are in control of them.

In the Trial Stage

This is the stage where farm people preparing to try out the new idea are primarily concerned with getting information on how to do it and when to do it. Where possible, the new idea or technique is tried on a small scale, i.e., one bushel of hybrid seed corn was planted the first year; commercial fertilizers were used on small plots, etc. At this stage agricultural agencies become more important along with neighbors and friends, who continue to be important sources of information. Two-way information is usually needed to obtain the detailed information on *how* and *when* the new technique is



Adoption

to be applied. Some techniques require technical "know-how" which the average individual does not have.

Salesmen are important providers of information at this stage when a commercial product is involved.

Mass media have been relatively unimportant as information sources at this stage.

In the Adoption Stage

This is the stage at which the idea has been completely accepted. The individual is satisfied with its use under existing conditions. The greatest single influence in continued use of any idea is the individual's personal satisfaction with early trials. Continued use also de-

depends upon the individual's success with the practice under varying conditions.

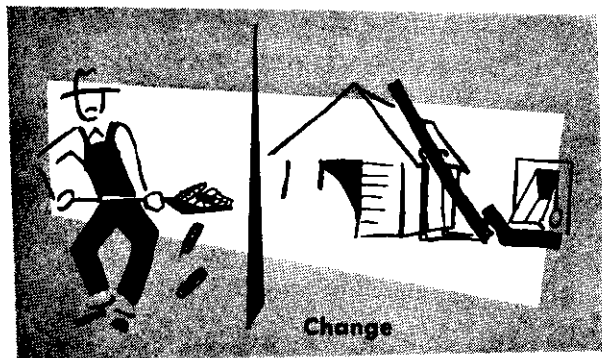
There is some evidence to indicate that adopters seek information to interpret results in relation to their own situation. This is most likely to be provided by neighbors and friends and agricultural agencies.

An understanding of failures of new practices is as important as interpretation of successes. For example, hybrid seed corn use is sometimes discontinued because individuals have used strains unadapted to their climate and soil conditions and have had results that were unsatisfactory.

Diffusion Process Varies With Types of Change

There is a wide variation in the types of changes in farming. They are of a qualitative as well as a quantitative nature. An example of a qualitative change would be a change from non-use to the use of commercial fertilizer. An example of a quantitative change would be the variation in the amounts of fertilizer applied. For some changes, however, the distinction between a quantitative and a qualitative change is not always clear—i.e., a change from low analysis to high analysis fertilizer.

The content of changes includes: (a) the change in the amount of human effort required, (b) the change in amount of capital or physical materials required, (c) the change in manipulative skills and (d) the change in management



ability required for maximum benefits from the new idea. Taking these elements into consideration, changes in farm practices may be classified as follows:

1. Change in materials or equipment only, without a change in techniques or operations (e.g., new variety of seed).

2. Change in existing operations with or without a change in materials or equipment (e.g., change in rotation of crops).
3. Change involving new techniques or operations (e.g., contour cropping).
4. Change in total enterprise (e.g., from crop to livestock farming).

Such a classification of changes is helpful in determining the role of various communicating agents in implementing change. For example, the one-way communication of the mass media may be sufficient to initiate a change in a seed variety, while a combination of media including two-way personal communication may be necessary to implement a change from straight-row to contour farming.

The relative advantage of the new as compared with the old way of doing things is another condition affecting its acceptance. In economic terms this is the comparison of output per unit of input—the relative efficiency of the new items. The greater the efficiency of the new technology in producing returns, not only in the form of economic goods but also in other forms of satisfaction, the greater its rate of acceptance.

