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Legitimation of Decisions to Adopt Farm
Practices and Purchase Farm Supplies in two
Missouri Farm Communities:
Ozark and Prairie

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Legitimation of Decisions to Adopt Farm Practices and Purchase Farm Supplies in Two Missouri Farm Communities: Ozark and Prairie

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THE LEGITIMATION FUNCTION IN DECISION MAKING

When a farmer adopts a new product or practice it is usually the result of a series of influences occurring over a period of time. After learning about the innovation he ordinarily must obtain additional detailed information about it. The accumulated information in turn must be evaluated and related to his own situation before he can arrive at the decision to try the new practice or product even on a limited basis. This occurs at the evaluation stage in what has been referred to as the individual adoption process. (1) Actions and conditions leading to personal conviction that an innovation is good in principle and good for a potential user are referred to as legitimation, which is the chief concern of this bulletin.

Just as there is a time lag between first knowledge about a new product or practice and first trial of it, the process of becoming convinced (legitimation) may also require substantial amounts of time. Proof of local adaptability is often a requirement for legitimation. For persons requiring such evidence, observation of successful local trial or consultation with trusted informants who have the requisite experience is generally necessary. For some practices, several years may elapse before this kind of proof is available.

Obviously, time requirements for legitimation could be materially reduced if this function could be performed by reputable research agencies and by information communicated via the mass media rather than through the interpersonal communicative network which is usually the case. Although research facilities for creating information and agencies for communicating it are physically available, effective use of both is often limited. Personal beliefs regarding the suitability and acceptability of information for legitimation purposes and the frequent requirements of prior experience place limits on the degree to which research agencies and mass media will be used for legitimation purposes. Nevertheless, some people do adopt new products and practices in the absence of proven local suitability and upon the direct advice of agricultural agency or mass media sources. Knowledge of the differential frequency with which information sources and media perform this function for different kinds of people and under

different kinds of circumstances can offer clues for facilitating the adoption of practices.

If legitimation can be accomplished by the mass media and direct agency efforts, acceptance rates can likely be facilitated by making use of these sources. If, on the other hand, legitimation is a function which is rather exclusively performed by trusted associates, this may mean that selection of local communicative and influence channels is more likely to be effective. If persons who are influenced by direct information sources in turn influence the decisions of a disproportionately large number of other farmers, government agencies and mass media influences are further enhanced.

PURPOSE OF THIS BULLETIN

This bulletin reports a study of (1) the locus of the legitimation function in decisions to adopt farm practices and purchase farm supplies, (2) the extent to which performance of this function varies by the kind of decisions made, (3) the variations that occur by characteristics of the farm operator and his operational unit, and (4) the manner in which this function is performed for farm operators who themselves serve as legitimators in the farm practice and supply purchase decisions of other farmers.

METHOD AND PROCEDURE

Rationale for Selecting the Communities

Farmers living in two widely different communities in Missouri were selected for study. Prairie, in northwest Missouri, was selected because it was assumed to represent the position on a postulated sacred-secular continuum tending toward the secular. (2) In accord with this assumed position, a high degree of rationality was expected to prevail in decisions to adopt new farm practices and purchase farm supplies. In this part of the state, farm incomes are among the highest for the state and conditions are generally highly favorable to the corn-hog-beef cattle operations which prevail in the area. Except for those in semi-retirement, most people living in the open country are actively engaged in farming operations on a nearly full-time basis.

Ozark, located in hilly south Missouri, was chosen to represent a position tending to the sacred end of the continuum, where less rationality is assumed to prevail in the decision-making process relative to farming operations. Farm incomes are well below the state average and conditions are generally unfavorable to generalized commercial farming. Even though a tendency to a traditionalistic orientation in thought and action was assumed, economic necessity had forced farmers in Ozark to turn first to commercialized farming operations and later to part-time farming as a means of supplementing meagre farm incomes. Over half of the households in the trade area community were so little involved in farming that they were excluded from the study. In the 238 households re-

tained, 41 percent of the household heads (farm operators) and 20 percent of the spouses had earned off-farm incomes during the past year. In 20 percent of the cases, off-farm incomes exceeded estimated net farm incomes.

Interviews with the Farmers

Farmers in each of the communities were asked questions regarding their use of recently introduced farm practices and recent changes made in the kinds or brands of farm supplies purchased. After the length of time they had been using the new farm practices had been determined, those most recently accepted were selected for more detailed investigation. Insofar as a choice permitted, recent farm practice changes were selected, taking care in each case to choose one relatively simple and one somewhat more complex practice for further inquiry. In general, simple practices included those requiring changes in material and equipment only, while the more complex ones also involved changes in existing farm operations, changes in existing farming techniques, and/or changes in the total farming enterprise.

Questions were directed in each case to where a farmer first learned about a new practice, where he got additional information, and the information source most influential in his decision to adopt or use the new practice or product. This report is directed to the last of this series of questions and the legitimation function is operationally defined by it.

A total of 1028 farm practice decisions were examined in the two communities; 560 in Ozark and 468 in Prairie. Approximately 604 farm supply purchase decisions were examined, divided on a ratio of about three in Prairie to two in Ozark. Most of the farm practices related to changes in feed varieties and the use of fertilizers and agricultural chemicals. (See Table 1.) Farm supply purchase decisions related primarily to the purchase of seed, feed, fertilizer, tires, insurance, and major farm equipment. (See Table 2.)

TABLE 1. FARM PRACTICE CHANGE DECISIONS OF FARM OPERATORS
IN OZARK AND PRAIRIE CLASSIFIED BY KIND
OF PRACTICE CHANGE

Kind of Practice Change	Total	Number of Decisions	
		Ozark	Prairie
TOTAL	1028	560	468
Agricultural			
Chemicals	485	328	157
Commercial			
Fertilizers	150	2	148
Crop Varieties	327	190	137
Trench Silos	21	16	5
Cattle Guards*	7	7	0
Terracing	11	7	4
Other	27	10	17

*Includes Guard Rails

TABLE 2. FARM SUPPLY PURCHASE DECISIONS OF FARM OPERATORS
IN OZARK AND PRAIRIE CLASSIFIED BY KIND
OF PURCHASE DECISION

Kind of Purchase Decision	Total	Number of Decisions	
		Ozark	Prairie
TOTAL	604	225	379
Seed	122	14	108
Feed for Livestock	155	40	115
Commercial Fertilizer	45	26	19
Tires*	102	71	31
Insurance**	90	23	67
Major Farm Equipment	49	31	18
Other	41	20	21

*Automobile and Tractor

**Fire, Auto, Liability, etc.

Limitations

The validity of the data is limited by the ability of farmers to recall influences operating in their decisions and to recognize the sources most influential in final acceptance of practices or in purchase of supplies. However, it is believed these difficulties were minimized by directing attention to recently adopted changes and by helping the farmer reconstruct the sequence of influences culminating in the decisions.

Less success was achieved in obtaining answers of the desired type in the supply purchase decisions than in those involving decisions to change farm practices. Perhaps farmers purchase many things, such as a new brand of feed or fertilizer, an automobile tire, or an agricultural chemical, with less thought and deliberation than they use to decide on a new seed variety, a new kind of fertilizer, or a trench silo.

In the case of farm purchases, farmers were much more inclined to name situational factors or to attribute final decisions to their own volition. Typical answers were, "I blew out a tire and had to have a new one; this was the best deal, good guarantee," etc.

Another limitation stems from the necessity for selecting recently adopted practices to facilitate recall. This may have resulted in an overselection of some kinds of practices and an under-selection of others. Thus, in Ozark, many agricultural chemical decisions were examined but few related to the use of commercial fertilizers.

In selecting decisions for intensive questioning, an attempt was made to obtain at least one involving a relatively simple practice (e.g., adoption of a new seed variety) and one relatively complex one (e.g., terracing and application of fertilizer, according to soil test). However, in actual practice, the attempt to get as many as three farm practice and three farm supply decisions from each person virtually resulted in including all usable decision sequences for each person. Thus, in one sense, the cases examined represent a near complete enumeration

of decisions recalled by the farm operators. In another sense, they represent a sample of the kinds of decisions that farmers habitually make. Tests of significance of differences applied in this bulletin are based on the latter assumption.

One additional limitation stems from the operational manner in which legitimation is defined. Mere mention of a specific source of information or of a particular set of circumstances reveals little about the manner in which legitimation actually occurs. It does not reveal the role-expectations that farm operators impose on information sources for performing this function.

LOCUS OF THE LEGITIMATING FUNCTION

In Farm Practice Decisions

Locus refers to the information source or means which farm operators indicated were most influential in the decision sequences examined in this study. In a universe comprised of total mentions of sources most influential in final decisions to adopt new farm practices and purchase farm supplies, friends and neighbors headed the list for farm practice adoptions in both communities. (See Table 3).

