Crime and Alabama Farms: Victimization, Subjective Assessment, and Protective Action

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CRIME AND ALABAMA FARMS:

Victimization, Subjective Assessment, and Protective Action

John E. Dunkelberger, J. Mark Clayton,
Rebecca S. Myrick, and Gladys J. Lyles[1]

INTRODUCTION

IN THE PAST 25 years or so, much has been heard and read about the rising rate of crime in the United States. At first this "crime wave" was viewed as an urban problem associated with life in large cities. It was not seen as a major problem in rural areas or in the South, where people traditionally leave their homes unlocked and their personal property exposed and unprotected.

Over the years Southerners have come to realize that times are changing and crime is on the increase throughout the Region. This realization has become widespread across Alabama. But even so, increased crime is thought to occur in other places rather than in the local communities where people and families actually live *(1)*. Recognition of an increasing problem with crime in rural areas has come slowly *(9)*. As a result, many rural residents and farmers have done little to protect themselves from becoming a crime victim and a statistic in the rising rural crime rates.

Rural crime, including both violent and property crimes, increased dramatically over the past 30 years. In 1960, the rural crime rate for the U.S. was 423.2 crimes per 100,000 rural resi-

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[1]Dunkelberger is Professor, Clayton and Myrick are Graduate Research Assistants of Rural Sociology, and Lyles is Professor of Rural Sociology, G.W. Carver Agricultural Experiment Station, Tuskegee University.

dents *(17)*. Nationally, these rates increased 366 percent by 1989, to an annual rate of 1,973.8 crimes per 100,000 rural residents. This rate of increase virtually matched the more publicized 389 percent increase experienced by urban areas during the same time span *(5)*.

Rural crime rates for Alabama increased 325 percent for this same 30-year period *(17)*. Property crime alone in rural Alabama increased 443 percent between 1960 and 1989, accounting for a disproportionate share of the rural crimes. This accelerated increase in rural property crime may, in part, be the result of better reporting of such crimes to law enforcement agencies *(4)*. For whatever reason, it is clear that property crime is on the increase in rural Alabama.

Crime is no longer just an urban problem. The rise in rural crime can be traced to a mix of social, economic, ecological, and demographic factors *(12)*. The prevailing ecological patterns of sparsely scattered houses and farms present surveillance difficulties for neighborhood residents and rural police officials *(11)*. Other ecological factors include improved highways and local road systems that permit greater access to previously remote areas, and relaxed attitudes of many rural residents about adopting and using precautionary measures to impede crime *(8)*. In addition, the growing affluence of rural residents, including farmers, the influx of new residents, and the changing social organization of rural life have been suggested as factors associated with rising rural crime rates *(11)*.

Farm crime, that is crime occurring to farm property, is a major type of crime in many rural areas *(2,13,14)*. Yet, farm crime has never been separately tabulated in the various crime reports prepared by the U.S. Department of Justice or the Federal Bureau of Investigation. For this reason alone, rural crime has been suspected of being under reported *(9,13,14)*. Particularly suspect are police crime reports involving farm theft and vandalism. The targets of these criminal acts include farm tools, equipment, and machinery; agricultural inputs such as pesticides, fertilizers, feeds, and seeds; and farm outputs or products including livestock (especially cattle and hogs), fruits, nuts, grains, and vegetables *(14)*. Generally, rural law enforcement officers and courts have been unable to investigate or protect farmers against such crimes *(12)*.

Adding to the questionable accuracy of formal rural crime reports is the attitude and behavior of farm crime victims *(7)*. Farmers are notorious for failing to report farm property crimes to law

enforcement agencies *(14)*. One reason is that the dollar values of stolen farm property are often small or hard to determine *(7)*. Also, there may be difficulty proving exactly what and how much crops, livestock, timber, etc. was stolen *(2,3)*. But perhaps the most critical issue may relate to the widespread belief that local police in rural areas are not able to catch the offenders or find stolen farm property *(2,3,13)*. Therefore, many farmers have come to accept some level of victimization as an expected cost of doing business and report only major or chronic instances of farm crime.

PURPOSE OF STUDY

Social surveys provide a means for obtaining information about crime experiences within specific populations where existing data sources appear inadequate. Because survey studies rely on direct contact with both actual and potential crime victims, they provide information about the beliefs, opinions, and behaviors of people relative to crime, as well as, about their victimization experiences. Thus, the purpose of this study was:

(1) to determine the kinds of victimization experiences occurring to farm property in Alabama;

(2) to identify the beliefs and opinions (attitudes) of farm operators about different kinds of farm crimes;

(3) to describe behavioral practices used by farmers to protect their farm property from victimization; and

(4) to identify existing opinions of farm operators toward crime trends, law enforcement, and crime prevention in rural areas.

STUDY DESIGN

The present study is an independent statewide contribution to Southern Regional Research Project S-193, "Victimization and Prevention of Rural Crime in the South." The Alabama contributing project was AL-625. The study involved sampling 1,200 farmers from a compiled list of state operators selected randomly from the Alabama Farmers Federation files. As with any sample drawn from such a population listing, there is a question as to how well this sample reflects the population of Alabama farmers. This question is addressed in a later section entitled "Description of Sample Farms."

Farm and farm operator information was obtained through a mail survey conducted during late fall 1988 and winter 1989, using a three-phase procedure *(6)*. Phase I involved the mailing of an

introductory letter with an enclosed questionnaire, followed three weeks later by a phase II reminder postcard. Three weeks later, in phase III, a second letter and questionnaire were mailed to all nonrespondents. Usable questionnaires were completed and returned for 428 Alabama farms representing a 35.7 percent response rate. No adjustments were made to the response rate for undelivered questionnaires or nonapplicable survey recipients. Estimate of the proportion of nonapplicable sample names was placed at 20 to 25 percent based on returned questionnaires, which noted recipient was deceased or no longer farming. No tests were conducted to determine specifically who these nonrespondents were and why they did not respond.

How well does this sample reflect the Alabama farm population? The 1987 U.S. Agricultural Census for Alabama indicates that 6.4 percent of Alabama farm operators were women, 4.4 percent were nonwhite, primarily African Americans (blacks), 41 percent were younger than 50 years of age, and 23 percent were 65 years old or older, table 1 *(15,16)*. The study sample is biased to the extent that it over represents women operators (16 percent), under represents African Americans or blacks (3 percent), and reflects a somewhat older population with only 31 percent younger than 50 and an equal percent 65 years of age or older.

TABLE 1. SAMPLE PROFILE OF 428 ALABAMA FARM OPERATORS

Operator characteristics	1989 Sample	1987 Ag. Census[1]
	pct.	*pct.*
Sex		
Male	84.1	93.6
Female	15.9	6.4
Race		
White	97.0	95.6
Other	3.0	4.4
Age		
Younger than 50	31.1	40.9
50-64	38.1	36.4
65 or older	30.8	22.7
Gross farm income		
Less than $1,000	35.0	16.0
$ 1,000- 9,999	34.0	51.7
$10,000-39,999	18.4	15.8
$40,000 or more	12.6	16.5

[1]Census of Agriculture, 1987. Part I, Alabama State and County Data. U.S. Department of Commerce, Bureau of the Census, Washington, D.C. *(15)*

Concerning the farm operation, the 1987 Agricultural Census reported that 16 percent of Alabama farms had gross farm incomes of less than $1,000, whereas 35 percent of the sample reported incomes in this range *(15)*. However, 52 percent of farm operators indicated gross farm incomes between $1,000 and $10,000 compared to 34 percent of the sample. At the two highest income levels, the proportions were more similar. The Agricultural Census reported 16 percent and 17 percent of operators with gross farm incomes of $10,000 to $40,000 and $40,000 and above, respectively. These proportions compare with sample percentages of 18 percent and 13 percent for these income levels. The study sample appears weighted somewhat toward smaller farms.

In this study, farm size is used as a primary descriptive characteristic. Size of farm is defined as a composite variable including both amount of farmland operated and gross farm income. Both variables contribute significantly to having an economically viable farm unit, where acres or gross farm income alone is inadequate and misleading. The composite measure created for this analysis involves three farm-size categories — small, medium, and large farms — defined as:

(1) Small farm — less than 50 acres with gross farm income less than $5,000 or more than 50 acres with gross farm income less than $1,000;

(2) Medium farm — less than 50 acres with gross farm income of $5,000 to $20,000, or between 50 and 150 acres with gross farm income of $1,000 to $10,000, or more than 150 acres with gross farm income of $1,000 to $5,000;

(3) Large farm — less than 50 acres with gross farm income of $40,000 and above, or between 50 and 150 acres with gross farm income of $20,000 and above, or more than 150 acres with gross farm income of $5,000 and above.

Only 381 of the 428 farm operators responding to the survey (89 percent) were classifiable by farm size. No information for either the number of acres operated or gross farm income was provided by 47 farm operators. Of the remaining 381 farms, 42 operators reported information on farm acreage only. These farms were assigned to the most appropriate size category based on acreage alone, assuming that farm income would be commensurate with acreage in the majority of cases. The resulting distribution of these 42 farms was 16 small, 24 medium, and 2 large. The resulting number of surveyed farms classified into each of the three farm-size categories was 148 (389 percent) small farms, 129 (34 percent)

medium farms, and 104 (27 percent) large farms.

DESCRIPTION OF SAMPLE FARMS

This section describes the characteristics of surveyed farm operators and their farms by size of the farm operation.

FARM OPERATORS

The vast majority of surveyed farms were operated by men (84 percent), table 2. The proportion of women operators varied by size of farm, with 22 percent for small farms but only 4 percent for large farms. Virtually all operators were white (97 percent). This is consistent with the small number of black farmers in Alabama agriculture. For the most part, black farmers in the State have small farms and relatively low gross farm incomes.

TABLE 2. EDUCATION, OCCUPATION, AND INCOME CHARACTERISTICS FOR SAMPLE OF ALABAMA FARM OPERATORS AND HOUSEHOLDS

Characteristic	All	Size of farm		
		Small	Medium	Large
	pct.	*pct.*	*pct.*	*pct.*
Male operators	84.1	77.7	86.4	95.5
55 years or older	57.7	60.4	58.5	46.4
Married	84.2	80.5	87.0	91.1
College degree	15.9	14.4	18.2	20.3
Full-time farming	41.1	46.6	35.2	62.4
Nonfarm occupation (professional, technical, managerial, or sales)	43.6	45.0	40.5	47.1
Spouse employed off-farm	42.6	48.6	44.1	39.8
Total household income (all sources) $30,000 or more	47.2	30.1	46.8	76.4
More than 50 pct. of household income from farming	66.1	81.1	77.1	33.6
Farms	428	148	129	104

More than half of all farm operators responding to the survey (58 percent) were at least 55 years of age. The proportion of older farmers was largest for small and medium sized farms. Large farm owners were significantly younger as a group, with fewer than half (46 percent) 55 years of age or older. Education varied according to age, with older operators having completed less schooling than younger operators. Although 43 percent had completed some type of formal education or training beyond high school graduation, only

35 percent of those operating small farms compared to 56 percent of those operating large farms had done so.

Slightly more than half (53 percent) of these farm operators had total family incomes of less than $30,000 annually, including income from both farm and nonfarm sources. Income levels were highly correlated with size of the farm operation. Almost 70 percent of small farm operators, compared to only 24 percent of large farmers, had family incomes below $30,000.

Two-fifths (41 percent) of these farm operators were farming full-time. Large operators were more likely to be full-time farmers than were small operators, but operators of medium farms were least likely to be full-time. The vast majority of these farm operators (86 percent) had 10 years or more farming experience with operators of larger farms reporting the most farming experience.

Among those farm operators employed off-farm, 44 percent were employed in white collar occupations of a professional, technical, managerial, or sales nature. Additional family income was generated by a spouse working off the farm in 43 percent of these farm families. The proportion of spouses employed in white collar occupations was 31 percent. Somewhat more spouses of large farm operators were employed and had white collar occupations compared to spouses of medium farm operators.

Farm Operations

On Alabama farms, the most common agricultural enterprise is the production of beef cattle, table 3. This was true also for the farms in this survey, where 61 percent had some type of beef cattle enterprise. Farms producing other types of livestock represented 15 percent or fewer of Alabama's farms for any particular livestock enterprise. More than three-fourths (77 percent) of large farms produced beef compared to fewer than half (43 percent) of small farms. Large farms were more likely to include other types of livestock operations as well. More large than medium or small farms had swine, poultry, fish, and horses.

Crop enterprises on Alabama farms are led by the production of hay, corn, and soybeans. Among the farms surveyed for this study, hay was produced by almost half (45 percent). Large farms were more likely to produce hay and small farms least likely. In addition, 23 percent produced corn, 17 percent produced soybeans, and 12 percent produced wheat. Only 5 percent produced cotton. Production of each crop was more prevalent on large farms than on small or medium farms.