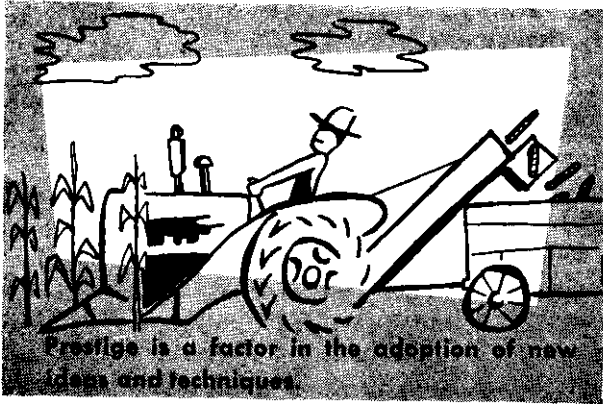
Another aspect of new practices affecting their rate of acceptance is the relative ease with which they can be demonstrated and communicated. For example, the ease with which an advantage of hybrid corn over open-pollinated varieties can be demonstrated no doubt has influenced its rapid acceptance. On the other hand, the difficulty of demonstrating the advantage of strip-cropping or new crop rotations has made for slower acceptance of these practices.

Some Personal and Social Characteristics Related to Adoption of Practices

The adoption of farm practices is influenced by social and psychological as well as economic factors. Community standards and social relationships provide the general framework wherein the process of change occurs. Individual differences help to explain variations in adoption of practices within the community.

Group and Community Variations

In some groups and communities people place a higher value upon material gains and money



than they do in others. In some, changes in farming are encouraged and expected. Prestige is attached to the adoption of new ideas and techniques. In others, more value is placed upon tradition and little freedom is allowed the individual to deviate from the group's pattern in adopting innovations.

If the adoption of new practices goes contrary to the established customs and traditions of the people, the innovator may be ridiculed or lose prestige.

The extent to which changes are adopted depends upon the values and expectations of the group and upon the extent to which the individual is expected to conform. Where there is great emphasis on maintaining family traditions and values rooted in the past, change occurs more slowly. On the other hand, where emphasis is upon individualism and personal success, change occurs more rapidly.

The acceptance of change is also influenced by the nature of leadership and control in the group or community. In one community, none would agree to go along with a program to eradicate brucellosis in dairy herds until one man in the community was sold on the idea. Once sold, he influenced all farmers in the community to go along with it. In this situation, change was brought about by working through the leader of the group. In most communities, no single leader has such influence. Whenever there are leaders that the people look to, it is important to identify and use them. The influence of informal leaders is likely to be greater where neighbor, community and kinship ties are the strongest.

The extent and nature of social contact within the community is important in the diffusion of new ideas and techniques. The presence of organizations whose objectives include the pro-

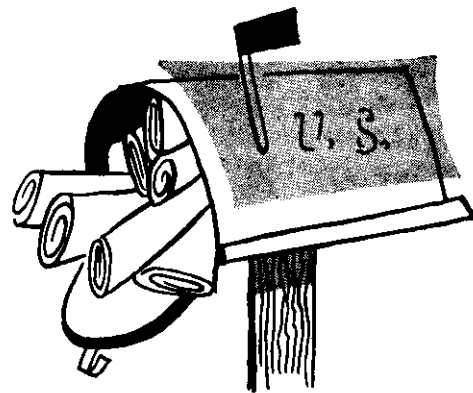
motion of changes will aid directly and indirectly in the diffusion process. On the other hand, where social contacts are primarily through kinship, visiting and other informal activities, there may be greater resistance to change. The introduction of change may disrupt these relationships. For example, the use of modern machinery makes the work-exchange group less essential. Hence, the nature of the social contacts in a community is an important factor in the process of change.

The degree to which social contacts are confined to the immediate locality is a factor. The broader one's social orientation, the more likely he is to accept new ideas. Only a few individuals may have such outside contacts, but they may be in a position to influence their neighbors. Local orientation on the part of the majority is not necessarily a limiting factor in the diffusion of new ideas so long as a few leaders have outside contacts.

Neighborhoods and clique groups facilitate exchange of farm information among their members. There is evidence that social cliques serve as barriers to the spread of information outside themselves. Members of neighborhoods and cliques rely more upon other members for information and advice in the adoption of farm practices than they do upon outsiders. This is due to the high degree of identification that prevails among intimate associates.