TABLE 3. PERCENTAGE OF TIMES INFORMATION SOURCES WERE MENTIONED AS MOST INFLUENTIAL IN DECISIONS BY FARM OPERATORS TO CHANGE FARM PRACTICES AND PURCHASE FARM SUPPLIES

Sources Mentioned	OZARK		PRAIRIE	
	Farm Practices (N=566)	Farm Supplies (N=319)	Farm Practices (N=511)	Farm Supplies (N=461)
TOTAL (Percent)	100.0	100.0	100.0	100.0
Agricultural Agencies				
County Extension Agent	6.5	1.3	4.7	0.4
Voc. Agriculture Teacher	3.3	0.0	10.5	0.7
Government Offices	1.4	0.0	1.0	0.2
Agricultural Bulletins	1.8	0.3	0.2	0.7
Mass Media				
Newspaper	1.9	0.9	4.3	2.4
Magazines	7.4	2.5	8.6	2.4
Radio	8.3	2.6	5.3	3.9
Television	0.5	0.3	0.2	1.3
Friends and Neighbors	33.0	15.0	31.8	26.7
One Dealer-Farmer	7.2	0.0	13.3	0.0
Local Dealers	20.0	21.3	9.3	30.1
Own Decision	3.5	7.5	5.7	14.7
Situational & Other	5.2	48.3	5.1	16.5

More than 40 percent of the major influences were attributed to this source. Dealers rated second, if one outstanding dealer farmer in each community is included with dealers.

Dealers exercised relatively greater influence in Ozark than in Prairie. From the position of the two communities on an assumed sacred-secular con-

tinuum a greater emphasis of agricultural agencies as legitimating information sources might be expected in Prairie than in Ozark. However, only a small difference in the expected direction occurred with 13 percent of the mentions in Ozark and 16 percent in Prairie going to the agricultural agencies. Table 3 shows that county extension agents and the vocational agriculture teachers figure most prominently in this classification.

Although **radio** and **farm journals** received a substantial number of mentions in each community, both were virtually equaled or distinctly out-ranked by one **dealer-farmer** in each community. Percentages attributed to the mass media were approximately 18 percent in each community. However, within the relatively small percentage for radio is the hidden fact that most of the function performance was concentrated in a relatively few radio personalities. This was true for one radio information specialist in Ozark and for three in Prairie. Apparently, farmers in the areas had come to rely heavily on these radio personalities as highly trusted sources of farm information. A better understanding of why they were able to assume this role in the community might provide clues to enhancing radio as a means of performing the legitimation function.

In Farm Supply Decisions

For decisions to purchase farm supplies, **local dealers** took the number one influence position and **friends and neighbors**, the number two position in both communities. Twenty-one percent of the mentions went to local dealers and 15 percent to friends and neighbors in Ozark. In Prairie, percentage differences were much smaller with 30 going to local dealers and 27 to friends and neighbors. (See Table 3.)

The proportion reporting **agricultural agencies** as most influential was nil in both communities. However, in Prairie the **mass media** were accorded 10 percent of the mentions compared to approximately 6 percent in Ozark.

The very high proportion (48 percent) in Ozark reporting situational factors may indicate less insight or thought regarding supply purchase decisions than in Prairie. Typical answers classified as situational in both communities were: "Just decided to try a small lot to see results;" "Didn't like what I had been using;" "Got the best deal;" "Just wanted it;" "Needed it so went and bought it;" and "Had to do something." Although an attempt was made to obtain more specific answers, some respondents were at a loss to specify important source influences which may have been operative.

FREQUENCY WITH WHICH SOURCES WERE MENTIONED

This section will be directed to variations in the frequency with which different sources served as legitimators for different kinds of farm practices and people. Although the presentation will be generally descriptive the following general hypotheses, derived mainly from previous farm practice adoption studies, will be considered:

- (1) Fellow farmers will be mentioned more frequently as legitimators for practices which involve changes in seed variety or products than for practices involving changes in equipment, technology, or skills.
- (2) The general agricultural agencies will be more in demand for legitimation of practices that are relatively complex.
- (3) High income farmers and those using the most improved farming practices will be more inclined to rely on the agricultural agencies than low income farmers and those using few improved practices. Conversely, the last two will be more inclined to rely on other farmers for the performance of the legitimation function.
- (4) Young farmers and those more oriented to farming as a business than as a way of life will generally be more inclined to accept agricultural agency information and advice than the older farmers and those who tend to be oriented to farming as a way of life.
- (5) On the converse, old farmers and those who tend to be oriented to farming as a way of life rather than as a business will be more inclined to rely on other farmers and trusted dealers as legitimators.*

As mentioned, the farm practice and supply change decisions examined were obtained from an inventory of recent decisions, the type and variety of which varied by community. Thus, major classifications were necessarily somewhat different. (See Tables 4 and 5.)

TABLE 4. PERCENTAGE OF TIMES INFORMATION SOURCES WERE MENTIONED AS MOST INFLUENTIAL IN DECISIONS TO CHANGE SPECIFIED FARM PRACTICES CLASSIFIED BY KIND OF PRACTICE

OZARK

Sources Mentioned	Total (N=566)+	Agri. Chem. (N=328)	Seed Varieties (N=197)	Terracing, Etc. ++ (N=30)
TOTAL (Percent)	100	100	100	100
Agricultural Agencies	13	10	12	31
Mass Media	18	20	16	14
Friends and Neighbors	33	28	43	38
One Dealer-Farmer	7	10	4	0
Local Dealers	20	25	15	0
Own Decision	4	3	3	10
Situational and Other	5	4	7	7

+Includes 11 classified as Other

++Includes Trench Silo, Cattle Guards, and Guard Rails

*T-tests of statistical significance between percentages of farmers using each information source for legitimation purposes were computed between highest and lowest groups in three category divisions for each of the independent variables. Differences significant at or above the 0.05 level are starred in each of the tables. (3)

TABLE 5. PERCENTAGE OF TIMES INFORMATION SOURCES WERE MENTIONED AS MOST INFLUENTIAL IN DECISIONS TO CHANGE SPECIFIED FARM PRACTICES CLASSIFIED BY KIND OF PRACTICE

PRAIRIE

Sources Mentioned	Total (N=511)+	Agri. Chem.	Fertilizers	Seed Varieties
		(N=171)	(N=165)	(N=145)
TOTAL (Percent)	100	100	100	100
Agricultural Agencies	16	12	27	10
Mass Media	19	19	10	26
Friends and Neighbors	32	25	33	38
One Dealer-Farmer	13	26	11	3
Local Dealers	9	9	9	10
Own Decision	6	5	6	6
Situational and Other	5	4	4	7

Includes 30 classified as Other

In both communities, the sequences examined permitted use of agricultural chemical, seed variety, and terracing-trench silo-cattle guard categories. A fertilizer practice adoption category was possible in Prairie but not in Ozark, where only purchase decisions were enumerated. Apparently adoptions in the use of new types of fertilizers and fertilizer practices were not as common in Ozark as in Prairie. For supply purchase decisions, categories included seed, feed, fertilizer, tire, insurance (mainly fire and crop), major farm equipment, and a miscellaneous one which included household equipment. The numbers of cases of seed purchase changes and insurance changes were small enough in Ozark to make the percentages of dubious value. The same is true for the small number of fertilizer and major farm equipment purchases in Prairie.

Frequency of Mentions Classified by Kind of Farm Practice

Farm practices vary in their complexity. Some require only the substitution of one product for another with no changes in technology or equipment. Adoption of a new seed variety is an example. Certain others, like the construction of a trench silo, require the application of new technology and equipment not habitually used in existing farming operations. (4) Such practices may also involve new ideas about the adequacy or inadequacy of existing farming operations. For example, introduction of terracing is contrary to the idea of planting straight rows and the recognition that may accrue from the ability to plant such rows.

Thus, in the farm practices considered, construction of trench silos and cattle guards and terracing may be regarded as the most complex. Since some of the changes in fertilizer practices also involved changes in materials, technology, and

equipment, they are accorded an intermediate position. The simplest of the practices were changes in seed varieties and the use of insecticides.

A precedent for the relationship of source use to practice complexity is found in an early study by Wilkening. He found an inclination for farmers to rely heavily on friends and neighbors for information about farm practices closely associated with long established farming operations, but more heavily on agricultural agencies and mass media for information about practices least associated with existing farming operations. (5)

In Ozark, where 30 decisions involving the most complex practices were observed, "most influence" was attributed to the agricultural agencies in 31 percent of the cases compared to a significantly smaller proportion for agricultural chemicals (10%) and for the use of new seed varieties (12%). (See Table 4.)

In Prairie, only nine cases of decisions to terrace land or to construct trench silos, or cattle guards were enumerated, but in four cases out of nine, the most influence was ascribed to the agricultural agencies. For fertilizer use, the proportion was approximately 27 percent compared to only 10 percent for the simplest practice, adoption of a new seed variety.

Thus, the hypothesis that greater use of agricultural agencies for the legitimation of complex practices was supported in both communities. A knowledge that information regarding technical aspects of the complex practices and needed services and equipment were accessible through the county extension agent's office may have been a factor.

The hypothesized differential use of friends and neighbors did not occur. However, they were the most universally used of all information sources for legitimation purposes, irrespective of practice. It is likely that such selectivity as did occur in this regard would be found in the manner in which individuals were chosen for this important advice function. Such selectivity has been demonstrated in a previous Missouri study. (6)

The mass media were more instrumental in legitimating decisions involving such simple practices as the adoption of new seed varieties and use of agricultural chemicals than in the adoption of the more complex ones.

Local dealers figured most prominently in changes involving the use of agricultural chemicals. Percentages were 25 in Ozark and 19 in Prairie with an additional 10 percent attributed to one dealer-farmer in Ozark and an additional 26 percent to one dealer-farmer in Prairie.

The greater use of mass media for legitimation of the relatively simple farm practices is not in accord with the "greatest source use" findings in the early North Carolina study. The high reliance on local dealers for practices involving the purchase of commercial products was in agreement. (5) However, "greatest use" of a source, either for initial or additional information purposes, is not synonymous with legitimation. (7)

Decision legitimation requires careful weighing of information from sources regarded as reliable and perhaps repeated reference to them. Two-way communi-

cation to clarify issues in doubt may also be necessary. Access to the mass media agent for deliberation and consideration is generally not feasible.