TABLE 3. FARM ENTERPRISE PROFILES OF ALABAMA FARM SAMPLE BY SMALL, MEDIUM, AND LARGE SIZE FARMS

Farm characteristics	All farms	Size of farm		
		Small	Medium	Large
	pct.	*pct.*	*pct.*	*pct.*
Livestock enterprises*:				
Beefcows	61.2	43.4	69.8	77.2
Swine	6.3	3.5	5.4	11.9
Poultry	15.4	7.7	14.7	23.8
Fish	14.3	13.7	14.0	16.8
Horses	10.7	9.8	10.1	15.8
Other livestock	5.1	6.3	4.7	4.0
Crop enterprises*:				
Wheat	11.9	6.9	7.0	26.7
Soybeans	17.4	15.3	14.7	25.7
Corn	22.9	25.0	14.0	32.7
Cotton	4.7	3.5	3.9	7.9
Peanuts	8.6	5.6	6.2	15.8
Hay	44.7	28.5	50.4	61.4
Other enterprises*:				
Timber	29.4	28.5	27.9	33.7
Vegetables	17.1	24.3	16.3	8.9
Pecans	13.0	11.8	10.1	18.8
Fruits and Berries	9.8	13.9	10.1	4.0
Others	2.9	5.6	3.1	4.0
Gross farm income 1988:				
Less than $5,000	56.7	100	44.3	none
$10,000 or more	31.1	none	19.7	100
Farms	428	148	129	104

*Percents are not additive because of multiple enterprises on farms.

Other production enterprises reported on the sampled farms included timber, fruit, nuts, vegetables, berries, etc. Among these, timber was the more common enterprise. Almost 30 percent of farms had timber with large farms only slightly more likely than small or medium farms to have timber. Large farms engaged in more animal production, whereas small farms were more likely to produce vegetables, fruits, and berries.

FARM ECOLOGY

The traditional idea of a farm is one of a single tract of land with a house located on the farmland. This ecological profile has certain security advantages for farm and household property because it provides for the oversight and protection of farm property from crime. However, for large farms today, the single tract farm, with much of the farmland, buildings, and equipment observable from

the farm house, seldom prevails. This presents increased security risks for farm operators.

Almost half (49 percent) of the survey farms were in one tract with an additional 14 percent configured of multiple, adjoining tracts, table 4. The remaining 37 percent of farms consisted of one or more nonadjoining tracts. This ecological configuration has a heightened potential for crime victimization. Two-thirds of small farms consisted of single tract units compared to 47 percent of medium-size farms and 20 percent of large farms. About 69 percent of large farms consisted of non-adjoining land units.

TABLE 4. ECOLOGICAL PROFILES OF ALABAMA FARM SAMPLE BY SMALL, MEDIUM, AND LARGE FARMS

Farm ecology characteristics	Size of farm				Probability
	All	Small	Medium	Large	
	pct.	*pct.*	*pct.*	*pct.*	*pct.*
Land tract profile:					
One tract	48.5	67.2	46.7	20.2	.000
Two or more tracts (adjoining)	14.1	15.3	15.8	11.2	.156
Two or more tracts (nonadjoining)	19.2	13.0	20.0	31.5	.260
Mixed tracts	18.2	4.6	17.5	37.1	.260
Residence on Farmland	91.4	94.7	88.4	91.0	.188
Farm buildings in sight from house	60.0	78.5	58.3	37.5	.000
Farm buildings within easy access of paved road	82.9	79.5	83.6	87.6	.277
Farm within easy access of 10,000 urban center	43.5	43.5	39.3	49.4	.404
Farms	428	148	129	104	

Most Alabama farmers live on the farm (91 percent) with small farm operators most likely to do so and medium farm operators somewhat less likely. As a result of multiple units or land tracts, only 61 percent of the operators reported that some or all of the major farm buildings were located within sight of the house in which they live. Size of farm was a major factor since 79 percent of small farm operators had visual surveillance of their farm buildings compared to only 38 percent of large farm operators. The ecological factors of farm tract location and accessibility, defined in terms of access to a paved road and distance from an urban center of 10,000 population, revealed only modest differences in the proportions of the three sizes of farms on each of these ecological

characteristics. Overall the vast majority of farms (83 percent) were located "within easy access" of a paved road and/or of an urban place (44 percent).

FARM CRIME VICTIMIZATION EXPERIENCE

In this section the presentation focuses on the actual experiences of Alabama farm operators with crime against their farm property. Attention is given specifically to farm property crimes of vandalism, burglary, and theft. No consideration is given to criminal acts of violence against persons; nor to criminal acts against personal property not associated with the farm business or household possessions located on the farm. This study is not about rural crime. It is about "farm property crime." In that important respect, the data are unique and not directly comparable to existing crime statistics and reported rates.

For purposes of this study, farm crime victimization is described from two distinct time perspectives. First, the immediate past 12 months is examined. This parallels the approach used in national crime statistics reports (17). Second, an historical perspective is used to allow farmers to report on their experiences with farm crime over all prior years they have farmed.

Information obtained from farm operators using both perspectives are combined here, as a starting point, to provide an overall indication of the experience of Alabama farm operators with farm property crime. The findings reveal that 58 percent of the farm operators completing questionnaires had been victimized at least once during their farming years, figure 1. Many of these farmers were victims of several different kinds of crimes and multiple instances of the same kinds of crimes over their years in farming, figure 2.

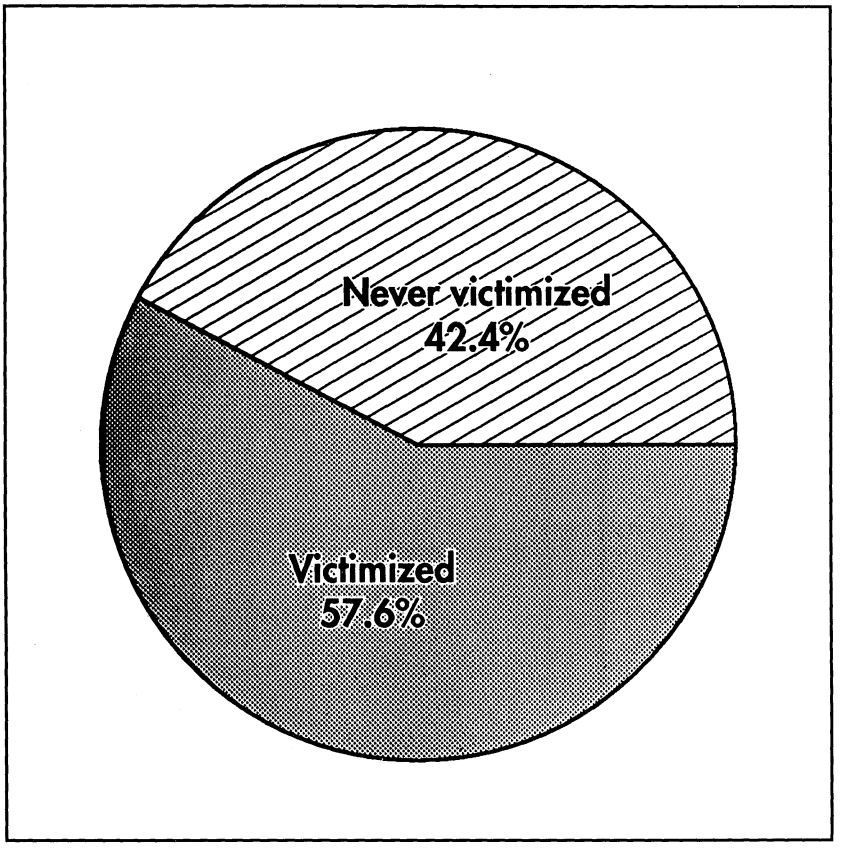

FIG. 1 Property crime victimization status of Alabama farm operators over their years in farming.

VANDALISM IN THE PAST 12 MONTHS

Farm vandalism is defined as any destruction or defacement of property occurring to a farm house, building, machine, equipment, livestock, crop, or timber owned, rented, or leased by the operator. Of the Alabama farmers surveyed, 87 percent experienced no vandalism to their farms during the previous year, figure 3. Among those that were vandalized, more large farm operators (24 percent) reported incidences of vandalism than either small or medium farm operators. Only about ten percent of small and medium-size farms experienced property damage done by vandals. The higher rate of vandalism against large farms could be due to the inability

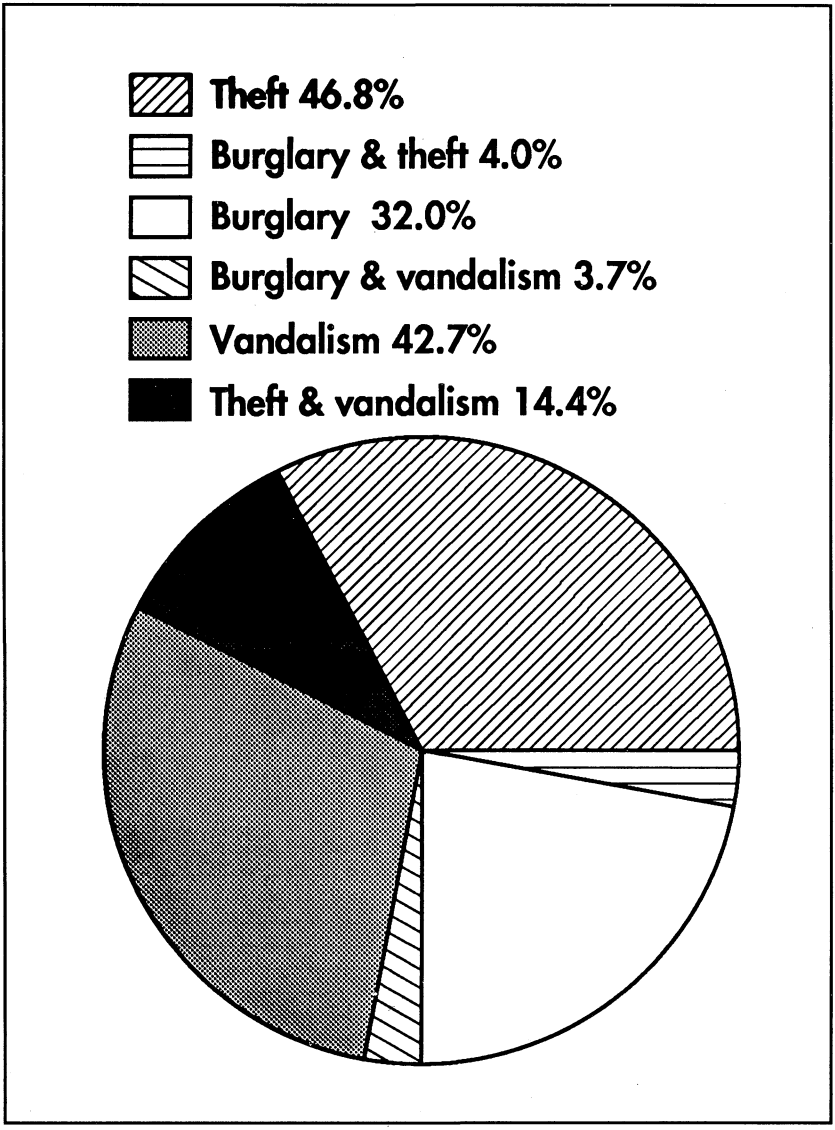

FIG. 2. Victimization experience of Alabama farm operators over their years in farming by type of property crime.

of large operators to maintain adequate watch or visual surveillance over their farm property.

Focusing only on those farms and farm operators who experienced vandalism within the past year provides a description of the

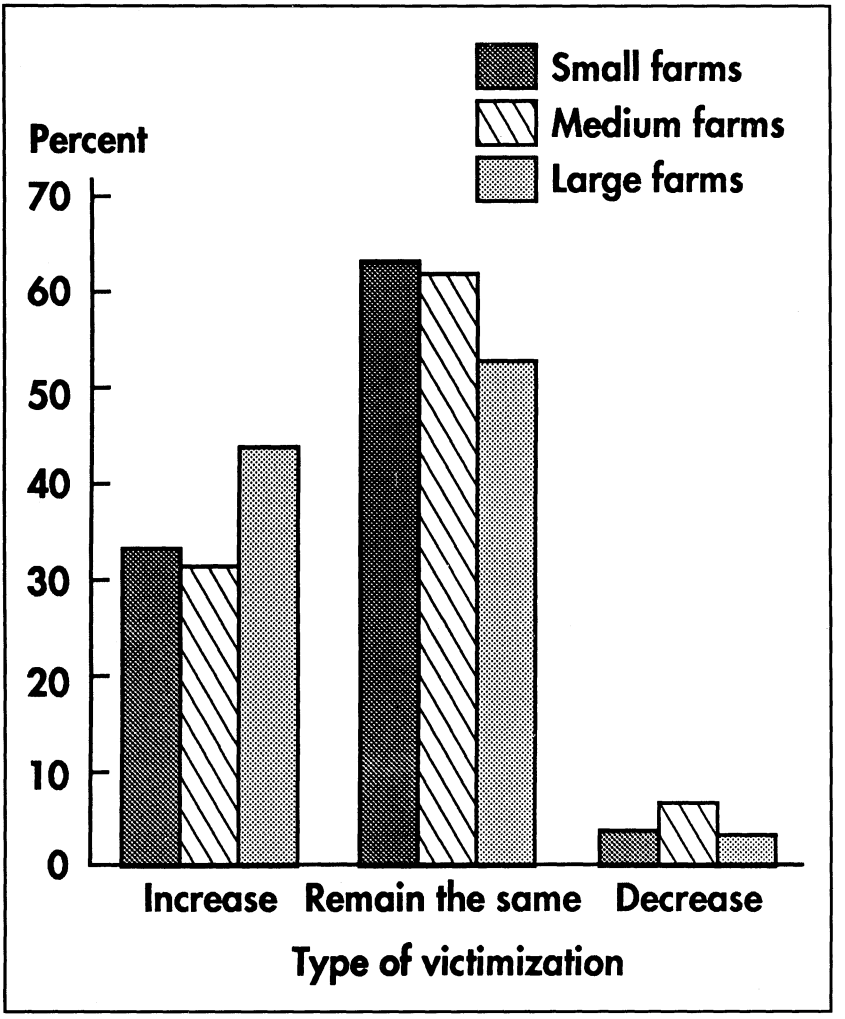

FIG. 3. Experience of Alabama far operators with vandalism, burglary, or theft of farm property in the past 12 months by size of farm.