If information is from persons who are already well informed on the new practices, changes will take place more rapidly than if information is sought from friends regardless of how well informed they may be.

The social distances associated with wide status differences are also a factor in the diffusion of farm information through inter-



Ideas through bulletins, farm magazines and newspapers

personal channels. For example, tenant farmers in some areas of the country do not get ideas from the large farm owners because of their lack of contact. Also small-scale farmers may fail to communicate with large-scale farmers. Rigid class structure impairs interclass communication of ideas.

Individual and Family Variations

Decision making is influenced by the aspirations and capabilities of farm families. Individual member and family aspirations are reflected in their goals, values and means of achievement. Their capabilities include general farm knowledge and managerial skills of the operator and his family. These are related to such things as age, formal education, socioeconomic status and social contacts.

The more education an individual has, the more likely he is to adopt new farm practices. Those with high school training, and above, tend to adopt new practices earlier than those who have had less formal schooling.

Young operators tend to be more aware of and more favorable toward new ideas and practices, but are not always in a position to put their ideas into operation. This may be due to lack of available capital or land or lack of freedom to make decisions.

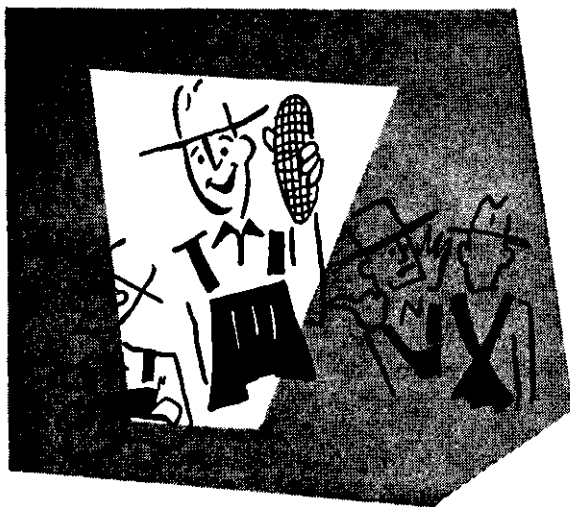
Participation in general farm organizations and farmer cooperatives is associated with early adoption of new farm practices. Favorable attitudes of farm families toward extension and other educational agencies is positively related to acceptance of farm practices.

Farmers who have children in 4-H clubs or vocational agriculture tend to adopt more approved practices than others. Participation in the adult extension programs is positively related to adoption of practices. Likewise, the number of contacts which individuals have with new ideas through bulletins, farm magazines and newspapers is positively related to early adoption of practices.

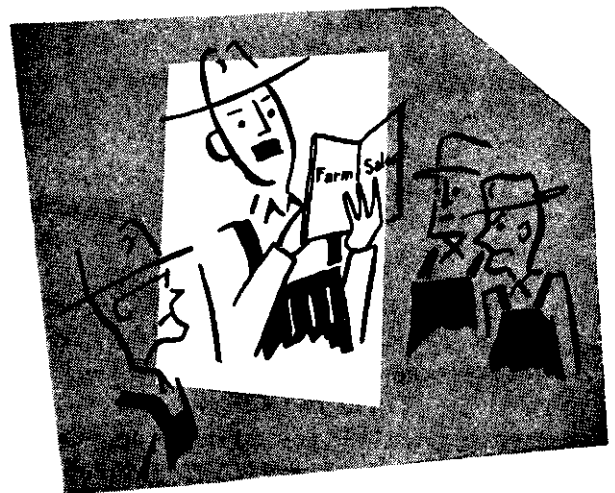
Individual and family goals and values affect the decisions to adopt or reject new farm practices by providing motivation for individual and family action. For example, the high value placed on security, as reflected in owning land debt-free and being reluctant to use borrowed capital, is negatively related to adoption of new practices. People who rate this value highly prefer to use money for paying off debt on their farms. Also new practices involve risks which people who place a high value on security are reluctant to take.