In terms of the "complexity" hypothesis, it is reasonable to assume that decision legitimation requires more deliberation and rechecking of information than simpler practices. Thus, greater use of information sources which make this possible is expected. Dealers can meet these requirements if they have the requisite information, are trusted, and are accessible for consultation.

Frequency of Mentions Classified by Socio-Economic Characteristics

Gross Farm Income—High-income farmers and those who use improved farm practices consistently make greater use of agricultural agencies for information about new farm practices. (8) Close agreement of these two factors would be expected in view of the close relationship between "good" farming (use of improved farm practices) and attendant economic rewards (farm income).

Relationships between the use of other types of information sources and these two interrelated independent variables do not seem to be so well established. A thesis of the Wilkening article, cited previously, was that persons with low socio-economic status would make relatively greater use of friends and neighbors than would people with high status and that the converse would likely be true for the mass media. (5) His conclusions were that "the exchange of information about farm matters between other farmers has been replaced to a great extent, or at least supplemented by the information obtained through the various agricultural agencies serving farmers through farm papers and magazines and radio talks" and that this was more noticeable among farmers at the upper than at the lower socio-economic status levels. Although use of information sources for decision legitimation is quite different from other informational uses, some preference of farmers for agricultural agencies was expected at the high income levels, along with a relative de-emphasis of friends and neighbors and perhaps, also, the mass media.

As hypothesized, high income farmers in both Ozark and Prairie were more inclined than low income farmers to use agricultural agencies for legitimation purposes. In each case, approximately 18 percent of the high income group mentioned the agricultural agencies compared with 8 percent for the low income group. (See Tables 6 and 7.) These differences were statistically significant at the 0.05 confidence level. In Ozark, variation in the use of friends and neighbors by income groups was almost non-existent. In Prairie, a slight decline of the hypothesized kind occurred.

Thus, insofar as the use of agricultural agencies for legitimation purposes is concerned the income hypothesis is supported in both cases. For *other farmers*, it is supported only to a slight degree in Prairie. No significant differences in use of mass media by income were found in Ozark. In Prairie, proportionate mention of mass media was somewhat higher for the low than for the middle and high income groups, but maximum differences never exceeded 7 percent.

TABLE 6. PERCENTAGE OF TIMES INFORMATION SOURCES WERE MENTIONED AS MOST INFLUENTIAL IN FINAL DECISIONS TO ADOPT FARM PRACTICES CLASSIFIED BY GROSS FARM INCOME

OZARK

Sources Mentioned	Total (N=566)+	Gross Farm Income		
		Under \$2000 (N=175)	\$2000-\$3999 (N=191)	\$4000 & Over (N=196)
TOTAL (Percent)	100	100	100	100
Agricultural Agencies	13	8	13	18*
Mass Media	18	19	17	18
Friends and Neighbors	33	29	34	35
One Dealer-Farmer**	7	11	7	4
Local Dealers	20	25	21	16*
Own Decision	4	4	2	4
Situational and Other	5	4	6	5

+Includes 4 classified as Income Unknown

*Difference between highest and lowest category significant at the .05 level

**Included in Friends and Neighbors category for tests of statistical significance

TABLE 7. PERCENTAGE OF TIMES INFORMATION SOURCES WERE MENTIONED AS MOST INFLUENTIAL IN FINAL DECISIONS TO ADOPT FARM PRACTICES CLASSIFIED BY GROSS FARM INCOMES

PRAIRIE

Sources Mentioned	Total (N=511)+	Gross Farm Income		
		Under \$3000 (N=74)	\$3000-\$7999 (N=211)	\$8000 & Over (N=216)
TOTAL (Percent)	100	100	100	100
Agricultural Agencies	16	8	17	18*
Mass Media	19	24	18	17
Friends and Neighbors	32	42	35	26
One Dealer-Farmer**	13	8	11	18
Local Dealers	9	6	8	12
Own Decision	6	5	5	5
Situational and Other	5	7	6	4

+Includes 10 classified as Income Unknown

*Difference between highest and lowest category significant at the .05 level

**Included in Friends and Neighbors category for tests of statistical significance

Somewhat diverse findings regarding the use of local dealers as legitimators was evident. A rather marked inclination to decreased use with gross farm income was manifest in Ozark but in Prairie a slight increase occurred. Use of dealers for practice legitimation is likely to be partly a function of volume of expenditures for supplies needed to implement the practices. Certainly the volume of supplies would be greater in Prairie than in Ozark. This must be weighed against varying needs for being certain about decisions involving financial expenditures. These needs would probably be greater in Ozark than in Prairie.

Use of Improved Farm Practices—In both communities, agricultural agency mentions for legitimation purposes increased sharply with use of improved farm practices. This relationship was in sharpest relief in Ozark. (See Tables 8 and 9.) Use of friends and neighbors was nearly constant at approximately 40 percent of total mentions in both communities (with one dealer-farmer enumerated in the dealer-farmer class). Thus, the evidence tended to support the income-source use hypothesis only in regard to the agricultural agencies.

TABLE 8. PERCENTAGE OF TIMES FARM OPERATORS NAMED INFORMATION SOURCES AS MOST INFLUENTIAL IN FINAL DECISIONS TO ADOPT FARM PRACTICES CLASSIFIED BY THE IMPROVED FARM PRACTICE RATING OF THE OPERATOR

OZARK

Sources Mentioned	Total (N=566)+	Improved Farm Practice Rating		
		Under 20 (N=65)	20-39 (N=293)	40 & Over (N=206)
TOTAL (Percent)	100	100	100	100
Agricultural Agencies	13	0	11	20
Mass Media	18	26	18	16
Friends and Neighbors	33	31	32	36
One Dealer-Farmer	7	8	10	3
Local Dealers	20	26	21	17
Own Decision	4	4	3	3
Situational and Other	5	5	5	5

+Includes 2 classified as Improved Practice Rating Unknown

TABLE 9. PERCENTAGE OF TIMES FARM OPERATORS NAMED INFORMATION SOURCES AS MOST INFLUENTIAL IN FINAL DECISIONS TO ADOPT FARM PRACTICES CLASSIFIED BY THE IMPROVED FARM PRACTICE RATING OF THE OPERATOR

PRAIRIE

Sources Mentioned	Total (N=511)	Improved Practice Rating		
		Under 40 (N=117)	40-59 (N=191)	60 & Over (N=203)
TOTAL (Percent)	100	100	100	100
Agricultural Agencies	16	9	15	22*
Mass Media	19	23	18	16
Friends and Neighbors	32	35	34	29
One Dealer-Farmer**	13	8	17	12
Local Dealers	9	8	10	10
Own Decision	8	9	4	5
Situational and Other	5	8	2	6

*Difference between highest and lowest category significant at the .05 level

**Included in Friends and Neighbors category for tests of statistical significance

In both communities, but particularly in Ozark, use of mass media declined with the increased use of improved farm practices. The same general pattern prevailed in Ozark regarding the use of local dealers for legitimation purposes. In Prairie the variation was nil. Thus again in Ozark, greatest reliance was placed in information sources most likely to provide valid evaluation of new practices.

Age and Orientation to Farming—Some farmers view farming as a business which requires careful objective consideration of cultural and management practices; others view it essentially as a way of life. Vidich and Bensman refer to these typologies as "rational" and "traditional." (9) "Traditional" farmers are described as practicing farming in its ceremonial and ritualistic aspects, as maintaining an operation essentially invulnerable to fluctuations in the market, and as persistently attempting to meet adversities by cutting costs rather than by taking advantage of opportunities. "Rational" farmers are described as carefully calculating labor and capital costs in relation to prices received and farming operations as being directed to high profits, expanded operations, and high living standards. Saving money is regarded as a means and not an end in itself.

From an information standpoint this kind of orientation requires the acquisition of timely, reliable knowledge about new developments in farming and good management practices. Being either originators of scientific information or in direct contact with the originators, *agricultural agencies* should have greater utility for business-oriented farmers than *friends and neighbors* and perhaps even the *mass media* where reliance on intervening sources of information is necessary.

Farmers oriented to farming as a business may therefore be expected to make frequent use of agricultural agencies and less use of information sources closely associated with local farming operations of which friends and neighbors are a prime example. In view of the changing nature of farming and the presumed tendency to orient to farming as a business it may be further hypothesized that young farmers rely more heavily on agricultural agencies for legitimation purposes than older farmers and that the older farmers would be more inclined to use friends and neighbors.

Orientation to farming as a way of life versus orientation to farming as a business was measured by a scale constructed from verbal responses to "agree-disagree with" statements judged by a committee of agricultural college faculty representatives to be indicative of business versus way of life orientations. Responses were weighed by the Thurstone techniques and combined into a scale score for each farm operator.** (10)

**The scale was prepared by Rex R. Campbell of the Department of Rural Sociology from responses included in the schedule for this purpose. Typical response statements were:

A farmer should produce his own meat supply.

It is better to borrow money from the bank than from a friend or relative.

When a farmer wants to drill a well, he should first witch for water.

A farmer is generally wise to go in debt to buy machinery.

A person who is willing to work can always make a living on a farm.

Viewing the age hypothesis first, Tables 10 and 11 show that a rather marked decline in legitimation mentions of agricultural agencies occurred in Ozark as the age of the farm operator increased and that the same tendency, but less marked, occurred in Prairie. Increasing reliance on friends and neighbors for the performance of the legitimation function was noted in Ozark but not in Prairie. With the last exception, the data tended to support the hypothesized age relationships.