kinds of farm property most often damaged or defaced, table 5. The most frequently damaged property involved farm fences or gates. More than one-third of the farmers reported this kind of vandalism. The problem is more common on medium and large farms (46 and 48 percent, respectively) than on small farms (23 percent). Destruction or damage to woodlands (timber) is the next most frequently reported kind of farm vandalism. One-fourth of the farm-

TABLE 5. EXPERIENCE OF ALABAMA FARM OPERATORS WITH VANDALISM TO FARM PROPERTY IN PAST 12 MONTHS (1988) BY SIZE OF FARM

Kind of property vandalized	Size of farm				Probability
	All	Small	Medium	Large	
	pct.	*pct.*	*pct.*	*pct.*	*pct.*
No vandalism	87.1	90.0	89.1	75.9	.001
Farm building(s)	22.2	15.4	23.1	23.8	.821
Farm machinery	16.7	30.8	7.7	14.3	.278
Farm equipment	5.6	7.7	7.7	4.8	.918
Residence on Farmland	91.4	94.7	88.4	91.0	.188
Farm fences and gates	37.0	23.1	46.2	47.6	.306
Farm materials	7.4	15.4	0.0	4.8	.211
Livestock	14.8	7.7	15.4	19.0	.639
Crops	9.3	0.0	7.7	19.0	.113
Orchards	3.7	0.0	0.0	4.8	.441
Woods	24.1	30.8	23.1	23.8	.880
Water	9.3	0.0	15.4	0.0	.068
Victimized Farms	54	13	13	21	

[1]Chi-square statistic is significant at .001.

ers experiencing vandalism reported damage to wooded property. About 23 percent reported vandalism to farm buildings such as barns, sheds, poultry houses, and other structures. The proportions for both latter kinds of vandalism incidents are fairly consistent across all farm sizes.

Vandalism of farm machinery and livestock was experienced within the previous 12 months by more than 15 percent of reporting Alabama farmers. Interestingly, operators of small farms were most likely to experience vandalism to farm machinery (31 percent). A possible cause for this is that small farmers are less likely to have protective buildings and sheds available for their farm machinery. Thus, the machinery is often left exposed to vandalism. On the other hand, large farms are somewhat more likely (19 percent) than smaller farms (8 and 15 percent, respectively) to have experienced vandalism to livestock. Lack of direct surveillance of livestock on large farms, particularly beef cattle, is a likely cause of the higher incidence.

Estimated repair or replacement costs for all incidents of vandalism experienced during the year by the farm operator were reported. Dollar estimates were provided for about one-third of the cases, with estimated loses ranging from $25 to $80,000. Ignoring the one extreme loss, the next largest amount was $1,200, resulting in a median loss for all victim farms of about $400. These

estimates are insightful but do not represent a sufficient number of farms to provide a basis for generalization.

Additional information was provided about several other aspects of the farm victimization experiences of these farmers, table 6. The vast majority of operators (87 percent) reporting vandalized property indicated that it was not covered by insurance. Operators of small farms were more likely than large farmers to have some form of insurance that covered their vandalized property, probably as a part of their homeowner's policy.

TABLE 6. CONDITIONS AND ACTIONS ASSOCIATED WITH VANDALISM TO FARM PROPERTY EXPERIENCED BY ALABAMA FARMERS IN PAST 12 MONTHS

Conditions/actions	Size of farm				Probability
	All	Small	Medium	Large	
	pct.	*pct.*	*pct.*	*pct.*	*pct.*
Insurance covered loss	13.2	30.8	23.1	0.0	.010[2]
Informed sheriff (some or every time)	57.4	77.0	61.7	41.8	.131
Property visible from farm house	37.7	58.3	53.8	23.8	.013[1]
Victimized Farms	54	13	13	21	

[1]Chi-square statistic is significant at .05.
[2]Chi-square statistic is significant at .01.

More than half of the victimized farmers (57 percent) reported their incidents of vandalism to the sheriff. Three-fourths of the small farmers reported, but only 42 percent of large farmers did so. Taking action by reporting vandalism to law enforcement officers may be linked with having insurance coverage. A police report is usually required by the insurer in making any claim for reimbursement of damage costs. Since operators of large farms do not appear to carry vandalism insurance on their farms, they have less motivation to report minor incidents.

The farm ecology aspect of vandalism against farm property was considered in terms of property visibility. One-half (51 percent) of the farm operators experiencing vandalism reported that the property was visible from either the farm house or a neighbor's house. Visibility of the vandalized property was more likely in the case of both small and medium farms. In the case of large farms, no visual surveillance of the vandalized property existed in two-thirds of the incidents. Clearly, even where property surveillance existed it did not prevent acts of vandalism.

Burglary In the Past 12 Months

The definition of farm burglary involves illegally breaking into or any attempt to break into a farm house, barn, or other farm building. Less than 10 percent of these Alabama farmers reported they had been burglarized within the past year, table 7. Operators of large and medium farms were only marginally more likely to experience burglary than were operators of small farms. The farm house is the most frequently burglarized building but only 4 percent of the surveyed farmers reported a house burglary.

Table 7. Experience of Alabama Farm Operators with Burglary of Farm Buildings in Past 12 Months (1988) by Size of Farm

Kind of building burglarized	Size of farm				Probability
	All	Small	Medium	Large	
	pct.	*pct.*	*pct.*	*pct.*	*pct.*
No burglary	92.1	95.3	90.0	88.5	.005[1]
Farm house	48.5	33.3	58.4	50.0	.257
Barn	18.2	33.3	8.3	20.0	.819
Farm building or shed	33.3	33.3	33.3	30.0	.717
Burglarized Farms	33	6	12	10	

[1]Chi-square statistic is significant at .01.

Burglary of the farm house was reported by only 14 of the surveyed farm operators. Five of these had their houses burglarized more than one time. Eight reported that the burglars damaged property located inside the house. The estimated cost of damaged locks, doors, and inside property ranged from a few dollars to $7,000 with a median loss of about $100. Of these farm house burglary victims, 37 percent reported that insurance covered their loss, while 63 percent reported the burglary to the sheriff.

Burglary of other farm buildings was the second most frequently reported incident. Nine farm operators reported burglaries of farm buildings with large farms being affected most often. Only one farmer indicated that burglary of a farm building had occurred more than once in the past year. Five farms reported loss of property stored inside the building. The dollar loss ranged from $10.00 to $5,000. In 13 percent of the cases of farm building burglary, the loss was covered by insurance. The sheriff was notified of the burglary more than half (56 percent) of the time. In two-thirds of the reported cases, the farm building burglarized was visible from either the operator's or a neighbor's house.

Burglary of barns happened least often. Of the five incidents reported, three involved damage and loss of property with a cost ranging from $10 to $700. None of this loss was covered by insurance, but in two-thirds of the incidents a report was filed with the sheriff.

THEFT IN THE PAST 12 MONTHS

Farm property susceptible to theft was categorized into four general types: crops and grains, hay, timber, fruits, nuts, etc.; livestock and cattle, poultry, hogs, horses, etc.; farm equipment and tractors, mowers, combines, pickers, trucks, tools, etc.; and farm materials and gasoline, seeds, chemicals, fertilizers, fence wire, etc.. Each farm operator in the survey was asked whether any of these types of materials had been stolen from their farm during the past year.

Only 9 percent of the Alabama farmers surveyed had experienced an incident of farm theft, table 8. A few of these reported more than one incident or type of theft. The most common types of farm theft involved farm materials (4.9 percent) or farm equipment (4.2 percent). Just 3 percent of the surveyed farmers reported theft of agricultural crops while even fewer (1 percent) reported theft of livestock. Indications are clear that farm property that is easily accessible and can be disposed of quickly is most vulnerable.

TABLE 8. EXPERIENCE OF ALABAMA FARM OPERATORS WITH THEFT OF FARM PROPERTY IN PAST 12 MONTHS (1988) BY SIZE OF FARM

Theft experience	Size of farm				Probability
	All	Small	Medium	Large	
	pct.	*pct.*	*pct.*	*pct.*	*pct.*
No thefts	91.1	93.7	90.8	81.8	.002[1]
Crops	32.4	25.0	27.3	37.5	.197
Livestock	13.5	12.5	9.1	27.3	.989
Farm equipment	48.6	50.0	54.5	37.5	.913
Farm materials	56.8	25.0	36.4	45.5	.607
Theft Farms	37	8	11	16	

*Percentages do not add to 100 because farms experienced multiple kinds of theft.
[1]Chi-square statistic is significant at .01.

More large operators (18 percent) reported one or more farm thefts than did small operators (6 percent). This relationship was true for all types of theft. Large farms were more often victimized

by the theft of farm equipment, (7 percent), crops (7 percent), and farm materials (6 percent). Although very infrequent, livestock theft was also more likely on large farms (3 percent).

Multiple incidents of equipment theft were reported during the year by four farm operators. Replacement costs of the equipment stolen ranged from $15 to $1,500. Only three farm operations had insurance on the stolen equipment and only a little more than half of the thefts were reported to the sheriff. For the most part, the equipment stolen was not locked or stored where it would be more difficult to steal. Only four of the victimized operators reported their equipment was under lock when stolen. In more than half the incidents, the stolen equipment was visible from the house of either the operator or a neighbor.

Three of the nine incidents involving the theft of farm materials were reported by operators who had been victimized on two or more occasions during the 12-month period. The estimated cost of the materials stolen ranged from $20 to $4,000 with the loss covered by insurance only in one case. Thefts were reported to the sheriff in one-third of the incidents. In the majority of cases, the materials stolen were left or stored within sight of the farm operator's house or of a neighbor's house. In most cases, these materials had been locked up.

Within a single year, there was no large number of crimes against farm property in Alabama. Nevertheless, it is clear that many farm operators across the State are having their farm property victimized and larger farms are more likely than smaller farms to experience farm crime. Moreover, most crime against farm property, perhaps as much as 60 percent, is not reported to local enforcement agencies, and in particular, to the local sheriff. One reason for this appears to be the modest value or cost of the damaged or stolen property.

Crime over the Operator's Farming Lifetime

Experiences with crime over the farm operator's working years provides a long-term perspective that is often critical to the opinions and attitudes that farmers hold about crime and what actions they have taken to protect their farm property from victimization. To obtain this historical information the surveyed farm operators were asked to indicate how often they had experienced incidents of 11 kinds of crimes against their farm property in the years prior to the last 12-months. Types of crime considered include vandalism (four kinds), burglary (two kinds), and theft (five kinds), table 9.

TABLE 9. FARM PROPERTY CRIME VICTIMIZATION EXPERIENCE PRIOR TO PAST 12 MONTHS AND OVER THE YEARS FARMING

Kind of farm crime	Size of farm				Probability
	All	Small	Medium	Large	
	pct.	*pct.*	*pct.*	*pct.*	*pct.*
Vandalism (Destruction or defacement):					
Farm house	16.4	10.0	15.5	22.1	.067
Farm buildings	16.5	10.7	17.3	23.4	.071
Farm machines, equipment, or tools	29.2	21.2	26.7	43.4	.005[2]
Farm livestock, crops, or timber	29.3	20.4	28.7	42.1	.007[2]
Burglary (attempted or actual break in):					
Farm house	23.3	20.8	24.5	23.3	.809
Farm buildings	23.1	15.2	23.5	35.9	.005[2]
Theft:					
Cattle	16.4	6.7	11.5	29.3	.000[3]
Other livestock	9.2	4.5	9.2	11.1	.276
Crops	16.5	12.7	12.8	26.7	.029[1]
Machines, equipment, or tools	34.7	23.1	33.3	50.0	.001[3]
Materials	36.0	24.1	36.6	50.6	.001[3]

[1]Chi-square statistic is significant at .05.
[2]Chi-square statistic is significant at .01.
[3]Chi-square statistic is significant at .001.

Viewed over a lifetime in farming, two kinds of property theft were most commonly experienced. Of the surveyed Alabama farmers, 36 percent had experienced the theft of farm materials such as gasoline, farm chemicals, seeds, and fertilizers over the years. Likewise, 35 percent had farm machines, equipment, or tools stolen. Theft of cattle and crops was reported by only about half as many operators (16 percent) and other livestock such as horses, hogs, and poultry were reported stolen by fewer than 10 percent. For every kind of farm property theft, large farms were about two-times as likely to be victimized as small or medium farms. Small farms were consistently the least victimized.

Vandalism was the next most common type of experience with farm crime. Destruction or defacement of livestock, crops, or timber and of machines, equipment, or tools was reported by 29 percent of the Alabama farmers surveyed. Only about half as many farms (16 percent) reported having either their farm house or buildings vandalized. Again large farms were considerably more likely than farms of small or medium size to experience all four kinds of van-

dalism. A little more than two-fifths (42 and 43 percent, respectively) of large farms experienced vandalization of farm machines, equipment, or tools and livestock, crops, or timber.

Burglary of a farm house or building was reported by almost one-fourth of the surveyed farm operators during their farming lifetime. Experience with the burglary of their farm house varied little by size of farm. On the other hand, 36 percent of large farm operators reported having attempted or actual break-ins of their farm buildings compared to only 15 percent of small farm operators.