High values upon individual achievements and satisfactions are positively associated with adoption of new ideas and practices. These achievements and satisfactions include formal education for family members, modern living conveniences and family recreation.

Attitudes pertaining to the participation of family members in decision making and in the operation of the farm are associated with acceptance of changes in farming. For example, farmers who have sons over 12 years of age who encourage the adoption of new practices are among the earlier adopters. Those farm families having equitable arrangements for



Innovator



Community Adoption Leader

sharing farm income and ownership between father and sons tend to be earlier adopters than families in which the father retains control of the farm.

Sequence of Influences in the Adoption of Practices

From the time a new idea is formed until it is generally accepted, multiple influences are at work. These include the various means of communicating ideas which have been discussed earlier in this report.

The relative importance of these means varies with stages in the process of acceptance discussed above. Also earlier and later adopters rely upon different channels of communication particularly at the **evaluation** and **trial** stages.

As shown on page 10, people may be classified into categories according to the sequence in which they adopt new practices: innovators, community adoption leaders, local adoption leaders, later adopters and nonadopters.

Innovators are the first to adopt new ideas. They are independent in their thinking and have a wider range of contacts. They are known as "experimenters" and "people who are always trying out new things." They are seldom named as persons to go to for advice on farming. They are not necessarily adoption leaders in their neighborhoods and communities. Such persons may not be present in every community.

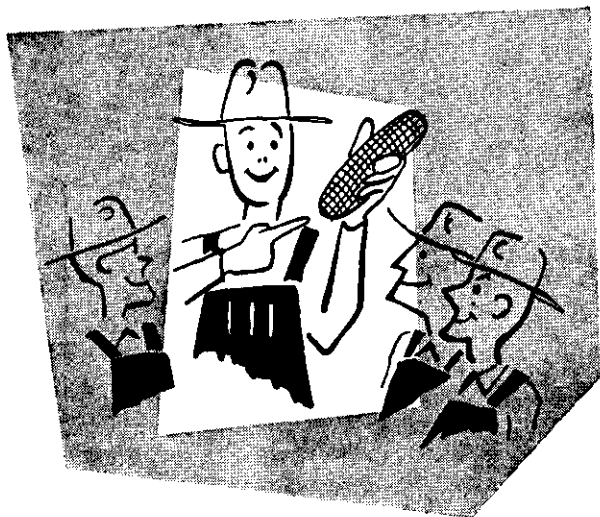
Community adoption leaders are not the very first to try new ideas, but are among the first

to use approved practices in their community areas. They are not the persons who test the untried ideas but they are quickest to use tried ideas in their own situation.

The community adoption leaders are usually the larger and more commercial farmers in their areas. They have direct contacts with agricultural agencies and may be the leaders in farm organizations. They tend to have a higher level of education and read more bulletins, magazines and newspapers than do the average. They participate more than the majority in formal organizations and have wider social contacts.

Local adoption leaders. These are the people to whom the majority look for information and ideas in their farming operations. They are not necessarily innovators or early adopters, but they do adopt ideas sooner than the majority who look to them for information. They have information contacts with agricultural agencies and other farmers outside their immediate localities who have tried the ideas. In their personal and social characteristics they are similar to the majority, but they are expected to take the initiative within their groups. They are sometimes called informal leaders. Their leadership position is maintained on the basis of being "sound" and showing ability to use good judgment. One remains an informal leader only so long as he is considered by others to possess these attributes.