TABLE 10. PERCENTAGE OF TIMES INFORMATION SOURCES WERE MENTIONED AS MOST INFLUENTIAL IN FINAL DECISIONS TO ADOPT FARM PRACTICES, CLASSIFIED BY AGE OF OPERATOR

OZARK

Sources Mentioned	Total (N=566)	Age of Operator (Years)		
		Under 40 (N=99)	40-59 (N=328)	60 & Over (N=139)
TOTAL (Percent)	100	100	100	100
Agricultural Agencies	13	18	15	4*
Mass Media	18	12	21	17
Friends and Neighbors	33	33	30	41
One Dealer-Farmer**	7	9	6	9
Local Dealers	20	22	18	22
Own Decision	4	1	3	6*
Situational and Other	5	5	7	1

*Difference between highest and lowest category significant at the .05 level

**Included in Friends and Neighbors category for tests of statistical significance

TABLE 11. PERCENTAGE OF TIMES INFORMATION SOURCES WERE MENTIONED AS MOST INFLUENTIAL IN FINAL DECISIONS TO ADOPT FARM PRACTICES, CLASSIFIED BY AGE OF OPERATOR

PRAIRIE

Sources Mentioned	Total (N=511)	Age of Operator (Years)		
		Under 40 (N=173)	40-59 (N=203)	60 & Over (N=135)
TOTAL (Percent)	100	100	100	100
Agricultural Agencies	16	19	17	11
Mass Media	19	15	16	26*
Friends and Neighbors	32	32	30	35
One Dealer-Farmer**	13	14	14	12
Local Dealers	9	8	12	7
Own Decision	6	6	5	6
Situational and Other	5	6	6	3

*Difference between highest and lowest category significant at the .05 level

**Included in Friends and Neighbors category for tests of statistical significance

In Ozark, several variations in legitimation source use by orientation-to-farming score were apparent. (See Table 12.) Farmers most oriented to farming

as a business made greatest use of agricultural agencies and friends and neighbors and least use of local dealers for this purpose. Greater use of the agricultural agencies by the business-oriented farmer is supportive of the hypothesis stated previously but greater use of friends and neighbors is not. However, it may be that business oriented farmers also wished to weigh the utility of an idea in the light of what others think about it and that they indeed do so with more persistence than farmers less oriented to farming as a business. It is also apparent that business oriented farmers in Ozark place more reliance on the mass media than those oriented to farming as a way of life. In Prairie, no differences in source use significant at the 0.05 level were apparent. (See Table 13.)

TABLE 12. PERCENTAGE OF TIMES INFORMATION SOURCES WERE MENTIONED AS MOST INFLUENTIAL IN FINAL DECISIONS TO ADOPT FARM PRACTICES CLASSIFIED BY ORIENTATION TO FARMING SCORE

OZARK

Sources Mentioned	Total (N=566)	Orientation to Farming Score+		
		Under 95 (N=208)	95-103 (N=208)	104 & Over (N=192)
TOTAL (Percent)	100	100	100	100
Agricultural Agencies	13	9	10	20*
Mass Media	18	10	19	24
Friends and Neighbors	33	39	34	26*
One Dealer-Farmer**	7	7	9	5
Local Dealers	20	25	22	14*
Own Decision	4	4	2	5
Situational and Other	5	6	4	6

*Difference between highest and lowest category significant at the .05 level

**Included in Friends and Neighbors category for tests of statistical significance

+Low scores indicate orientation to farming as a way of life and high ones orientation to farming as a business

TABLE 13. PERCENTAGE OF TIMES INFORMATION SOURCES WERE MENTIONED AS MOST INFLUENTIAL IN FINAL DECISIONS TO ADOPT FARM PRACTICES CLASSIFIED BY ORIENTATION TO FARMING SCORE

PRAIRIE

Sources Mentioned	Total (N=511)	Orientation to Farming Score+		
		Under 95 (N=234)	95-103 (N=143)	104 & Over (N=134)
TOTAL (Percent)	100	100	100	100
Agricultural Agencies	16	16	18	16
Mass Media	19	19	20	15
Friends and Neighbors	32	30	33	33
One Dealer-Farmer	13	14	13	12
Local Dealers	9	10	6	12
Own Decision	6	6	5	6
Situational and Other	5	5	5	6

+Low scores indicate orientation to farming as a way of life and high ones orientation to farming as a business

Legitimation Sources Used by Special Functionaries in the Individual Adoption Process

This section will be directed to the manner in which legitimation of farm practice decisions is accomplished for farm operators named as most influential to others, those named as communicators, and those named as being generally first to adopt new farm practices. Legitimizers are operationally defined as those named as most influential in decisions to adopt the farm practices and supplies studied; communicators as those named as specific sources of first or additional information about the practices; innovators as those mentioned as having a reputation of being first to try new farm practices in the community.

Analysis of influences of information sources in farm practice use decisions provides a partial basis for assessing the indirect diffusion potential for message transfer from information sources outside of the communicative network of individuals in the local community.†

Thus, if those who are frequently named as most influential information sources make more frequent use of agricultural agencies than others, the utility of agricultural agencies as information sources and, perhaps, as legitimation sources is enhanced. On the other hand, if selectivity in regard to the particular information source occurs in a converse manner, the utility or the indirect diffusion potential of the source is reduced.

Legitimizers—Where people are chosen as consultants mainly because of their special qualifications to give advice and where their competence is correctly perceived, those individuals may be expected to be ones who make greater use of the agricultural agencies than other people for legitimizing new ideas. This general hypothesis will be examined as a part of a more descriptive treatment of the manner in which the frequency of use of information sources varies with the number of times farm operators are mentioned as most influential in the decisions examined.

In Ozark, the agricultural agencies were mentioned with distinctly increasing frequency as personal mentions as a legitimizer increased. (See Table 14.) In Prairie, those with 1 or 2 mentions made somewhat more use of the agricultural agencies than either those receiving no legitimation mentions or those receiving 3 or more. (See Table 15.) Thus, the general hypothesis was supported in Ozark but only to a limited degree in Prairie.

In like manner the use of various information sources varied more by frequency of legitimation mentions in Ozark than in Prairie. In Ozark, use of the mass media declined sharply with increasing mentions as a decision influencer. The same pattern occurred in Prairie but differences were not significant at the 0.05 confidence level. Variation of use made of friends and neighbors was somewhat erratic in Ozark, but persons most mentioned as legitimizers made more

†A detailed analysis of the potential of interpersonal communicative networks for the transfer of information from sources outside of the network is the subject of Missouri AES Research Bulletin 822, *The Potential of Interpersonal Communicative Networks for Message Transfer from Outside Information Sources; A Study of Two Missouri Communities*, by Herbert F. Lionberger and Rex R. Campbell now in process.

TABLE 14. PERCENTAGE OF TIMES INFORMATION SOURCES WERE MENTIONED AS MOST INFLUENTIAL IN FINAL DECISIONS TO ADOPT FARM PRACTICES CLASSIFIED BY NUMBER OF TIMES THE FARM OPERATORS NAMING THE SOURCES WERE MENTIONED AS LEGITIMATORS

OZARK

Sources Mentioned	Total (N=566)	Number of times Farm Operators were Mentioned as Legitimators		
		None (N=426)	1 - 2 (N=101)	3 or More (N=39)
TOTAL (Percent)	100	100	100	100
Agricultural Agencies	13	10	18	28*
Mass Media	18	19	20	5*
Friends and Neighbors	33	33	26	48
One Dealer-Farmer**	7	8	8	0
Local Dealers	20	21	17	15
Own Decision	4	3	6	3
Situational and Other	5	6	5	0

*Difference between highest and lowest category significant at the .05 level

**Included in Friends and Neighbors category for tests of statistical significance

TABLE 15. PERCENTAGE OF TIMES INFORMATION SOURCES WERE MENTIONED AS MOST INFLUENTIAL IN FINAL DECISIONS TO ADOPT FARM PRACTICES CLASSIFIED BY NUMBER OF TIMES THE FARM OPERATORS NAMING THE SOURCES WERE MENTIONED AS LEGITIMATORS

PRAIRIE

Sources Mentioned	Total (N=511)	Number of times Farm Operators were Mentioned as Legitimators		
		None (N=337)	1 - 2 (N=133)	3 or More (N=41)
TOTAL (Percent)	100	100	100	100
Agricultural Agencies	16	15	21	14
Mass Media	19	20	16	14
Friends and Neighbors	32	32	32	32
One Dealer-Farmer	13	13	14	10
Local Dealers	9	9	9	15
Own Decision	6	6	3	10
Situational and Other	5	5	5	5

use of them than any other group. No significant differences were evident in Prairie.

In Ozark, the use of local dealers declined with personal mentions, but in Prairie, a slight reverse tendency was noticed. When the mentions received by one dealer-farmer are included in the *local dealer* classification rather than in *friends and neighbors*, dealer use differentials are sharply increased in Ozark but are little changed in Prairie.

Communicators—If it may be assumed that requirements for selecting information sources are similar to those for legitimation and if access in both cases is no different, the frequency pattern with which communicators and legitimators are selected should be similar. Also, the same general hypotheses would seem to be appropriate. The question raised in this section is whether persons who are frequently sought as sources of specific farm practice information and those who are not sought use different sources of information in arriving at their own decisions. Farm operators were accordingly classified by the number of times that they were mentioned either as sources of initial or additional information about the practices considered.