A composite or summary classification was created identifying all farm operators who had ever experienced any kind of crime against their farm property either recent or long term, table 10. More than half (58 percent) had been victims of a crime against their farm property at some time in the past. Classified by type of crime, the proportions were 47 percent for theft, 43 percent for vandalism, and 32 percent for burglary. These aggregate proportions further show the widespread nature of farm crime and the heightened vulnerability that accompanies larger farm size. The larger the farm, the greater the likelihood of victimization from any of the three types of farm property crimes, with property theft most likely and burglary least likely. In light of the rising rural crime rates noted earlier, farm crime victimization has been increasing and can be expected to continue to do so in the future. Fewer and fewer farmers will be able to say that they have never been the victim of a farm crime.

TABLE 10. AGGREGATE VICTIMIZATION EXPERIENCE OF ALABAMA FARM OPERATORS WITH FARM CRIME OVER FARMING LIFETIME

Victimization experience	Size of farm				Probability
	All	Small	Medium	Large	
	pct.	*pct.*	*pct.*	*pct.*	*pct.*
Victim (any type):	57.9	49.6	55.2	76.1	.002[2]
Theft	46.8	35.8	46.6	67.8	.000[2]
Vandalism	42.7	33.3	43.9	60.5	.000[2]
Burglary	32.0	23.8	33.3	45.8	.003[1]
Farms	428	148	129	104	

[1]Chi-square statistic is significant at .05.
[2]Chi-square statistic is significant at .001.

OPINIONS AND ATTITUDES ABOUT FARM CRIME

Now that the nature and extent of Alabama farm operator's experiences with farm crime have been established, attention is focused on what these same operators perceive and believe about farm crime. People develop opinions about the world around them largely through their personal experiences. These experiences may be direct, as in the case where a crime occurs to ones own farm property, or it can be indirect, such as when it occurs to a friend or neighbor. Awareness, no matter how it is obtained, becomes real in its consequences when it is internalized subjectively. At this point a person's opinions and behaviors are influenced by his or her subjective mind-set. The following section describes some of the attitudes and opinions Alabama farmers hold about farm crime.

Community Trends in Farm Crime

Surveyed farm operators across Alabama were asked to indicate their perceptions about trends in farm crime. The question was: "Overall, do you think that farm crime in *your* community has increased, decreased, or remained the same during the past 2 years." Responses are shown in figure 4.

A majority of these operators (59 percent) believed that farm crime had remained the same during this short time period. However, more than one-third (36 percent) held the opinion that crime had increased. Only a very few (5 percent) thought farm crime had decreased locally. As might be anticipated, operators of large farms were more likely than operators of smaller farmers to believe that local farm crime was on the increase (44 percent). Given the greater incidence of victimization experienced by large farms both in the short and long term, these assessments follow national trends for rural crime.

Experience as a victim of farm crime also has a pronounced impact on the opinions farmers hold about local trends in farm crime. Table 11 shows that victims are twice as likely to believe that farm crime is increasing locally. Considering the composite measure involving the farm crime victimization history of the individual, 45 percent of victims believed that local incidences of farm crime had increased, compared to 22 percent of non-victims. Parallel findings were observed for specific types of farm crime victimization such as vandalism, burglary, and theft.

Attention was given to how farmers with different types of enter-

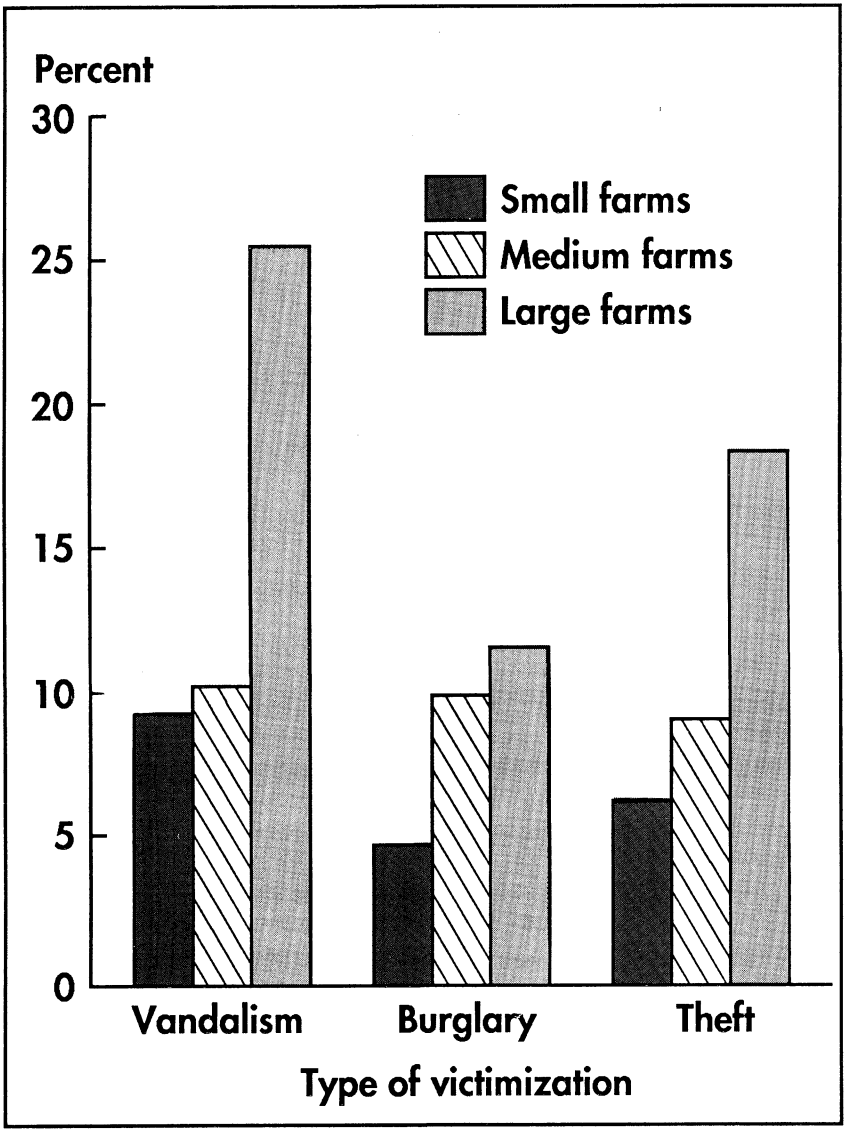

FIG. 4. Opinions of Alabama farm operators about whether farm crime has changed in their local communities over the past 2 years.

prises on their farms might differ in their opinions about local trends in farm crime, appendix table A. Less than 2 percentage points separated farmers with livestock and those with no livestock

TABLE 11. OPINIONS OF ALABAMA FARM OPERATORS ABOUT FARM CRIME TRENDS IN THEIR LOCAL COMMUNITIES BY PAST EXPERIENCE WITH DIFFERENT TYPES OF FARM PROPERTY CRIME

Victimization types	Local crime trends			Probability
	Increase	Same	Decrease	
	pct.	*pct.*	*pct.*	*pct.*
Victimization history:				
Victim	45.1	51.1	38.8	.001[1]
Nonvictim	22.0	70.7	7.3	
Vandalism:				
Victim	48.5	48.0	3.5	.001[1]
Nonvictim	24.4	68.8	6.8	
Burglary:				
Victim	54.8	43.5	1.6	.001[1]
Nonvictim	25.7	68.0	6.3	
Theft:				
Victim	46.5	49.2	4.3	.001[1]
Nonvictim	25.7	68.0	6.3	

Note: Percentages are for opinions of victims and nonvictims and comparisons are made between the two for each opinion.

[1]Chi-square statistic is significant at .001.

on their farms in their belief that farm crime was increasing. A somewhat larger difference of 8 percentage points existed between those operators growing crops (35 percent) and those with no crop enterprises (43 percent), concerning whether farm crime was increasing locally.

A similar lack of differentiation in opinions about local farm crime was observed in relation to the operator's farm employment status. Farmers with part-time (36 percent) and full-time (39 percent) off-farm employment were only marginally more likely than full-time operators (33 percent) to believe that local farm crime was on the increase. Although employment at off-farm jobs takes the farm operator away from the farm for periods of time and can leave farm property more vulnerable to farm crime by virtue of their absence, having an off-farm job did not impact on operator's opinions about local trends in farm crime.

SERIOUSNESS OF LOCAL FARM CRIME PROBLEM

Opinions of farm operators about various kinds of farm crimes and their seriousness in local communities were evaluated. The question asked: "For each of the following types of crime involving farm property (including buildings, machinery, field crops, livestock, and supplies), please indicate how serious you feel each type

of crime is *in your community.*" Eleven kinds of farm crime were described. The operator was asked to rate each crime on a scale of "not serious," "somewhat serious," "serious" or "no opinion."

Among the 11 farm crimes specified, several, that might be referred to as nuisance problems, are viewed as the most serious, table 12. Poaching, defined as unauthorized hunting and fishing on farm land, trespassing on farm land, and dumping trash on farm land headed the list of most serious local, farm crime problems. Even though more than 25 percent of the operators did not see these crimes as problems, 42 to 36 percent, respectively, rated them "serious" problems in their local communities.

TABLE 12. PERCEPTIONS OF ALABAMA FARM OPERATORS ABOUT THE SERIOUSNESS OF SPECIFIC KINDS OF FARM CRIMES IN THEIR COMMUNITIES

Kinds of farm crimes	Perception of seriousness			
	Serious	Somewhat serious	Not serious	No opinion
	Pct. agreeing			
Poaching (unauthorized hunting or fishing on farm land	41.8	23.0	26.8	8.3
Trespassing on farm land	39.7	25.4	28.5	6.5
Dumping trash on farm land	36.1	26.8	30.6	6.4
Growing of marijuana by outsiders on farm land	29.5	19.2	32.3	19.0
Arson (setting fire to woods, fields, or buildings)	29.2	23.5	39.4	7.8
Burglary (unlawful) entry into farm buildings	28.3	31.1	29.0	11.6
Theft of parts from farm vehicles or machinery	22.4	26.0	38.4	13.1
Vandalism (damage or destruction of farm property)	19.3	30.0	41.2	9.5
Theft of farm machinery (tractors, combines, balers, etc.)	17.8	27.0	43.1	12.1
Fraud (sale of misrepresented goods or services to farmers)	17.8	25.5	32.8	23.9
Theft of livestock (rustling)	16.9	26.4	44.5	12.1

The second grouping of three crimes according to their perceived seriousness included outsiders growing marijuana on farm property (30 percent), arson to woods, fields, or buildings (29 percent), and burglary of farm buildings (28 percent). Interestingly, there was considerable diversity of opinions on each of these crimes; 39 percent for arson, 32 percent for marijuana growing, and 29 per-

cent for burglary, indicating that these crimes were not local problems. Also, there were many farmers who had "no opinion" about marijuana growing and burglary as problems in their immediate area.

Three of the remaining kinds of crime involved theft. Livestock theft (rustling) was rated least serious of the 11 kinds of farm crimes rated. Only 17 percent rated livestock rustling as a serious problem locally, with 45 percent rating it "no problem". The remaining two kinds of theft involved the stealing of farm machinery and parts from farm vehicles or machinery. These kinds of theft were rated serious by 22 and 18 percent of operators respectively. For both crimes, the largest proportion of operators, 38 and 43 percent respectively, did not view these as local problems.

Although vandalism often occurs in rural areas, it was rated a serious local problem by only 19 percent of these farmers, with 41 percent indicating no problem. Similarly, fraud--the sale of misrepresented goods or services to farmers--was least often (17 percent) rated a serious problem among the 11 crimes considered and most likely to elicit a response of "no opinion."

Table 13 reveals the relationship between opinions about the seriousness of these different kinds of farm crime from the perspective of the size of the farm operation. For purposes of this discussion, the ratings of "somewhat serious" and "serious" are combined as a single rating. Opinions about the seriousness of the local crime problem were a direct function of the size of farm operation. For each of the 11 kinds of farm crimes rated, operators of large farms were much more likely than operators of small or medium farms to rate the problems as serious in the local community. Moreover, large farm operators almost always had a definite opinion about each kind of farm crime whereas other farmers did not.

Appendix table 2 shows that past victimization experience by the farm operator has a direct impact on their opinions about the seriousness of farm crime in the local community. Clearly, any kind of victimization experience causes farmers to view farm crime in a more serious manner. Of the eleven kinds of farm crimes considered, victims, regardless of the nature of their past victimization, were more likely than non-victims to perceive farm crime as a serious local problem. The difference, although still significant, was least pronounced for vandalism.