These local adoption leaders or informal leaders are important links in the chain of communication. Studies show that these informal



Local Adoption Leader

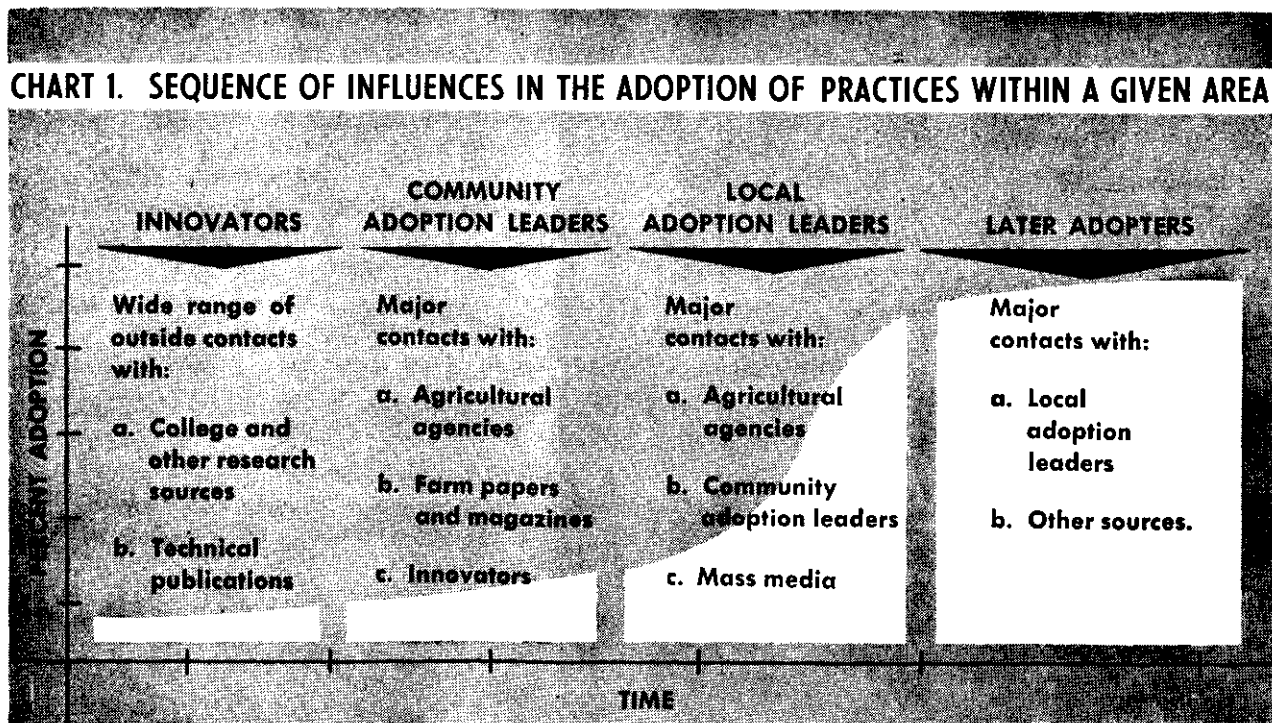


Later Adopters

leaders are identified by the majority of farm people as neighbors and friends rather than as "leaders," because that's what they are to these people. They are not thought of as leaders by their associates. Their leadership is not established by election—it's established by actions which have won the respect of their associates. These informal leaders are not necessarily the open seekers of offices in formal organizations. They are not necessarily the volunteer leaders who recommend themselves to the county agent or the vocational agriculture teacher for service. Their leadership is oriented toward their following rather than toward those whom they may consider to be "leaders."

Later adopters are the majority of the people in the community who adopt new ideas. This group depends primarily on the local adoption leaders for information and ideas, although some have contacts with agricultural agencies and become aware of ideas through mass media. The later adopters have less education, participate less in community affairs and are older than those who adopt ideas earlier. There are some to whom a practice might apply who never adopt it. They have even less education and social contacts than the later adopters.

In any community, there are always some to whom the practice does not apply and for whom these generalizations do not hold true.



SUMMARY AND APPLICATION

People go through several stages in learning about and in adopting new ideas. These stages may be classified as: awareness, interest, evaluation, trial and adoption. Mass media make their greatest impact in the awareness and in the interest stages. Neighbors and friends are most important as sources of information in the evaluation stage. In the trial stage agricul-

tural agencies and neighbors and friends are important. Dealers and salesmen are important as sources of information in this stage when commercial products are involved. There are also variations in the types of communication used according to the nature of the change.