Comparisons in Ozark revealed a distinctly greater frequency of use of agricultural agency sources by high mention farmers. (See Table 16.) The same gen-

TABLE 16. PERCENTAGE OF TIMES INFORMATION SOURCES WERE MENTIONED AS MOST INFLUENTIAL IN FINAL DECISIONS TO ADOPT FARM PRACTICES CLASSIFIED BY NUMBER OF TIMES THE FARM OPERATORS NAMING THE SOURCES WERE MENTIONED AS FIRST OR ADDITIONAL SOURCES OF INFORMATION

OZARK

Sources Mentioned	Total (N=566)	Number of Times Farm Operators were Mentioned as First or Ad- ditional Sources		
		None (N=377)	1 - 2 (N=139)	3 or More (N=50)
TOTAL (Percent)	100	100	100	100
Agricultural Agencies	13	11	14	30*
Mass Media	18	18	21	8
Friends and Neighbors	33	32	34	36
One Dealer-Farmer**	7	8	7	0
Local Dealers	20	22	17	12
Own Decision	4	3	3	8
Situational and Other	5	6	4	6

*Difference between highest and lowest category significant at the .05 level

**Included in Friends and Neighbors category for tests of statistical significance

eral tendency occurred in Prairie, but was significant only between the no personal mention and the highest personal mention categories. (See Table 17.) Reliance on friends and neighbors for this purpose was somewhat erratic in Ozark with the highest proportions occurring in the high personal source mention group and the lowest among those in the next highest number of mentions (3-4). (See Table 16.) However, friends and neighbors took the number one frequency position for legitimations, in all cases. Although differences were small, the greatest use of friends and neighbors for legitimation purposes occurred in the highest communicator mention group. There was also a decline in the use of local dealers as personal influence mentions increased in Ozark, but a slight reverse inclination in Prairie.

TABLE 17. PERCENTAGE OF TIMES INFORMATION SOURCES WERE MENTIONED AS MOST INFLUENTIAL IN FINAL DECISIONS TO ADOPT FARM PRACTICES CLASSIFIED BY NUMBER OF TIMES THE FARM OPERATORS NAMING THE SOURCES WERE MENTIONED AS FIRST OR ADDITIONAL SOURCES OF INFORMATION

PRAIRIE

Sources Mentioned	Total (N=511)	Number of Times Farm Operators were Mentioned as First or Ad- ditional Sources		
		None (N=238)	1 - 2 (N=170)	3 or More (N=103)
TOTAL (Percent)	100	100	100	100
Agricultural Agencies	16	14	16	20
Mass Media	19	20	17	16
Friends and Neighbors	32	36	25	34
One Dealer-Farmer	13	12	18	9
Local Dealers	9	6	13	11
Own Decision	6	5	7	6
Situational and Other	5	7	4	4

Innovators—The third relationship involves the differential use that innovator referents made of different information sources for legitimation of their own decisions. The role of those perceived as innovators in the decisions that individuals make to adopt farm practices is less implicit than the dyad relationships involving communication and legitimation. However, under circumstances where many individuals insist on proof of local adaptability before accepting new practices even on a limited basis, adoption of the new practice by innovators would seem to be something of a prior condition for the adoption of the practice by those who adopt more slowly. Innovators and early adopters assume risks that others are not inclined to take. Presumably, they provide evidence for later adopters to use in making their own use decisions. It also seems likely that, in the process of observing the early local trial of new practices, those perceived as usually being first to try will be watched most.

Although data were obtained on those regarded as first to *try* the new farm practices, responses to questions regarding who they thought was first to *adopt* were regarded as a better indicator of persons likely to be looked to as innovator referents. A person can not serve as an innovator referent to others until he is perceived as being first. Roles which the *first-to-try* persons can perform in the individual adoption process are therefore more likely to attach to those regarded as being first than to those who are actually first if the two are not the same.

Assuming that indirect communication of information from outside sources does occur and that innovators do influence the decisions of those who adopt the practices later, it is possible to make some assessment of the potential role of

outside information sources in the individual adoption process. This provides the utilitarian basis for the analysis which follows.

Again, farmers in Ozark were characterized by more discernable patterns of source use than farmers in Prairie. (See Tables 18 and 19.) In Prairie, only slight

TABLE 18. PERCENTAGE OF TIMES INFORMATION SOURCES WERE MENTIONED AS MOST INFLUENTIAL IN FINAL DECISIONS TO ADOPT FARM PRACTICES CLASSIFIED BY NUMBER OF TIMES THE FARM OPERATORS NAMING THE SOURCES WERE MENTIONED AS BEING FIRST TO TRY NEW FARM PRACTICES

OZARK

Sources Mentioned	Total (N=566)	Number of Times Farm Operators were Mentioned as First to Try		
		None (N=436)	1 - 2 (N=72)	3 or More (N=58)
TOTAL (Percent)	100	100	100	100
Agricultural Agencies	13	10	21	26*
Mass Media	18	19	15	16
Friends and Neighbors	33	32	35	35
One Dealer-Farmer**	7	8	8	2
Local Dealers	20	22	13	15
Own Decision	4	4	3	3
Situational and Other	5	5	5	3

*Difference between highest and lowest category significant at the .05 level

**Included in Friends and Neighbors category for tests of statistical significance

variations occurred with no differences significant at the 0.05 confidence level. In Ozark, those designated as first made distinctly greater use of agricultural agencies, with use increasingly prevalent with increasing number of mentions.

There was a slight tendency to make less use of the mass media as innovator mentions increased and a more marked but erratic decrease in the use of local dealers for legitimation of decisions to change farm practices. Some variation occurred in the use made of friends and neighbors with the highest mention group placing least dependence on this source. Perhaps most significant in this regard was the relatively large number of perceived innovators who relied on friends and neighbors for legitimation purposes. Friends and neighbors retained the number one position as legitimators for all groups. Thus perceived, innovators, like their less aggressive counterparts, relied heavily on other farmers in deciding to adopt new ideas and practices on their own farms.

TABLE 19. PERCENTAGE OF TIMES INFORMATION SOURCES WERE MENTIONED AS MOST INFLUENTIAL IN FINAL DECISIONS TO ADOPT FARM PRACTICES CLASSIFIED BY NUMBER OF TIMES THE FARM OPERATORS NAMING THE SOURCES WERE MENTIONED AS BEING FIRST TO TRY NEW FARM PRACTICES

PRAIRIE

Sources Mentioned	Total (N=511)	Number of Times Farm Operators were Mentioned as First to Try		
		None (N=362)	1 - 2 (N=85)	3 or More (N=64)
TOTAL (Percent)	100	100	100	100
Agricultural Agencies	16	16	18	16
Mass Media	19	18	17	20
Friends and Neighbors	32	35	25	28
One Dealer-Farmer	13	13	13	14
Local Dealers	9	8	14	9
Own Decision	6	5	6	8
Situational and Other	5	5	7	5

VARIATION IN LEGITIMATION MENTIONS FOR SUPPLY PURCHASE

As in the case of improved farm practices, supply purchase decisions for examination were obtained from an inventory of recent changes in supply purchases which the farm operators were able to recall. These included purchases involving changes in brands or kinds of ready mixed feeds; commercial fertilizers; new seed varieties; automobile, truck, or tractor tires; automobile, crop and fire insurance; other farm supplies; and household equipment.

Farm operators were questioned about each of the changes to determine the sources of information they used and the influences operating in arriving at their decisions. The number of decisions per person generally ranged from none to three with an average of slightly less than one in Ozark to approximately 1.7 in Prairie. Although comparable questions and methods were used in both communities, the list of supply purchase decisions was somewhat different with a relatively higher incidence of changes in seed varieties and feed for livestock in Prairie. (See Table 2.) These differentials may very well represent differences in the farm enterprises emphasized in the two communities and perhaps also the differences in sales effort in the two areas. The greater number of purchase decisions enumerated in Prairie than in Ozark may be a partial function of the volume of purchases required in the two communities to carry on farm operations.

In both communities, but particularly in Ozark, farmers were much more inclined to give situational and "own decision" responses to questions regarding information sources most influential in supply purchase decisions than in

farm practice decisions (See Table 3). Again several explanations are likely. Decisions to adopt farm practices are likely to be more thoughtfully considered than decisions regarding farm supply purchases where one brand or kind of product is being substituted for another. In such cases, farm operators are less likely to recognize and to recall the influences operating in their decisions. Information sources and the methods of using them to obtain knowledge about new farm supplies are not as well institutionalized as methods of obtaining information about new farm practices. The individual is in a position of having to rely on less recognized and perhaps less trusted sources of information about new products on the market. Under such circumstances they are likely to rely more heavily on their own judgment; thus the likelihood of "own decision" responses. Circumstantial responses are also likely because many of the farm supply purchases seem to be precipitated by situational factors. Some characteristic responses were: "I blew out a tire and had to have a new one," "That's the kind of feed that the routeman delivers," "I could get the other one cheaper," and "That's the kind they sell at the exchange."

The higher percentage of situational mentions in Ozark than in Prairie may indicate less insight and deliberation on the part of those making supply change decisions. However, this should be regarded only as a possible explanatory hypothesis and is in fact contrary to the emphasis that farmers in Ozark placed on the selection of information sources among persons who were exposed to agricultural agency lines of communication. In view of the high proportion of situational mentions and the smaller number of farm supply than practice decisions, analysis is confined to general variations and uniformities by kind of supply involved and by the number of times the decision makers themselves are named as legitimators.