A further consideration of the seriousness ratings for various kinds of farm crime was made by whether the farm operation included a livestock or crop enterprise, appendix table 3. Opinions of

TABLE 13. PERCEPTIONS OF ALABAMA FARM OPERATORS ABOUT THE SERIOUSNESS OF DIFFERENT KINDS OF FARM CRIMES IN THEIR COMMUNITIES BY SIZE OF FARM

Kinds of farm crime	Size of farm				Probability
	All	Small	Medium	Large	
	Pct. "serious" or "somewhat serious"				
Poaching	64.8	63.1	66.1	78.4	.043[1]
Trespassing	65.1	62.8	66.6	76.0	.078
Dumping trash	62.9	62.3	60.0	78.4	.010[2]
Growing marijuana by outsiders	48.7	42.7	50.0	61.4	.025[1]
Arson	52.7	49.2	50.0	60.2	.225
Burglary of farm buildings	59.4	54.2	60.8	70.1	.060
Theft of parts from farm vehicles or machinery	48.4	39.9	54.2	66.0	.000[3]
Vandalism	49.3	45.0	49.1	62.5	.034[1]
Theft of farm machinery	44.8	36.1	47.2	61.4	.001[3]
Theft of livestock	43.3	34.6	44.6	62.5	.000[3]
Fraud	43.3	35.7	48.3	51.7	.036[1]

[1]Chi-square statistic is significant at .05.
[2]Chi-square statistic is significant at .01.
[3]Chi-square statistic is significant at .001.

crop producers did not differ significantly from those of non-crop producers relative to the seriousness of various kinds of farm crime. The theft of farm machinery parts provided the largest difference. Over half (53 percent) of crop producers rated this as a serious problem locally, compared to 43 percent of noncrops producers. On the other hand, livestock producers rated five types of farm crimes significantly more serious locally than did non-livestock producers. These include theft of machinery parts (13 percent), livestock theft (23 percent), farm machinery theft (12 percent), and farm trespass (11 percent). The percentages reported are the differences between the percentage of producers and nonproducers of livestock who rated each kind of crime "serious."

ATTITUDES TOWARD RURAL AND FARM CRIME

Whereas opinions involve what a person thinks about something, attitudes involve how they feel toward an idea, belief, or value. For this reason, each opinion was stated in positive versus negative terms or pro versus con positions relative to a statement describing the way some issue might be viewed. Several types of crime issues were presented to the surveyed farm operators, who were asked to respond using the categories of "strongly disagree or

disagree" to indicate a non-supporting attitude, "uncertain" a neutral orientation, and "agree or strongly agree" to indicate a supporting attitude. Table 14 shows the proportions of farm operators

TABLE 14. ATTITUDES OF ALABAMA FARM OPERATORS ABOUT THE SECURITY OF THEIR FARM PROPERTY FROM CRIME

Attitude statements	Orientation				
	Strongly disagree	Disagree	Uncertain	Agree	Strongly agree
	Pct.	*Pct.*	*Pct.*	*Pct.*	*Pct.*
(1) Vandalism of farm property occurs more often now than it did a few years ago	.05	6.0	23.4	47.5	22.6
(2) Illegal dumping on farm property is a problem for farmers around here	8.1	23.4	19.9	28.7	19.9
(3) Theft of farm property in my community has increased in recent years	2.1	16.6	41.1	29.7	10.5
(4) When away from the farm, I can depend on my neighbor's to watch my property for me	3.1	14.9	24.0	47.2	10.8
(5) There is little I can do to prevent crime from happening to my farm	4.8	30.0	20.2	40.6	4.3
(6) Farmers should be required by law to put ID numbers on farm machines and equipment	7.2	24.7	24.5	32.1	11.5
(7) When away, I worry about the safety of my farm property	3.4	19.2	11.0	45.3	21.1
(8) During the hunting season, I worry about the destruction of my farm property by hunters	3.3	26.0	6.7	41.1	22.9
(9) I feel safe going anywhere on my farm after dark	4.3	18.1	15.3	53.7	8.6
(10) The courts in this county are too easy on persons convicted of crimes to farms	1.4	4.5	29.5	35.0	29.5
(11) The local sheriff investigates crimes against farm property very thoroughly	6.5	18.7	45.5	24.6	4.8
(12) Current laws are adequate to protect farm property	7.9	29.9	43.8	15.1	3.3

who either "agreed" or "strongly agreed" with the contentions expressed in the various opinion statements; and, how these responses varied among operators of different size farms.

Three statements focused on issues relating to crimes against property. Statement 1 was "Vandalism of farm property occurs more often now than it did a few years ago." More than two-thirds (70 percent) of the surveyed farmers agreed. Statement 2 made the contention that: "Illegal dumping on farm property is a problem for farmers around here." Almost half of the operators agreed with this idea. Statement 3 took the position that "Theft of farm property in my community has increased in recent years." This belief elicited 42 percent agreement among farm operators.

Several statements dealt with concerns about farm security. Statement 4 was "When away from the farm, I can depend on my neighbors to watch my property for me." Three-fifths (58 percent) agreed with the belief that a sense community concern for one another exists in the locality. For statements 5, "There is little I can do to prevent crime from happening to my farm," and 6, "Farmers should be required by law to put identification numbers on farm machines and equipment," 45 and 44 percent, respectively, of the operators were in agreement with the attitudes expressed. The more important idea, however, is contained in the former statement because it conveys a sense of pessimism and the inevitability of farm crime victimization. The feeling expressed is sometimes referred to as anomie, or the belief that people are helpless to prevent misfortune from happening to them.

Do Alabama farmers fear or exhibit apprehensiveness over becoming a victim of a crime? Three statements addressed this issue. The first two focused on fear for the safety of farm property. Statement 7 was: "When away, I worry about the safety of my farm property." Sixty-six percent of the operators held such an attitude. A similarly large proportion of operators (64 percent) were in agreement with statement 8 that: "During hunting season, I worry about the destruction of my farm property by hunters."

Statement 9 was: "I feel safe going anywhere on my farm after dark." This type of statement about one's sense of personal security when out of the home at night represents a standard for measuring fear of crime among urban populations. A negative response, i.e. to disagree, indicates "fear." Here the statement is restated to be germane to the farm and one's sense of security or safety within that environment. Almost one-fourth (22 percent) disagreed with statement 9, thereby indicating some fear or apprehension about

their personal safety when outside on their own farm at night. The majority of operators (64 percent) indicated no sense of fearfulness for their personal safety on the farm.

Table 15 provides a comparison of farm crime related attitudes of operators in terms of farm size. The expectation was that these attitudes are influenced and formed in response to the experiential context of the operator. In general, this would mean that operators of large farms with more property at risk to crime would have more distinctive or extreme attitudes on various issues.

This expectation was not supported by the findings of this survey. Only one of the 12 attitude statements statistically differentiated among operators of small, medium, and large farms. As the size of farm increased, operators were more likely to view "illegal dumping on farm property" as a local problem (41 percent for small versus 62 percent for large). Generally, attitudes toward farm crime issues were rather similar for all farmers.

Fear of Farm Crime Victimization

Are Alabama farm operators fearful of having their farm property victimized by crime? Whereas fear of crime is usually approached in terms of personal safety, this study attempts to focus specifically on an operator's fear for property associated with their farm business and livelihood. To accomplish this task, the question "How fearful are you that *your farm* will be the victim of any of the following types of crimes in the next year or so?" The four responses offered ranged from "not at all" to "very much". Eight kinds of farm property crimes served as the basis for assessing operator fearfulness.

Table 16 describes the degree of fearfulness expressed by the Alabama farm operators in this study. As a general observation, only a small proportion of the operators indicated any extensive fear of farm property crime. Across the eight kinds of crimes, the proportions indicating "very much" fear ranged from 3 to 15 percent. Many operators, but not a majority, indicated they were "not at all" fearful about six of the eight crimes. These percentages ranged from 11 to 48 percent. Fear of farm property crime is not rampant among Alabama farmers. Nevertheless, there are many Alabama farmers who do harbor fears, or at least apprehensions, about the safety of their farm property.

Examination of the specific kinds of crime eliciting feelings of fearfulness reveals that four farm crimes in particular are of concern to Alabama farmers. Burglary is most widely feared. Although

TABLE 15. ATTITUDES OF ALABAMA FARM OPERATORS ABOUT THE SECURITY OF THEIR FARM PROPERTY FROM CRIME, BY SIZE OF FARM

Attitude statements	Agree Orientation				
	All	Small	Medium	Large	Probability
	Pct.	*Pct.*	*Pct.*	*Pct.*	*Pct.*
(1) Vandalism of farm property occurs more often now than it did a few years ago	70.2	70.5	65.6	72.1	.489
(2) Illegal dumping on farm property is a problem for farmers around here	48.6	41.4	49.2	62.1	.003[1]
(3) Theft of farm property in my community has increased	40.2	37.2	38.6	52.5	.294
(4) When away from the farm, I can depend on my neighbors to watch my property for me	58.0	62.3	59.0	54.3	.506
(5) There is little I can do to prevent crime from happening to my farm	44.9	44.8	42.4	44.1	.721
(6) Farmers should be required by law to put ID numbers on farm machines and equipment	43.6	44.8	40.8	44.1	.935
(7) When away, I worry about the safety of my farm property	66.4	68.5	62.4	74.1	.173
(8) During the hunting season, I worry about the destruction of my farm property by hunters	64.0	64.1	62.7	69.9	.248
(9) I feel safe going anywhere on my farm after dark	62.3	63.0	65.6	61.8	.739
(10) The courts in this county are too easy on persons convicted of crimes to farms	64.5	65.8	61.1	66.1	.581
(11) The local sheriff investigates crimes against farm property very thoroughly	29.4	32.9	30.4	25.0	.643
(12) Current laws are adequate to protect farm property	18.4	20.7	14.4	18.5	.405

[1]Chi-square statistic is significant at .01.

burglary is a crime experienced directly by only a small portion of Alabama farm operators, it is the crime that generates the most fear. Fear for the security of the farm house was of greatest con-

TABLE 16. FEARFULNESS OF VICTIMIZATION FROM DIFFERENT KINDS OF FARM PROPERTY CRIME AMONG ALABAMA FARM OPERATORS

Kind of Crime	Degree of fearfulness			
	Not at all	A little	A good bit	Very much
	pct.	*pct.*	*pct.*	*pct.*
Burglary of:				
Farm buildings	12.3	52.8	24.3	10.6
Farm house	11.2	41.3	32.2	15.2
Vandalism of crops	57.6	32.3	7.1	3.0
Theft of:				
Livestock	36.1	38.4	17.9	7.6
Crops	59.3	29.8	7.9	3.1
Farm vehicles	21.5	47.5	24.5	6.4
Fraud	48.2	37.9	8.5	5.3
Arson	26.2	42.4	19.4	12.0

cern, with almost equal concern displayed for farm buildings. Farm vehicle theft, arson, and livestock theft are the next most feared crimes. Least feared crimes are those involving the theft of crops, vandalism to crops, and fraud of the farm business.

The hypothesis can be made that farm size is related to feelings of fearfulness. The more property farmers have, the more they have at risk; and thus, the more likely they are to be fearful that it is secure. Table 17, which combines operator fearfulness responses of "a good bit" and "very much", reveals that the hypothesized relationship is true for some kinds of farm property crime, but not for all. Specifically, burglary of either the house or farm building and fraud involving farm sales or purchases tended to be rather homogeneous across all size farms. On the other hand, theft, particularly that involving livestock and farm vehicles, conformed to the expectation that operators of large farms are most likely to be fearful.

A key factor in fear of farm property crime is past victimization experience. Appendix table 4 reveals that victims of farm crime, regardless of the nature of that victimization, are significantly more fearful of all kinds of farm property crime. Again, using fear ratings of "a good bit" and "very much" combined to indicate fearfulness, past victims were appreciably more likely to fear the theft of their livestock and farm vehicles than were non-victims.

A caution must be noted about farm operator's fear of crime. Alabama farm operators are not paranoid about the safety of their farm property. At the same time, they are aware that their prop-

TABLE 17. FEARFULNESS OF VICTIMIZATION FROM DIFFERENT KINDS OF FARM PROPERTY CRIME AMONG ALABAMA FARM OPERATORS BY SIZE OF FARM

Kind of crime	Size of farm				Probability
	All	Small	Medium	Large	
	Pct. fearful*				
Burglary of:					
Farm buildings	34.9	34.9	32.0	38.4	.326
Farm house	47.5	48.8	45.9	45.8	.949
Theft of:					
Livestock	25.5	19.3	29.9	40.0	.000[2]
Crops	11.0	10.2	9.4	17.1	.080
Farm vehicles	30.9	25.0	30.0	40.1	.018[1]
Vandalism of crops	10.1	10.8	4.3	17.3	.012[1]
Fraud	13.8	15.7	11.8	13.1	.388
Arson	31.4	28.7	32.3	23.5	.312

*Percent of farm operators responding "a good bit" or "very much" fearful.
[1]Chi-square statistic is significant at .05.
[2]Chi-square statistic is significant at .001.

erty is at risk to a variety of crimes. In the case of those farmers who operate large farms, considerable net farm worth in physical property and farm products is potentially at risk. Thus, the finding that a sense of apprehension or "fear" prevails among many Alabama farmers appears consistent with the publicity given to rising crime rates in rural areas.

ATTITUDES AND OPINIONS TOWARD LAW ENFORCEMENT

Three additional attitude statements reported in table 14 focus on the law and law enforcement. Statement 10 expressed the contention that "The courts in this county are too easy on persons convicted of crimes to farms." Almost two-thirds (65 percent) of these operators held such a belief. Statement 11 concerned the attention of county law enforcement to farm crime by contending that "The local sheriff investigates crimes against farm property very thoroughly." About 30 percent of farm operators agreed the sheriff did a good job of investigation, but almost one-half (46 percent) expressed no opinion either way on this issue. Many operators did not view local law enforcement or the courts to be very competent or committed to adequately enforcing the law in cases involving crimes against farm property. This interpretation is supported by responses to statement 12: "Current laws are adequate to protect farm property." Only 18 percent of these farm operators

indicated a belief in the basic contention of adequacy, while 44 percent indicated no attitude concerning the current status of available laws relating to farm property.