Variations in rates are influenced by individual, group and community factors. These

condition the decisions of farm operators in considering new ideas and practices.

The adoption of a new idea follows a sequence of influences from the time an idea is formed until it becomes generally accepted. In this diffusion process people may be classified into types based upon the sequence in which they accept new ideas and practices as follows: innovators, community adoption leaders, local adoption leaders and later adopters.

One of the functions of leaders among farm people is to diffuse new ideas and practices. It is their task to expedite the process of getting ideas from their sources of origin to those who can use them.

To be effective in this process one must know what techniques to use at the different stages and how to mobilize them effectively.

He must also know in which stages in the diffusion process the people are. For example, it would be a waste of energy to devote educational efforts to instruct people how to do something—information pertinent to the trial stage—when the majority of them are at the stage of needing data about what the idea is—i.e., at the interest stage.

In order to be most effective, an agricultural leader must know how to use all of the communications channels available to him. For example, the informal leaders have contacts and influence with people which no other channels can provide. The most effective use of the informal leader requires that one work with him on an informal basis. Giving the informal leader public recognition may jeopardize his position of leadership and thereby the influence which makes him an important resource in extension and other programs.

In order to be effective as an educational worker one must understand:

- a. The nature of the acceptance process.
- b. The values and aspirations of the people with whom he must work.
- c. The formal and informal group relationships within his area.
- d. The availability and most appropriate use of mass communications.
- e. The sequence and interrelationships of influences in acceptance of new ideas.

In addition to knowing how to use the various channels of communication in bringing about adoption of practices, educators must be sensitive to the customs, values and aspirations of the people with whom they work. Changes are accepted when they support these values and aspirations. Hence it is important to show how and to what extent they do so. For those most concerned with the security obtained by owning their farms free of debt, one can show how the adoption of improved practices will contribute toward this end. For those placing a high value upon material conveniences, one can show how the adoption of improved methods of farming will help obtain these conveniences.

Finally, the person attempting to speed up the process of acceptance of new ideas and practices must be aware of the total process and the sequence of influences at different points in this process. It is necessary to intermesh the impersonal with the personal and the technical with the nontechnical. In this sense the influencing of change is an art which requires sensitivity to the many phases of the acceptance process; it also requires the ability to make most effective use of the various means of influencing acceptance.

SAMPLE READINGS

A representative sample of literature in this field follows:

- Lionberger, Herbert F., "The Diffusion of Farm and Home Information as an Area of Sociological Research," *Rural Sociology*, Vol. 17, No. 2, June 1952, pp. 132-144.
- Lionberger, Herbert F., Sources and Use of Farm and Home Information by Low-Income Farmers in Missouri, University of Missouri Agricultural Experiment Station, Research Bulletin 472, April 1951.
- March, C. Paul, and A. Lee Coleman, "The Relation of Kinship, Exchanging Work, and Visiting to the Adoption of Recommended Farm Practices," *Rural Sociology*, Vol. 19, September 1954.
- March, C. Paul, and A. Lee Coleman, "Farmers' Practice-Adoption Rates in Relation to Adoption Rates of 'Leaders'," *Rural Sociology*, Vol. 19, No. 2, pp. 180-183, June 1954 (research note).
- Ryan, Bryce, and Neal Gross, "The Diffusion of Hybrid Seed Corn in Two Iowa Communities," *Rural Sociology*, 8:15-24, March 1943.
- Wilkening, E. A., Acceptance of Improved Farm Practices in Three Coastal Plain Counties, North Carolina Agricultural Experiment Station, Technical Bulletin 98, May 1952.
- Wilkening, E. A., Adoption of Improved Farm Practices as Related to Family Factors, University of Wisconsin Agricultural Experiment Station, Research Bulletin 183, December 1953.

A bibliography containing over 110 references to work in this field is available. Write:

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