Legitimation Sources Compared by Kind of Supply

In Ozark, local dealers were used most for legitimating supply purchase decisions, receiving 21 percent of the mentions. Friends and neighbors rated second with 15 percent of the mentions. A majority of the questions designed to elicit a source of information of greatest influence actually resulted in situational responses (48 percent). However, in terms of specific source mentions, local dealers were the most frequently used legitimating source for fertilizer, livestock feed, and insurance purchase decisions. (See Table 20.) Only for the major farm and household equipment categories did friends and neighbors take a distinct lead over local dealers.

The mass media made a relatively small contribution to the legitimation of supply purchase decisions with percentages ranging from 2 to 14 percent in the various categories. Agricultural agencies were seldom used. Six percent of the legitimation sources mentioned for fertilizer purchase and 6 percent for feed purchases were attributed to them.

TABLE 20. PERCENTAGE OF TIMES INFORMATION SOURCES WERE MENTIONED AS MOST INFLUENTIAL IN FINAL DECISIONS TO PURCHASE FARM SUPPLIES CLASSIFIED BY KIND OF SUPPLY

OZARK

Sources Mentioned	Total (N=319)	Seed (N=17)	Ferti- lizer (N=35)	Feed (N=52)	Tires (N=105)	Insur- ance (N=29)	Maj. Farm Equip. (N=52)	Hsld. Equip. & Other (N=29)
TOTAL (Percent)	100	100	100	100	100	100	100	100
Agricultural Agencies	2	0	6	6	0	0	0	0
Mass Media	6	12	8	4	6	7	2	14
Friends and Neighbors	15	24	14	9	12	17	19	21
Local Dealers	21	29	23	27	23	28	12	10
Own Decision	8	12	6	19	9	0	0	3
Situational and Other	48	23	43	35	50	48	67	52

TABLE 21. PRAIRIE

Sources Mentioned	Total (N=461)	Seed (N=128)	Ferti- lizer (N=26)	Feed (N=138)	Tires (N=32)	Insur- ance (N=90)	Maj. Farm Equip. (N=21)	Hsld. Equip. & Other (N=26)
TOTAL (Percent)	100	100	100	100	100	100	100	100
Agricultural Agencies	2	3	8	2	0	0	0	0
Mass Media	10	3	15	17	6	10	0	16
Friends and Neighbors	27	34	27	28	13	21	24	27
Local Dealers	30	34	31	31	25	30	24	15
Own Decision	15	14	4	10	28	17	33	15
Situational and Other	16	12	15	12	28	22	19	27

In Prairie, friends and neighbors and local dealers vied for the number one position in percentage of legitimation mentions for livestock feed and new seed varieties. For the purchase of automobile, truck, and tractor tires; commercial fertilizers; and major farm equipment; friends and neighbors took the lead. (See Table 21.) Agricultural agencies received no mentions except in the seed variety, livestock feed, and commercial fertilizer categories with the highest mentions (8 percent) in the commercial fertilizer category.

Aggregate mass media mentions ranged from 3 percent in the seed to 17 percent in the feed category. Variations for specific types of the mass media by type of practice were considerable. Television got 8 percent of the mentions for commercial fertilizers to take the lead among the mass media. Radio and magazines took the primary position for mass media influence in livestock feed sales with 7 percent and 6 percent, respectively. For tire and insurance sales, newspapers got the higher proportion of mentions (6 percent).

Legitimation Sources Compared by Socio-Economic Characteristics

The only variation in information sources used in Ozark for legitimation of supply change decisions was a significantly smaller proportion of the middle income group using local dealers than of either the high or low income groups, and for a much higher proportion of this middle income group to give situational reasons as major influences rather than specific information sources. (See Table 22.) In Prairie (Table 23) no appreciable variation by gross farm income was in evidence.

TABLE 22. PERCENTAGE OF TIMES INFORMATION SOURCES WERE MENTIONED AS MOST INFLUENTIAL IN FINAL DECISIONS TO PURCHASE FARM SUPPLIES CLASSIFIED BY GROSS FARM INCOME
OZARK

Sources Mentioned	Total (N=319)+	Gross Farm Income		
		Under \$2000 (N=94)	\$2000-\$3999 (N=117)	\$4000 & Over (N=106)
TOTAL (Percent)	100	100	100	100
Agricultural Agencies	2	1	0	4
Mass Media	6	5	9	5
Friends and Neighbors	15	14	16	15
Local Dealers	21	30	12	25
Own Decision	8	9	6	8
Situational and Other	48	41	57	43

In Ozark, farm operators under 40 years of age showed somewhat less inclination to use mass media for legitimation purposes than older ones. There was also a marked tendency for the former to make more use of local dealers than the latter. (See Table 24.) In Prairie, too, younger farmers made somewhat

TABLE 23. PERCENTAGE OF TIMES INFORMATION SOURCES WERE MENTIONED AS MOST INFLUENTIAL IN FINAL DECISIONS TO PURCHASE FARM SUPPLIES CLASSIFIED BY GROSS FARM INCOME PRAIRIE

Sources Mentioned	Total (N=461)+	Gross Farm Income		
		Under \$2000 (N=71)	\$3000-\$7999 (N=174)	\$8000 & Over (N=210)
TOTAL (Percent)	100	100	100	100
Agricultural Agencies	2	0	1	3
Mass Media	10	10	10	10
Friends and Neighbors	27	30	28	26
Local Dealers	30	30	30	30
Own Decision	15	15	16	13
Situational and Other	16	15	15	18

+Includes 6 classified as Income Unknown

TABLE 24. PERCENTAGE OF TIMES INFORMATION SOURCES WERE MENTIONED AS MOST INFLUENTIAL IN FINAL DECISIONS TO PURCHASE FARM SUPPLIES CLASSIFIED BY AGE OF OPERATOR OZARK

Sources Mentioned	Total (N=319)	Age of Operator (Years)		
		Under 40 (N=65)	40-59 (N=185)	60 & Over (N=69)
TOTAL (Percent)	100	100	100	100
Agricultural Agencies	2	0	2	3
Mass Media	6	3	8	6
Friends and Neighbors	15	29	15	14
Local Dealers	21	28	18	23
Own Decision	8	9	6	9
Situational and Other	48	43	51	45

less use of the mass media for legitimating their purchase decisions than those 40 years of age and over (See Table 25). Also, as in Ozark, the oldest farmers (60 years of age and over) made somewhat less use of local dealers than those under 60. This suggests less skepticism of dealers as information sources on the part of the younger operators.

In Ozark, there was some inclination for farmers with the strongest orientation to farming as a business to make more use of friends and neighbors and less of local dealers for legitimating supply purchase decisions than farmers oriented to farming as a way of life. (See Table 26.) In Prairie, farmers most oriented to farming as a business also showed some inclination to use agricultural agencies for legitimating purposes. (See Table 27.) The only other sig-

TABLE 25. PERCENTAGE OF TIMES INFORMATION SOURCES WERE MENTIONED AS MOST INFLUENTIAL IN FINAL DECISIONS TO PURCHASE FARM SUPPLIES CLASSIFIED BY AGE OF OPERATOR

PRAIRIE

Sources Mentioned	Total (N=461)	Age of Operator (Years)		
		Under 40 (N=159)	40-59 (N=194)	60 & Over (N=108)
TOTAL (Percent)	100	100	100	100
Agricultural Agencies	2	2	2	2
Mass Media	10	5	13	12
Friends and Neighbors	27	27	25	30
Local Dealers	30	30	33	26
Own Decision	15	15	12	18
Situational and Other	16	21	15	12

TABLE 26. PERCENTAGE OF TIMES INFORMATION SOURCES WERE MENTIONED AS MOST INFLUENTIAL IN FINAL DECISIONS TO PURCHASE FARM SUPPLIES CLASSIFIED BY ORIENTATION TO FARMING SCORE

OZARK

Sources Mentioned	Total (N=319)	Orientation to Farming Score		
		Under 95 (N=85)	95-103 (N=125)	104 & Over (N=109)
TOTAL (Percent)	100	100	100	100
Agricultural Agencies	2	0	2	3
Mass Media	6	5	7	6
Friends and Neighbors	15	11	16	18
Local Dealers	21	31	16	20
Own Decision	8	11	7	5
Situational and Other	48	43	52	48

TABLE 27. PERCENTAGE OF TIMES INFORMATION SOURCES WERE MENTIONED AS MOST INFLUENTIAL IN FINAL DECISIONS TO PURCHASE FARM SUPPLIES CLASSIFIED BY ORIENTATION TO FARMING SCORE

PRAIRIE

Sources Mentioned	Total (N=461)	Orientation to Farming Score		
		Under 95 (N=214)	95-103 (N=135)	104 & Over (N=112)
TOTAL (Percent)	100	100	100	100
Agricultural Agencies	2	1	1	5*
Mass Media	10	10	9	12
Friends and Neighbors	27	24	33	24
Local Dealers	30	34	23	31
Own Decision	15	18	13	10
Situational and Other	16	13	21	18

*Difference between highest and lowest category significant at the .05 level

nificant difference in specific source use was some inclination for farmers in the middle orientation range to switch from local dealers to friends and neighbors for this purpose.

Legitimation Sources of Special Functionaries in the Individual Adoption Process

Legitimizers—The only distinct difference in information sources used for legitimating supply change decisions in Ozark was in the frequency with which local dealers were used for that purpose. Table 28 reveals a distinctly higher use of local dealers by those most sought personally by others for decision legitimation. Differences in the use of agricultural agencies, friends and neighbors, and the mass media were too small to be considered significant.