Evaluation of farm operator attitudes relative to the size of the farm on these three issues revealed consistent orientations across all farm sizes, table 15. Operators of large farms were only slightly more critical of the sheriff's investigation of farm crimes than operators of medium and small farms. Even fewer differences of opinion existed among operators of different size farms about the adequacy of current laws to protect farm property and the seriousness with which the courts deal with persons convicted of farm crimes.

What opinions did the surveyed farmers have about local law enforcement? For these questions a scale ranging from 1 to 5 was presented with contrasting descriptive words used to define the two extremes of the scale, table 18. For the first opinion the scale consisted of ratings from "very poor" to "very good" in reference to the question "How would you rate the overall quality of farm protection provided by the sheriff's department in your community?" About one-fourth (23 percent) of the surveyed operators gave their sheriff's department a favorable rating of 4 or 5, while 40 percent rated the quality of farm protection provided by the sheriff's department as poor.

The second rating question asked was "In your community, would you say that the local sheriff's response to a farmer's call is slow or fast?" One-third (34 percent) rated the sheriff's response to a call as "fast;" but more importantly, 40 percent rated it "slow." Certainly, an appreciable segment of the farm public hold a negative view of rural law enforcement in their local community.

What can be done to reduce farm crime? Two answers often given to this query are: stiffer punishments and more frequent patrols. The first alternative was presented in the question "How effective do you believe stiffer penalties by local judges would be in reducing crimes against farm property?" Answers were in terms of effectiveness ratings from "very ineffective" to "very effective." More than two-thirds of the operators (68 percent) believed stiffer penalties would be an effective measure. This response is consistent with popular opinion regarding the actions appropriate for gaining control over rising crime rates. Moreover, the majority of operators (61 percent) believed that increased police patrols by sheriff's deputies would be an effective deterrent. The question asked was "How effective do you think increased patrolling of your

TABLE 18. ALABAMA FARM OPERATOR RATINGS OF RURAL LAW ENFORCEMENT AND CRIME PREVENTION ISSUES

Law enforcement issues	Ratings				
	1	2	3	4	5
(1) How would you rate the overall quality of farm protection provided by the sheriff's department in your community? (1=very poor to 5=very good)	19.4	20.4	37.2	15.8	7.2
(2) In your community, how would you rate the local sheriff's response to a farmer's call? (1=very slow to 5=very fast)	12.4	18.7	35.4	23.2	10.3
(3) How effective do you believe stiffer penalties by local judges would be in reducing crimes against farm property? (1=very ineffective to 5=very effective)	5.3	6.5	20.1	20.8	47.4
(4) How effective do you think *increased* patrolling in your area by local sheriff's deputies would be in preventing farm crimes? (1=very ineffective to 5=very effective)	5.0	9.9	24.5	29.3	31.3
(5) Compared to other parts of this state, how likely do you think it is that a farm in your area will be a victim of some type of crime this year? (1=very unlikely to 5=very likely)	9.4	25.8	34.2	13.7	16.9

area by local sheriff's deputies would be in preventing farm crime? This response also conforms to popular opinion. Alabama farm operators believe that increased patrolling by local law enforcement officers is an effective deterrent of farm crime.

Another rating question asked: "Compared to other parts of your state, how likely do you think it is that a farm in your area will be a victim of crime this year?" The response scale ranged from "very unlikely" to "very likely". Fewer than one-third (31 percent) believed that a local farm was likely to be the victim of some kind of farm crime, compared to 35 percent who did not anticipate being a crime victim.

Table 19 describes how operators of different size farms rated these crime issues. Although some differences existed among operators of small, medium, and large farms, these rating differences were not statistically significant. The largest difference occurred in the rating for the overall quality of farm protection provided by the

sheriff's department. Large farmers were least likely to give the sheriff a "good" rating and medium farmers the most likely. On the other hand, large farmers were most likely to believe that a farm crime will occur in their area during the current year. Nevertheless, the lack of distinctive ratings suggests the opinions of farmers on such issues tend to be generic to all farmers rather than any function of farm size or amount of farm property at risk.

TABLE 19. ALABAMA FARM OPERATOR RATING OF RURAL LAW ENFORCEMENT AND CRIME PREVENTION ISSUES BY SIZE OF FARM

Law enforcement	Size of farm				Probability
	All	Small	Medium	Large	
How would you rate the overall quality of farm protection provided by the sheriff's department in your community? (Scale: 1=very poor to 5=very good)*	23.0	22.5	27.5	14.9	.092
In your community, how would you rate the local sheriff's response to a farmer's call? (Scale: 1=very slow to 5=very fast)*	33.5	30.7	36.1	30.7	.603
How effective do you believe stiffer penalties by local judges would be in reducing crimes against farm property? Scale: 1=very ineffective to 5=very effective)*	68.2	72.3	68.3	67.4	.692
How effective do you think *increased* patrolling of your area by local sheriff's deputies would be in preventing farm crime? (Scale: 1=very ineffective to 5=very effective)*	60.6	61.2	55.8	64.0	.470
Compared to other parts of this state, how likely do you think it is that a farm in your area will be a victim of some type of crime this year? (Scale: 1=very unlikely to 5=very likely)_*	30.6	26.4	26.4	36.9	.195

*Rating of 4 and 5 are combined to indicate a good assessment.

However, past crime victimization does have a significant impact on two of these ratings, both involving the rating of local law enforcement, appendix table 5. Victims of farm crimes are less likely

than non-victims to give a positive rating to the sheriff's department for the quality of farm protection and responsiveness to a farmer's call when a problem occurs. On the other hand, victims were only a little more likely to be pessimistic about a farm crime occurring in the local area during the coming year than were nonvictims.

PROTECTING FARM PROPERTY

The preceding analysis and findings justify consideration of the question: What are Alabama farm operators doing to protect their farm property from crime victimization? Attention focuses here on two distinct aspects of security. First, property protection usually requires the availability of devices that allow the operator to secure the property. Second, security behaviors must be learned and used by the operator on a regular basis. Both aspects are complementary. The best of security devices, if not used properly on a regular basis, are ineffective; and behaviors or practices, even when learned, can not be applied in the absence of the requisite security devices.

Security Device Availability

Surveyed farm operators were asked to indicate, from a list of 11 possible farm security devices, which ones are used on their farms to protect buildings, machinery, equipment, and other farm property from crime. Responses of "none, some, and all" were provided. Because some of the devices involved specialized functions not appropriate to all farms, a "not applicable" category was provided for operators who did not perceive the relevance of a particular device to their farms.

The findings reported in table 20 are presented with two distinct sets of percentages. Percentages above the line include those farms for which the operator indicated the particular security device was inappropriate for his or her farm. The percentages below the line show security device usage among those farms where the particular device was considered "applicable" by the operator. Assuming the objectivity of the operator in assessing whether various security devices are appropriate to the farm operation, this latter percentage is the more relevant one.

Five devices involve locks for various types of situations and property on the farm. The vast majority (93 percent) of operators indicated having barns and other kinds of farm buildings, but 47

TABLE 20. EXTENT TO WHICH VARIOUS FARM SECURITY DEVICES ARE AVAILABLE ON ALABAMA FARMS TO PROTECT FARM PROPERTY

Security devices	None	Some	All	Not Applicable
	Pct. having			
Locks of fuel storage tanks	37.5*	12.3	14.1	36.1
	58.7	19.3	22.0	
Locks on barns and other farm buildings	43.8	34.7	14.6	6.9
	47.1	37.2	5.7	
Locks on farm machinery	62.7	21.0	4.3	12.0
	71.3	23.9	4.8	
Locks on farm gates	52.1	22.9	13.5	11.5
	58.9	25.8	15.3	
Locks on windows on farm buildings	59.9	14.4	7.6	18.1
	73.2	17.5	9.2	
Bars or grills on storage building windows	73.7	3.5	1.8	21.0
	93.3	4.5	2.2	
Outside lights attached to barns and/or other farm buildings	34.5	40.7	15.9	8.9
	37.9	44.7	17.4	
Security lights at strategic places on farm	42.0	37.8	13.8	6.4
	44.9	40.4	14.7	
Decals warning that farm equipment and buildings are marked with ID numbers	79.4	8.3	1.8	10.5
	88.8	9.2	2.0	
Alarm systems in farm buildings	88.9	1.5	0.8	8.8
	97.5	1.6	0.8	
"No Trespass" or other warning signs on farm property	54.8	31.7	10.6	2.9
	56.5	32.7	10.9	

*The top percentage is for all farms including those for which the security devices was judged by the operator as inappropriate. The bottom percentage is adjusted for only the "applicable" farms.

percent reported that none of their farm buildings had locks. Similarly, 73 percent of farm buildings with windows had no locks on these windows; and 59 percent of the farms with farm gates did not have locks on these gates. Even farm machinery and fuel storage tanks, which may represent sizable capital investments, often did not have locks according to 71 and 58 percent of the operators, respectively, leaving such property potentially at risk.

Hardly any operators with windowed farm storage buildings (7 percent) bothered to put bars or grills on the windows. However, lighting for night protection was a common device on these farms.

Some 62 percent of those indicating that security lighting was appropriate for their farms actually had outside lights attached to their barns and/or other farm buildings. A smaller percentage (55 percent) used lights at strategic places on their farms.

Very few farms (2.4 percent) had alarm systems in some or all farm buildings. Also, few farms (11.2 percent) utilized the relatively inexpensive strategy of posting decals at strategic places on the farm warning that farm buildings and equipment are marked with identification numbers. Another inexpensive strategy is to post "no trespass" signs on farm property. Even this familiar security device was used by less than half (44 percent) of these operators.

When size of farm was considered relative to the availability of each security device on the farm, several relationships were observed. As a general prediction, one would expect that larger farms with more property at risk and more capital available for the purchase and installation of security devices would be the more extensive users of farm security devices. Although generally true, there were several exceptions where usage or non-usage was consistent across farms of different sizes, table 21.

Use of such devices as locks on farm machinery, window bars or grills on farm buildings, and alarm systems in farm buildings does not vary by size of farm. On the other hand, there was greater likelihood of large farms using locks on fuel tanks, on barns and other farm buildings, and especially on farm gates. The same was true for the use of lighting whether attached to barns, major buildings, or placed in strategic areas. Also, operators of large farms were most likely to post trespass signs, although almost half (43 percent) did not do so.

These data indicate that Alabama farmers could be doing much more to secure their farm property from burglary and theft at relatively little financial cost. However, the infrequency of farm crime on any one farm may breed a sense of complacency, but not without some psychological cost. Although most Alabama farmers are not motivated to obtain rudimentary security devices for their farms, they do harbor some fear of having their farm property victimized by crime.

One source of motivation that clearly works to enhance farm property security is to be a victim of a farm crime. Appendix table 7 shows that a personal victimization experience is associated with greater security consciousness. Farm crime victims are significantly more likely to use or to have available all security devices

TABLE 21. LACK OF SELECTED FARM SECURITY DEVICE AVAILABILITY ON ALABAMA FARMS BY SIZE OF FARM

Security devices	Size of farm				Probability
	All	Small	Medium	Large	
Locks of fuel storage tanks	58.7*	53.2	65./4	45.2	.008[2]
Locks on barns and other farm buildings	43.8	43.6	57.1	35.4	.009[2]
Locks on farm machinery	71.3	66.4	73.4	64.6	.160
Locks on farm gates	58.9	61.8	63.7	37.5	.001[3]
Locks on windows of farm buildings	73.2	62.7	76.2	84.8	.023[1]
Bars or grills on storage building windows	93.3	92.6	94.8	91.0	.276
Outside lights attached to barns and/or other important farm buildings	37.9	38.9	44.1	28.4	.091
Security lights at strategic places on farm	44.9	50.0	53.1	32.1	.013[1]
Decals indicating farm equipment and buildings are marked with ID numbers	88.8	89.2	89.9	82.7	.738
Alarm systems in farm buildings	97.5	98.2	100.0	95.1	.360
"No trespass" or other warning signs on farm property	56.5	61.7	55.6	43.0	.053

*Percent of farms reporting "no use" of various kinds of security devices considered appropriate for the farm.
[1]Chi-square statistic is significant at .05.
[2]Chi-square statistic is significant at .01.
[3]Chi-square statistic is significant at .001.

except bars or grills on building windows, lights in strategic places, and alarm systems.

Still many Alabama farmers, whether crime victims or not, are not installing even the most simple and inexpensive devices for protecting farm property. As a result, many Alabama farmers (72 percent) seem to have placed their reliance on a handgun for securing their farm property, figure 5. Operators of large farms (81 percent) are more likely to have a hand-gun for protection than are operators of either small (69 percent) or medium farms (73 percent). A handgun such as a pistol or revolver, in contrast to a shotgun or rifle, is considered a defensive weapon.