TABLE 28. PERCENTAGE OF TIMES INFORMATION SOURCES WERE MENTIONED AS MOST INFLUENTIAL IN FINAL DECISIONS TO PURCHASE FARM SUPPLIES CLASSIFIED BY THE NUMBER OF TIMES THE FARM OPERATORS NAMING THE SOURCES WERE MENTIONED AS LEGITIMATORS

OZARK

Sources Mentioned	Total (N=319)	Number of Times Farm Operators were Mentioned as Legitimizers		
		None (N=246)	1 - 2 (N=56)	3 or More (N=17)
TOTAL (Percent)	100	100	100	100
Agricultural Agencies	2	2	2	0
Mass Media	6	6	5	6
Friends and Neighbors	15	15	16	12
Local Dealers	21	22	18	29
Own Decision	8	6	11	18
Situational and Other	48	49	48	35

Thus, on the basis of very limited findings, local dealers had a legitimating advantage in supply purchase decisions over other information sources due to the influence they were able to exert through personal referents (influentials). A slight similar tendency was apparent in Prairie (see Table 29) as well as a slight tendency to less use of the mass media for supply decision legitimation by persons most frequently mentioned as legitimizers. Also, high mention legitimizers made slightly greater use of the agricultural agencies for legitimating their own supply purchase decisions than those not so mentioned.

TABLE 29. PERCENTAGE OF TIMES INFORMATION SOURCES WERE MENTIONED AS MOST INFLUENTIAL IN FINAL DECISIONS TO PURCHASE FARM SUPPLIES CLASSIFIED BY THE NUMBER OF TIMES THE FARM OPERATORS NAMING THE SOURCES WERE MENTIONED AS LEGITIMATORS

PRAIRIE

Sources Mentioned	Total (N=461)	Number of Times Farm Operators were Mentioned as Legitimizers		
		None (N=286)	1 - 2 (N=133)	3 or More (N=42)
TOTAL (Percent)	100	100	100	100
Agricultural Agencies	2	2	1	5
Mass Media	10	11	10	5
Friends and Neighbors	27	29	22	26
Local Dealers	30	29	31	36
Own Decision	15	14	17	9
Situational and Other	16	15	19	19

Communicators—This relationship, it will be recalled, refers to mere acquisition of information without any commitment on the part of the person naming the source as to the importance placed on the information received. Some overlap in sources named as initial or additional sources of information with those regarded as most important in arriving at a final decision of acceptance occurred but differences were considerable. (6)

As in the legitimation relationship, an inclination for high mention communicators to use local dealers for the legitimation of supply purchase decisions in Ozark was apparent. (See Table 30.) Also, in somewhat lesser degree, greater

TABLE 30. PERCENTAGE OF TIMES INFORMATION SOURCES WERE MENTIONED AS MOST INFLUENTIAL IN FINAL DECISIONS TO PURCHASE FARM SUPPLIES CLASSIFIED BY THE NUMBER OF TIMES THE FARM OPERATORS NAMING THE SOURCES WERE MENTIONED AS FIRST OR ADDITIONAL SOURCES OF INFORMATION

OZARK

Sources Mentioned	Total (N=319)	Number of Times Farm Operators were Mentioned as First or Ad- ditional Sources		
		None (N=213)	1 - 2 (N=84)	3 or More (N=22)
TOTAL (Percent)	100	100	100	100
Agricultural Agencies	2	2	1	0
Mass Media	6	4	11	9
Friends and Neighbors	15	15	13	23
Local Dealers	21	21	21	27
Own Decision	8	6	11	5
Situational and Other	48	52	43	36

use of friends and neighbors was also in evidence. No appreciable difference in the use of agricultural agencies and the mass media for supply decision legitimation was observed.

In Prairie, variations in source use for supply decision legitimation by personal influence mentions were nil. (See Table 31.)

TABLE 31. PERCENTAGE OF TIMES INFORMATION SOURCES WERE MENTIONED AS MOST INFLUENTIAL IN FINAL DECISIONS TO PURCHASE FARM SUPPLIES CLASSIFIED BY THE NUMBER OF TIMES THE FARM OPERATORS NAMING THE SOURCES WERE MENTIONED AS FIRST OR ADDITIONAL SOURCES OF INFORMATION

PRAIRIE

Sources Mentioned	Total (N=461)	Number of Times Farm Operators were Mentioned as First or Ad- ditional Sources		
		None (N=221)	1 - 2 (N=141)	3 or More (N=99)
TOTAL (Percent)	100	100	100	100
Agriculture Agencies	2	1	2	3
Mass Media	10	9	9	13
Friends and Neighbors	27	31	23	22
Local Dealers	30	30	31	31
Own Decision	15	14	19	11
Situational and Other	16	15	16	20

Innovators—Little variation was evident in sources used for supply decision legitimation as influenced by number of times an individual was named as having a reputation of being first to try new farm practices. In Ozark, there was a slight tendency for high mention innovators to make greater use of friends and neighbors for purchase decision legitimation than low mention persons. (See Table 32.) Contrary to normal expectations, some tendency for "middle-mention" persons in Prairie to refrain from use of friends and neighbors in favor of local dealers was evident. (See Table 33.) However, as in Ozark, use of friends and neighbors for this purpose was highest among individuals receiving the most innovator mentions. Such persons are generally not thought to rely on other persons as direct information sources but friends and neighbors obviously served as information referents for them. It is likely that they are much more highly selective in their choice of legitimating referents or at least selective on a different basis than people who are not innovators. (10)

TABLE 32. PERCENTAGE OF TIMES INFORMATION SOURCES WERE MENTIONED AS MOST INFLUENTIAL IN FINAL DECISIONS TO PURCHASE FARM SUPPLIES CLASSIFIED BY NUMBER OF TIMES THE FARM OPERATORS NAMING THE SOURCES WERE MENTIONED AS FIRST TO TRY
NEW FARM PRACTICES

OZARK

Sources Mentioned	Total (N=319)	Number of Times Farm Operators were Mentioned as First to Try		
		None (N=236)	1 - 2 (N=49)	3 or More (N=34)
TOTAL (Percent)	100	100	100	100
Agricultural Agencies	2	1	4	3
Mass Media	6	6	6	9
Friends and Neighbors	15	13	12	29*
Local Dealers	21	22	23	18
Own Decision	8	8	8	6
Situational and Other	48	50	47	35

*Difference between highest and lowest category significant at the .05 level

TABLE 33. PERCENTAGE OF TIMES INFORMATION SOURCES WERE MENTIONED AS MOST INFLUENTIAL IN FINAL DECISIONS TO PURCHASE FARM SUPPLIES CLASSIFIED BY NUMBER OF TIMES THE FARM OPERATORS NAMING THE SOURCES WERE MENTIONED AS FIRST TO TRY
NEW FARM PRACTICES

PRAIRIE

Sources Mentioned	Total (N=461)	Number of Times Farm Operators were Mentioned as First to Try		
		None (N=331)	1 - 2 (N=77)	3 or More (N=58)
TOTAL (Percent)	100	100	100	100
Agricultural Agencies	2	2	1	6
Mass Media	10	11	10	4
Friends and Neighbors	27	28	17	30
Local Dealers	30	28	42	24
Own Decision	15	15	16	15
Situational and Other	16	16	14	21

INTERPRETATION AND CONCLUSIONS

Legitimation of Farm Practice Decisions

The most frequently and most consistently used information source for legitimation purposes for all agricultural practices in both communities was *friends and neighbors*. This source accounted for 38 percent or more of the legitimation mentions for each of the practices considered. (See Tables 4 and 5.) One dealer-farmer accounted for 7 percent of the mentions in Ozark and one dealer-farmer, 13 percent in Prairie. The highest degree of mention was 26 percent for the use of agricultural chemical practices, attributed to the dealer-farmer in Prairie.

The second most used information source for farm practice legitimation was the *mass media* in Prairie and *local dealers* in Ozark, although in both cases considerable variation occurred by type of practice. *Agricultural agencies* figured prominently as a legitimating source for most practices in both communities. They experienced distinctly greater use for the complex practices (including terracing, building of trench silos, and changes in the use of commercial fertilizers) which often involved new technologies and concepts.

Perhaps it is significant that 18 percent of the legitimation of farm practice changes resulted from the use of mass media in both communities; also that hidden in these percentages are radio personalities to which farmers frequently listened in both communities and who accounted for sizeable percentages of the mass media legitimations in each community. These persons had gained the confidence of farmers to the point where farmers were willing to accept their advice regarding the practices recommended by them.

If the circumstances under which mass media legitimation of farm practice decisions were better understood, the functions ordinarily performed by the mass media probably could be expanded and adoptions facilitated. Even so, the 18 percent legitimation figure must be considered significant in view of usual function performed by the mass media and the standpoint of allocating change agent resources. It is quite probable that legitimations by this means occurred quicker and at less cost than legitimation by other means.

When viewed on a community basis, farmers in Ozark were at least in some respects more consistent than those in Prairie in the use of information sources which change-oriented people may be expected to use. In general, differences appeared in clearest focus and in the expected direction in Ozark.

The use of *agricultural agencies* in relation to variables indicating a personal orientation to change were all in the expected direction and, with one exception, substantially greater in Ozark than in Prairie. These variables included gross farm income, improved farm practice rating, age of the operator, and orientation to farming as a business versus a way of life. Also, in Ozark, as hypothesized, high mention legitimators, communicators, and innovators made much greater use of the agricultural agencies than those not mentioned. In Prairie,

differences were either small or nonexistent. Thus, in Ozark the agricultural agencies occupied strategic positions to exercise a multiplying influence through the personal referent system operating in the interpersonal communicative network. This also suggests a greater sensitivity of farmers in Ozark than in Prairie to the choice of personal referents in a likely position to supply authentic information.

Use of sources other than agricultural agencies was somewhat less clearly defined. Mass media legitimations declined with gross farm income in Prairie but not in Ozark. In both communities, they declined with increases in the improved practice rating but increased with the age of the farm operator. In Ozark, use of the mass media for legitimation purposes was sharply upward as orientation to farming as a business increased but in Prairie a slight reverse tendency was noted. Preservation of farming as a way of life and as an ideal has been subjected to less challenge and strain in Prairie than in Ozark where economic survival has demanded enterprise and family changes that have not been necessary in Prairie, thus, the possible explanation of more sensitivity in Ozark to source use instrumental to implementing change than in Prairie.

As expected, elderly farmers made somewhat greater use of friends and neighbors for legitimation purposes in both communities. In Ozark, use of local dealers for legitimation purpose decreased with income of the operator, while a reverse tendency was noted in Prairie. This put local dealers at an advantage for legitimation of farm practice change decisions among high income farmers in Ozark and at a slight relative disadvantage in Prairie when compared to farmers with lower incomes. Also, from the standpoint of total mentions, local dealers in Ozark were in a much more favored position for farm practice legitimation than in Prairie.

Even so, in Ozark use of local dealers for farm practice decision legitimation decreased slightly with the *level of farm practice adoption* and sharply as *orientation to farming as a business* increased. In Prairie, variations in source use for legitimation purposes by these two variables were very small and sometimes inconsistent. None were statistically significant at the 0.05 confidence level.

Persons who served as *communicator* and *legitimator referents* to other farmers in Ozark made less use of the mass media and local dealers for legitimating their own farm practice decisions than those who were not named as referents. In comparison to information sources more frequently used by such persons the mass media were at a comparative disadvantage in achieving legitimation through the personal referent system. The same general tendency was present in Prairie for the mass media but differences were not significant at the 0.05 confidence level. However, for local dealers a slightly reverse situation occurred, i.e., communicator and legitimator referents made slightly more frequent use of local dealers than others to legitimate their own decisions. However, the greatest differential in source use for farm practice legitimation purposes occurred in the use of agricultural agencies in Ozark. Differences in this regard in Prairie were small and not entirely consistent.

In Ozark, both legitimators and communicators made greater use of friends and neighbors for legitimating their own farm practice decisions than persons not named for either purpose. One reason for this may be that those who serve legitimator and communicator functions for others are more integrated into the social structure of the community than those who do not perform these functions and are therefore more accessible for conversations from which they themselves receive valued advice. Innovators, on the other hand, may be deliberately underselected as consultants in communities where change is viewed with caution because their advice may not be as highly prized as advice received from somewhat more conservative persons. They, in turn, might be expected to rely less on friends and neighbors for decision legitimation than farmers less oriented to the acceptance of change. Some indication of such an inclination was observed in both communities. However, the greatest source use differences were in Ozark where innovators relied much more heavily on agricultural agencies for own decision legitimation than those not named as innovators. No difference of this kind was observed in Prairie.

Legitimation of Supply Purchase Decisions

Sources for information about new products appearing on the market are not so well known and certainly not so well institutionalized as information sources about new farm practices; nor are the available sources likely to be viewed with as much confidence as many farmers place on the extension education system associated with the land-grant colleges of the nation. Under such circumstances, individuals must rely more on their own resources in selecting information sources and in deciding how much reliance to place in them.

Thus, the mention of "own decision" or situational factors in 48 percent of the cases in Ozark and 17 percent in Prairie should not be particularly surprising. Surely this is a partial reflection of the lack of commonly recognized information sources. Perhaps it also reflects a tendency to relegate the sources that are used to positions of little importance, even in some cases to a level of inability to recall them as sources exercising any influence. The higher proportion of "own decision" and situational responses in Ozark than in Prairie may be due to less rational thought given to purchase decisions, to less importance attached to decisions about particular practices which varied in the two communities, or even to differences of availability of trusted information sources in each of the areas.

Yet, it is precisely under such circumstances that greatest opportunity exists for ambitious suppliers of information to establish trusted informant roles. Some dealers have been able to do this, since local dealers accounted for 21 percent of the decisions to purchase legitimations that occurred in Ozark and 30 percent of those in Prairie.

In both communities local dealers topped the list of specific sources mentioned. Such persons certainly are in a strategic position to render advice on pro-

duct or service sales decisions when relationships of confidence and trust have been established. In the absence of, and even in the face of this, some farmers may still prefer to rely on the most universally used source for legitimation purposes, friends and neighbors. These friends and neighbors may be regarded as persons who make it a business to be informed and who are trusted for their honesty and good judgment. Thus, it is that 15 percent of the farmers in Ozark and 27 percent in Prairie relied on fellow farmers for legitimation of decisions involving changes in the use of farm supplies.

A state of affairs where mass media can serve this purpose may be a dream of advertisers or other change agents. If so, the dream has not been realized since only 6 percent of the farmers in Ozark and 10 percent in Prairie attributed legitimating influence in supply change decisions to the mass media. Yet, from the standpoint of cost per person, results may not be especially discouraging. The mass media influences which operate at a level below recall in the decisions people make also can be added to the 6 and 10 percent figures.

Recognized influence of the agricultural agencies, which figured prominently in farm practice decision legitimation, was virtually absent in farm supply purchase decisions (defined to include major household equipment).

Friends and neighbors rated first in frequency of mention for tire, fertilizer, and major farm equipment purchases in Prairie. Local dealers were generally close contenders for the first place position. In Ozark, dealers were accorded a slight edge over friends and neighbors for fertilizer, livestock feed and insurance purchases. The latter rated first in the major farm equipment and household appliance category.

There was an inclination for farmers mentioned most frequently as legitimators to attribute most frequent major influence to local dealers in both communities. A slight tendency was noted in Prairie for high mention legitimators to make less frequent use of the mass media for legitimation of farm supply purchase decisions. Otherwise, persons named as legitimators displayed little variation in source use for legitimization of supply decisions.

Also, source use for legitimation purposes varied only slightly by the number of times individuals were mentioned as sources of initial or additional information about farm practices. Source use was generally not consistent in the two communities. The most notable tendency was for personal communicative referents to make somewhat greater use of local dealers, friends and neighbors, and mass media for decision legitimation than those who were not referents in Ozark. Somewhat less use was made of friends and neighbors in Prairie as mentions as a personal source increased.

The only significant variations in source use by personal mentions as *first to try the new farm practices*, were a slight increase in use of friends and neighbors for the legitimation of farm supply decisions and a decline in the use of the mass media in Prairie. For some unknown reason, a shift from friends and neighbors to local dealers in the 1-2 mention category also occurred in Prairie.

In the aggregate, local dealers were the most mentioned source of information for legitimating supply purchase decisions in both communities and friends and neighbors were mentioned most for the farm practice decisions.

REFERENCES

1. Beal, G. M. and Bohlen, J. M. *The Diffusion Process*. Ames: Iowa Agricultural Extension Service Special Report 18, March 1957.
2. Becker, Howard S. "Process of Secularization: An Ideal-Typical Analysis with Special Reference to Personality Change as Affected by Population Movement," *The Sociological Review*. British, April, July and October 1952.
3. Hagood, M. J. and Price, D. O. *Statistics for Sociologists*. New York: Henry Holt and Company, 1952. PP. 315-320.
4. This distinction between practices requiring no changes in technology and/or equipment and those involving merely a substitution of one product for another has been made by:
 Wilkening, E. A. *Adoption of Improved Farm Practices as Related to Family Factors*. Madison: Wisconsin Agricultural Experiment Station Research Bulletin 183, December 1953.
 And subsequently by:
 Fliegel, F. C. and Kivlin, J. E. *Differences Among Improved Farm Practices as Related to Rates of Adoption*. University Park: Pennsylvania Agricultural Experiment Station Research Bulletin 691, January 1962.
5. Wilkening, E. A. "Sources of Information for Improved Farm Practices," *Rural Sociology*, XV, No. 1, March 1950.
6. Lionberger, Herbert F. and Coughenour, C. Milton. *Social Structure and Diffusion of Farm Information*. Columbia: Missouri Agricultural Experiment Station Research Bulletin 631, April 1957.
7. Lionberger, Herbert F., *Overlap Dispersion of Selected Functions in Adoption Decisions of Farm Operators in Two Missouri Communities*. Paper read at the annual meeting of the Rural Sociological Society, Washington, D. C., August 1962.
8. Some studies which have found this to be true are:
 Lionberger, Herbert F. *Information Seeking Habits and Characteristics of Farm Operators*. Columbia: Missouri Agricultural Experiment Station Research Bulletin 581, April 1955.
 Wilkening, E. A. *op. cit.*
9. Vidich, Arthur J. and Bensman, Joseph. *Small Town in Mass Society, Class, Power and Religion in a Rural Community*. Princeton: Princeton New Jersey Press, 1958. PP. 55-69.
10. Thurstone, L. L. "The Measurement of Social Attitudes," *Journal of Abnormal and Social Psychology*, XXVI, 1931. PP. 249-269.
11. Rogers, Everett M. *Characteristics of Agricultural Innovators and Other Adopter Categories*. Wooster: Ohio Agricultural Experiment Station Research Bulletin 382, 1961.