No effort was made to determine the presence of shotguns and rifles on the farm. It was assumed instead that these firearms used for hunting would be present on most Alabama farms. Since the handgun question was asked specifically in the context of protect-

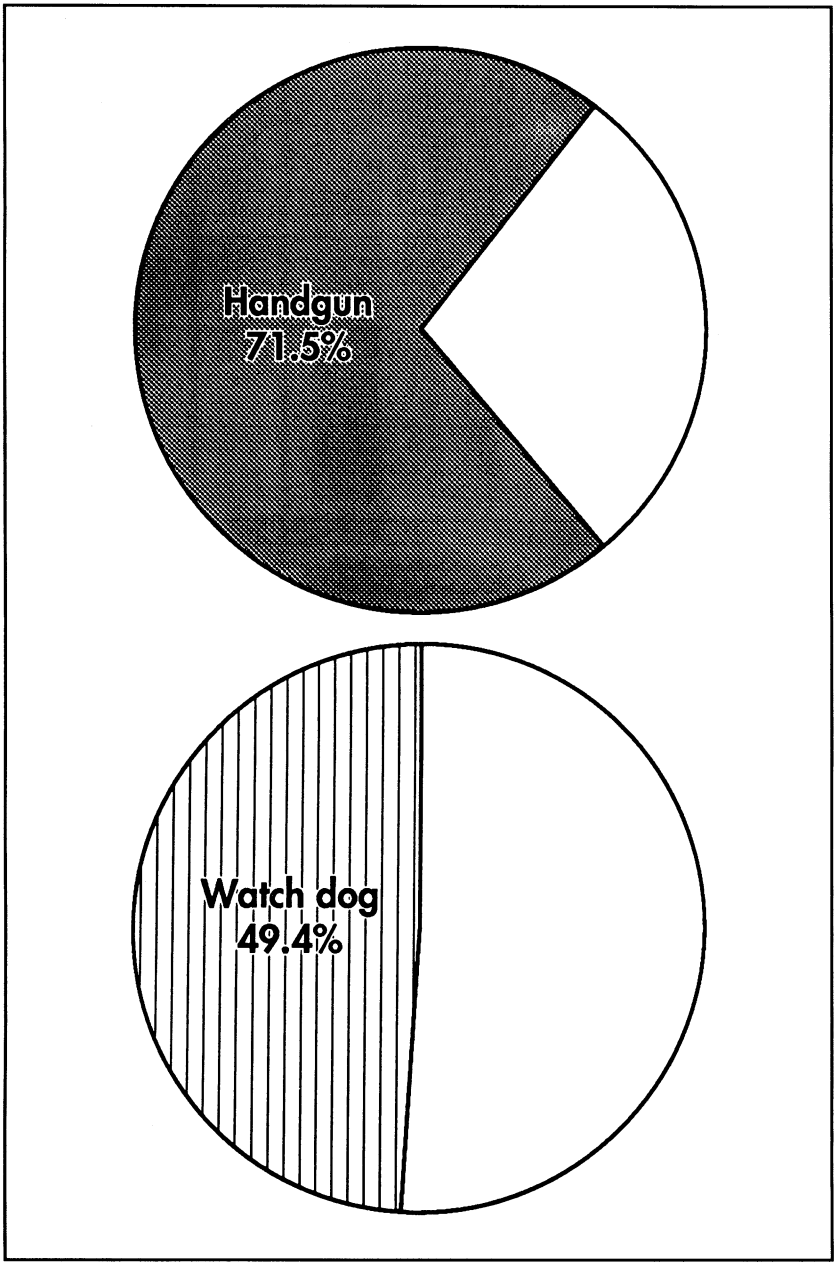

FIG. 5. Proportion of Alabama farm operators reporting possession of a handgun and watchdog for use in protecting farm property

ing farm property and referred specifically to having a handgun for protection of farm property, the response can be taken as an indication of having the weapon for defensive purposes. Also, placed within the context of several previously presented attitudes and opinions about rural law enforcement, this reliance on handguns is somewhat alarming because it implies a potential reliance on self-protection reminiscent of frontier times.

Security Behavior Practices

Attention now shifts to the issue of what behaviors or practices Alabama farm operators use to protect their farm property. To obtain such behavioral information, farm operators were asked how often each of 15 actions was taken or practices used. The response "not applicable" was indicated as appropriate when an action is not relevant to the farmer's operation. Applicable responses were in terms of the frequency or regularity with which the practice was used. Use ratings were "never, sometimes, often, and always".

Of the 15 behavioral practices evaluated for operator usage, five practices were considered "not applicable" to their farm and farming situation by one-third or more of the operators. The percentages ranged from 31 to 47 percent for these security practices, table 22. Again, the percentages below the line are adjusted for "not applicable" situations and are the most relevant. Almost half of the operators reported having no livestock enterprises (47 percent), and of those who did, virtually none mixed identification confetti with their feed grains. Similarly, 46 percent did not grow crops, and almost none of those who did put tattoos on bales, sacks, or crates used for shipping.

Some operators who reported not having a livestock enterprise, indicated that they did have some livestock on their farms. This claim probably involved having a few horses. This would account for the fact that only 36 percent, rather than the 47 percent noted previously indicated they never used brands, ear tags, notches, or other means to identify their livestock. When appropriate to the type of farming conducted, this practice is the one most commonly used, with 28 percent of the operators reporting they used it "always". However, more than one-third (37 percent) never used the practice.

The remaining two security behaviors used by high percentages of farm operators who perceived the practice appropriate involved theft insurance. Some 36 percent indicated having no insurable

TABLE 22. FREQUENCY OF USE MADE OF SELECTED FARM SECURITY BEHAVIOR PRACTICES BY ALABAMA FARM OPERATORS FOR ASSURING THE SAFETY OF FARM PROPERTY

Security practices	Frequency of use				
	Never	Some-times	Often	Always	Not applicable
Brands, ear tags or notches, or other means to ID livestock	23.5* 37.0	12.5 19.6	9.6 15.1	18.0 28.3	36.4
Mix identification confetti with grains	52.2 99.1	0.0 0.0	0.5 0.9	0.0 0.0	47.3
Tattoo bales, sacks, or crates used for crops	52.5 97.7	1.0 1.8	0.2 0.5	0.0 0.0	46.3
Put name or ID number on farm machinery	57.5 72.4	16.4 20.7	3.5 4.4	2.0 2.5	20.6
Put name or ID numbers on farm tools and equipment	53.7 64.9	23.4 28.2	4.0 4.8	1.7 2.1	17.2
Keep records of all farm machinery and equipment serial numbers	41.3 48.7	21.8 25.7	6.9 8.2	14.9 17.5	15.1
Keep doors on farm buildings locked	36.9 42.7	22.7 26.4	10.11 1.7	16.5 19.2	13.8
Keep windows on farm buildings locked	48.9 63.3	12.9 16.7	2.5 7.2	9.9 12.8	22.8
Keep farm gates locked	42.5 52.0	17.7 21.6	7.8 9.6	13.8 16.8	18.2
Have insurance on farm machinery	30.7 35.8	16.5 19.2	7.9 9.3	30.7 35.8	14.2
Have theft insurance on crops	58.7 91.4	3.0 4.7	0.2 0.4	2.2 3.5	35.9
Have theft insurance on livestock	57.7 83.5	4.9 7.2	1.2 1.8	5.2 7.6	31.0
Have neighbor watch farm when out of town	16.7 18.3	26.9 29.4	13.6 14.8	34.2 37.5	8.6
Inform sheriff when away from farm for several days	77.7 87.9	7.4 8.4	0.7 0.8	2.5 2.8	11.7
Leave farm machinery overnight in fields *out of sight* from your house	42.2 48.5	35.1 40.3	8.4 9.6	1.5 1.7	12.8

*The top percentage is for all farms including those for which the security devices was judged by the operators as inappropriate for the farm. The bottom percentage is adjusted for only the "applicable" farms.

crop enterprise and 31 percent reported no insurable livestock. But even among those who considered the practice relevant to their farm operation, 91 percent never insured their crops and 84 percent never insured their livestock. Because of the low incidence of crime victimization for crops and livestock reported by these operators, it is questionable whether the cost of such a practice could be justified. However, if farm crime increases in the future on a parallel with rural crime generally, then the protection provided by insurance may be warranted.

This is true already for farm machinery where 85 percent of the operators considered the practice appropriate for their farm and more than one-third (36 percent) reported always insuring their farm machinery. Still, there are many operators who do not insure such capital investments in the farm business. More than one-third (36 percent) reported never insuring their farm machinery. Even more interesting is the fact that 72 percent of these Alabama farmers report "never" putting their name or identification numbers on their farm machinery and 65 percent report never doing so for their farm tools and equipment. Moreover, almost half (49 percent) report never keeping serial numbers for all farm machinery and equipment.

In light of the widespread opinion among these farmers that farm crime is increasing in their communities, large proportions of these operators do not keep doors (43 percent) and windows (63 percent) on farm buildings locked. Only 19 and 13 percent respectively, report routinely following this practice. Moreover, many Alabama operators continue to use unwise practices that place their farm property at risk. One example is the 52 percent of operators who reported they sometimes leave farm machinery in fields out of visual view of the house overnight.

For the protection of farm property, farm operators are often advised to take the precaution of having someone look out for their property when they are away, especially for any period of time. The most commonly used behavior practice evaluated was for the operator to ask a neighbor to watch the farm when the operator was out of town. More than one-third (38 percent) of the operators surveyed always do this, but 18 percent never do so and 29 percent only do so occasionally. Informing the sheriff when planning to be away from the farm for several days is even less common. This precaution was being practiced by only about one in 10 operators.

Table 23 shows how the use of these security behaviors varies by size of the farm operation. Security practice use is shown by com-

bining the operator responses of either "sometimes," "often," or "always" engaging in or using a particular behavior. Operators of large farms are more likely to use all but one of the 12 security practices described than are operators of small farms. The observed differences in practice use are particularly distinct for the practices of branding or identifying livestock, putting one's name or identification number on farm machinery, keeping farm gates locked, having insurance on farm machinery, and never leaving farm machinery out of sight of the house overnight. For the remaining security behaviors, operators of medium farms were either

TABLE 23. FREQUENCY OF USE MADE OF SELECTED FARM SECURITY BEHAVIOR PRACTICES BY ALABAMA FARM OPERATORS FOR ASSURING THE SAFETY OF FARM PROPERTY BY SIZE OF FARM

Security practices	Size of farm				Probability
	All	Small	Medium	Large	
	Pct. using*				
Brands, ear tags or notches, or other means to identify livestock	63.0	41.7	65.2	85.9	.000[3]
Put name or identification number on farm machinery	27.6	22.9	29.4	36.4	.153
Put name or identification numbers on farm tools and equipment	35.1	33.7	31.4	41.8	.327
Keep records of all farm machinery and equipment serial numbers	51.3	52.3	43.1	66.7	.005[2]
Keep doors on farm buildings locked	57.3	59.1	48.1	67.5	.027[1]
Keep windows on farm buildings locked	36.7	40.8	31.2	33.8	.361
Keep farm gates locked	48.0	42.3	43.4	70.1	.000[3]
Have insurance on farm machinery	64.2	58.5	61.9	85.4	.000[3]
Have theft insurance on livestock	16.5	12.0	18.9	19.2	.365
Have a neighbor watch farm when out of town	81.7	85.1	79.6	86.7	.369
Inform sheriff when away from farm for several days	12.1	12.6	7.5	14.3	.289
Leave farm machinery overnight infields out of sight from your house	51.5	34.5	56.0	70.00	.000[3]

*Combined responses of "sometimes," "often," and "always."
[1]Chi-square statistic is significant at .05.
[2]Chi-square statistic is significant at .01.
[3]Chi-square statistic is significant at .001.

most or least often the major users of the behavior, or the distribution of practice usage across farm size did not vary.

Again, the question of how farm crime victimization affects a farmer's use of various security practices is relevant. The expectation is that victims are more likely than nonvictims to utilize such practices. Appendix table 8 presents data testing this relationship. Of the 12 security behavior practices for which a sufficient proportion of the operators varied in their use, victims differed significantly from nonvictims on eight practices. In each instance, as predicted, victims were more likely to use the security practice than non-victims. Moreover, the same pattern of greater use prevailed for the remaining four practices, as well, but the differences were small and not statistically significant. Two of these practices involved either those things most people did, i.e., "have a neighbor watch their farm when out of town" or things few people did, i.e., "inform the sheriff when away from the farm for several days."

The data presented here on security device availability and the use of security behavior practices by Alabama farmers indicates that much can be done to make Alabama farms more resistant to various types of farm crime. There is widespread need for farm safety information along with programs designed to promote behavior modification concerning the use of security practices by operators.

Sources of Information on Prevention of Farm Crime

The use of farm security devices and behavioral practices by Alabama farm operators, or rather the lack of use by many, has been amply described. But how did those operators, who have taken actions to protect their farm property from crime, obtain information about farm crime prevention measures? A number of organizations such as the Alabama Cooperative Extension Service, the Alabama Farmers Federation, and various law enforcement groups such as the Alabama Sheriffs Association provide information and resources for farm property protection. There is a need to know the extent to which farmers are aware of these information sources.

In order to obtain the farmer's perspective about where farm security information is available the question was asked, "What sources have you used to get information about crime prevention measures for your farm?" Each farmer was instructed to respond by identifying, from a list of 13 potential sources, all of those that they have used.

Operator usage of farm security information is shown in table 24. Slightly more than one-third (35 percent) of the farmers responding indicated they did not use any specific sources for obtaining information about farm crime prevention. Nonuse of specific information sources was twice the rate among operators of small farms (42 percent) compared to large farm operators (21 percent). The most often listed source for information on security devices and crime prevention measures was friends, neighbors, or relatives (55 percent) with more operators of small farms using this source than operators of large farms. The next most often cited sources were farm magazines (46 percent), the Alabama Farmers Federation (39 percent), and newspapers (38 percent). Large farm operators were more likely than other farmers to use farm magazines and the Alabama Farmers Federation as their source of information.

Radio (30 percent), police or sheriff's office (28 percent), and the County Cooperative Extension Service office (21 percent) were the next most often reported information sources. The latter source was used progressively more often with increased size of farm. This relationship was also true of a lesser used source, the Alabama Department of Agriculture and Industry, which was used more often by operators of large farms. On the other hand, the police or sheriff's office and radio were used more by operators of small and medium farms. Being a victim of some type of farm crime had only minor impact on the use of these sources of crime prevention information, appendix table 8.

Clearly, Alabama farmers obtain crime prevention information from a wide variety of sources. However, any widespread campaign to promote more preventative behavior should take into consideration the size of farms to be targeted. Small or large farms will respond better when the ideas and materials comes from providers already perceived as legitimate sources for farm crime prevention information.

SUMMARY AND CONCLUSIONS

The purpose of this study was to examine the extent and seriousness of farm crime for Alabama farmers, and to assess perceived attitudes and opinions about farm crime in terms of actual victimization experiences. Little systematic information exists about farm crime victimization. Similarly, subjective attitudes relative to farm crime and the behavior practices of farm operators to secure

TABLE 24. INFORMATION SOURCES ABOUT CRIME PREVENTION MEASURES FOR FARM PROPERTY PROTECTION USED BY ALABAMA FARM OPERATORS CLASSIFIED BY SIZE OF FARM

Information sources	Size of farm				Probability
	All	Small	Medium	Large	
Hardware and other retail store	8.5	5.4	10.9	8.9	.529
Locksmith	4.2	3.6	3.1	3.6	.985
Police or sheriff's office	27.6	30.4	30.8	23.2	.592
Friends, neighbors or relatives	54.7	58.9	55.4	48.2	.509
State Department of Agriculture	10.3	7.1	7.7	20.0	.064
Community Extension Agent	21.0	12.5	20.0	32.1	.038[1]
Civic or community organizations	6.5	5.4	7.7	7.1	.867
Alabama Farmers Federation	38.8	30.4	38.5	51.8	.065
Farm commodity organizations	3.3	1.8	1.5	8.9	.087
Farm magazines	45.8	41.0	47.7	48.2	.693
Radio	29.9	35.7	30.8	25.0	.465
Television	43.0	48.2	44.6	28.6	.072
Newspaper	38.3	39.3	41.5	28.6	.293
Other	2.8	1.8	1.5	7.1	.120
Used no sources	35.3	41.9	35.7	21.2	N/A

[1]Chi-square statistic is significant at .05.

farm property against victimization have not been explored. This study attempts to address both concerns.

A mail survey was conducted statewide resulting in a sample of 428 farms and farm operators. The data obtained apply to the victimization of farm property during 1988. Analysis was conducted using the variables of farm size and property crime victimization. Farm size is a bivariate classification involving both farm acreage and gross farm income. Three sizes of small, medium, and large farms reflect the inverse relationship that can exist between acreage and income, i.e. acreage can be large and gross farm income low, or acreage small and gross farm income high. In both situations the farm would qualify as a large farm.

Farm property crime victimization was analyzed for two time perspectives: The most recent 12 months, consistent with the reporting of crime in the Unified Crime Reports, and, for all the years an operator was in farming. More than half of the surveyed farmers (58 percent) experienced some type of victimization of their

farm property over their farming years. Many experienced multiple instances of one kind of crime, as well as being the victim of different kinds of crimes, i.e., theft, vandalism, and burglary. Theft of farm property was the most common type of victimization (47 percent), followed by vandalism (43 percent) and burglary (32 percent). Size of farm was a critical factor related to whether property of a farm operator was victimized, with 76 percent of large operators reporting some form of victimization compared to only half of small operators.

A second focus of the study concerned the subjective opinions and attitudes toward farm property crime held by Alabama farm operators. Using a 2-year time perspective, more than a third (36 percent) believed that farm crime had increased in their local communities during the past 2 years. Operators of large farms were most likely to be of this opinion, as were operators who were victims of farm property crime. Interestingly, crimes involving property theft, vandalism, and burglary were less likely perceived as "serious" local crime problems than the "nuisance" crimes of poaching, trespassing, and dumping of trash on farm land. In all instances, operators of large farms were more likely to consider a particular problem a serious one.

Many farm operators indicated some fear for the safety of their farm property from crime. Fear for the safety of the farm house was most widespread, followed by fear of crime against farm buildings, and theft of farm vehicles. Little difference in whether a farmer was fearful that the farm house or a farm building might be burglarized was observed by size of farm, but operators of large farms were more likely than other operators to be fearful that their farm vehicles might be stolen. Similarly, victims of farm property crime in the past were more likely to be fearful of all types of farm crime than were nonvictims.

The third focus of this research was on behavior relating to the protection of farm property against crime victimization. Two issues were addressed. The first was the availability of security devices on the farm to hinder or repel criminal acts. Many of these devices are rather simple and inexpensive. Nevertheless, many farmers did not install such devices on their farms. Operators of large farms and victims of farm property crimes were more likely to have security devices installed. Even then, however, except for fairly wide installation of security lights, half or more of Alabama farmers do not give enough attention to protecting their farm property.

Besides having protective devices available on the farm, they

must be used on a regular basis. The best lock will not deter a criminal if the lock is not set or used. Frequency or regularity of behavior in using security practices on the farm revealed that large numbers of operators never used most security practices, even when they identified them as relevant to their farming situation.

In conclusion, this study serves to dispel a number of misconceptions about the prevalence of farm property crime in Alabama. These data indicate that, although farm crime is widespread across the State, it is not rampant. There is no crime emergency in rural Alabama or on Alabama farms! Nonetheless, the findings strongly reflect a high level of concern about what many farm operators believe is a growing problem with different types and kinds of crime. This belief has caused many farm operators to be fearful for the safety of their farm property. At the same time, farmers do not rate rural law enforcement (agencies and courts) very highly for their attention to farm crime and prosecution of perpetrators of crimes against farm property.

The solution of the farm property crime problem does not lie in stiffer penalties and longer prison sentences, but rather in more and better on-farm prevention. Farm crime prevention agencies and specialists can use the existing anxiety farmers have about the safety of their farm property to promote cooperative neighborhood security programs. Persons who harbor feelings of insecurity are more easily drawn into citizen participation programs designed to thwart local crime *(12)*. However, being concerned or fearful about the threat of crime is not sufficient to remedy the problem. Only when feelings of apprehension regarding farm crime are linked with patterns of neighborhood and community action, can an effective crime prevention strategy be established and implemented.

Farm crime prevention programs must, of course, be specifically designed to meet the particular needs of rural areas and farming communities. Law enforcement agencies and specialists must resist the urge to tailor efforts to specific population groups within the local area *(10)*. Programs designed solely on the basis of farm size or farm enterprise will be less successful than those that build on established neighborhood patterns already present in the daily social interactions among local residents *(3)*.

Farm or agricultural crime involves a wide variety of farm property from the traditional production enterprises of crops, livestock, and timber, to tools, fuels, chemicals, machinery, and equipment parts. Both the variety and the dollar value of the farm property at risk has increased as farms become larger and farming technology

becomes more complex. The best opportunity for preventing crime against farm property is to eliminate or reduce the risk factor.

The cheapest and most painless strategy for reducing risk is to make farm property less vulnerable to crime. Farm operators need to become more security conscious both in their thinking and in their behavioral habits. In other words, farm operators must learn to routinely lock their farm gates, doors, windows, machinery, and equipment. They must work to strengthen neighborhood values for the safety and security of property in the community. Programs like Neighborhood Watch represent one widely used approach for promoting local surveillance. Such programs in rural neighborhoods offer an opportunity for farm operators and their neighbors to share responsibility for the safety of their own, as well as, others property. Innovative approaches are required to meet the varied needs of different sized farm operations and community settings.

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APPENDIX

APPENDIX TABLE 1
OPINIONS OF ALABAMA FARM OPERATORS ABOUT FARM PROPERTY CRIME TRENDS IN THEIR COMMUNITIES BY KIND OF FARM ENTERPRISES AND FARM EMPLOYMENT STATUS

Kind of farm enterprise	Local crime trends			Probability
	Increase	Same	Decrease	
	pct.	*pct.*	*pct.*	*pct.*
Livestock:				
Yes	36.7	60.1	3.2	.063
No	35.1	55.3	9.6	
Crops:				
Yes	34.7	60.0	5.3	.285
No	42.9	54.5	2.6	
Off-farm work:				
No off-farm employment	32.6	61.1	6.3	.612
Parttime employment	36.4	61.4	2.3	
Fulltime employment	38.7	56.5	4.8	

APPENDIX TABLE 2
ALABAMA FARM OPERATORS' PERCEPTIONS OF THE SERIOUSNESS OF DIFFERENT KINDS OF FARM PROPERTY CRIME IN THEIR COMMUNITIES BY VICTIMIZATION STATUS

Kind of crime	Victim status		
	Victim	Nonvictim	Probability
	Percent somewhat serious or serious		
Poaching	77.8	58.8	.000[3]
Trespassing	79.5	56.2	.000[3]
Dumping trash	73.5	57.8	.001[3]
Marijuana	66.6	51.5	.007[2]
Arson	61.4	50.6	.040[1]
Burglary	76.4	53.2	.000[3]
Parts theft	65.7	41.6	.000[3]
Vandalism	66.7	37.1	.000[3]
Machinery theft	60.6	38.0	.000[3]
Fraud	63.3	46.0	.003[2]
Livestock theft	58.1	35.7	.000[3]

[1]Chi-square statistic is significant at .05.
[2]Chi-square statistic is significant at .01.
[3]Chi-square statistic is significant at .001.

APPENDIX TABLE 3
ALABAMA FARM OPERATORS' PERCEPTIONS OF THE SERIOUSNESS OF DIFFERENT KINDS OF FARM PROPERTY CRIME IN THEIR COMMUNITIES BY TYPE OF FARM ENTERPRISE

Kind of crime	Farm enterprise					
	Livestock		Probability	Crops		Probability
	Yes	No		Yes	No	
	Pct.	*Pct.*		*Pct.*	*Pct.*	
Poaching	68.6	63.8	.389	68.9	61.3	.200
Trespassing	70.2	59.2	.050[1]	53.5	55.7	.101
Dumping trash	65.1	60.7	.432	65.9	56.3	.114
Marijuana	52.3	44.1	.170	50.7	48.2	.685
Arson	54.2	51.1	.595	53.8	51.3	.680
Burglary	64.5	53.2	.054	61.2	62.6	.832
Parts theft	53.9	40.9	.029[1]	52.7	42.6	.105
Vandalism	52.8	44.7	.171	49.8	53.8	.533
Machinery theft	50.2	38.3	.045[1]	47.4	46.3	.864
Fraud	46.6	38.1	.149	42.1	46.9	.622
Livestock theft	51.2	28.7	.000[1]	46.9	40.6	.315

[1]Chi-square statistic is significant at .05.
[2]Chi-square statistic is significant at .01.

APPENDIX TABLE 4
FEARFULNESS FOR THE SAFETY OF THEIR FARM PROPERTY AMONG ALABAMA FARM OPERATORS BY VICTIMIZATION STATUS AND KIND OF VICTIMIZATION EXPERIENCE

Kind of crime	Victimization status			
	All	Victim	Nonvictim	Probability
	Pct. fearful*			
Burglary of:				
Farm buildings	34.4	41.0	25.5	.004[2]
Farm house	47.4	52.2	40.9	.049[1]
Theft of:				
Livestock	26.2	32.0	18.1	.000[3]
Crops	11.3	14.8	6.7	.019[1]
Farm vehicles	31.1	39.9	24.7	.000[3]
Vandalism of crops	10.2	12.1	7.8	.039[1]
Fraud	13.3	16.3	9.3	.048[1]
Arson	32.0	33.9	29.3	.030[1]
Number of farms	428	237	173	

*Percent of farm operators responding "a good bit" or "very much" fearful.
[1]Chi-square statistic is significant at .05.
[2]Chi-square statistic is significant at .01.
[3]Chi-square statistic is significant at .001.

APPENDIX TABLE 5
ALABAMA FARM OPERATOR RATINGS OF RURAL LAW ENFORCEMENT AND CRIME PREVENTION BY FARM VICTIMIZATION STATUS FOR ALL YEARS FARMING

Law enforcement opinions	Victimization status			
	All	Victim	Nonvictim	Probability
	*pct.**	*pct.**	*pct.**	*pct.**
How would you rate the overall quality of farm protection provided by the sheriff's department in your community? (Scale: 1=very poor to 5=very good)*	23.0	18.0	27.5	.024[1]
In your community, how would you rate the local sheriff's response to a farmer's call? (Scale: 1=very slow to 5=very fast)*	33.5	28.6	38.6	.038[1]
How effective do you believe stiffer penalties by local judges would be in reducing crimes against farm property? (Scale: 1=very ineffective to 5= very effective)*	68.2	68.1	67.5	.897
How effective do you think increased patrolling of your area by local sheriff's deputies would be in preventing farm crime? (Scale: 1=very ineffective to 5=very effective)*	60.6	62.8	57.6	.291
Compared to other parts of this state, how likely do you think it is that a farm in your area will be a victim of some type of crime this year? (Scale: 1=very unlikely to 5=very likely)*	30.6	33.21	25.3	.088
Number of farmers	428	237	173	

*Rating of 4 and 5 are combined to indicate a good assessment.
[1]Chi-square statistic is significant at .05.

APPENDIX TABLE 6
LACK OF SELECTED SECURITY DEVICE AVAILABILITY
ON ALABAMA FARMS BY VICTIMIZATION STATUS

Security devices	Victimization status			
	All	Victim	Nonvictim	Probability
	*pct.**	*pct.**	*pct.**	*pct.**
Locks on fuel storage tanks	58.7	50.3	72.3	.000[3]
Locks on barns and other farm buildings	47.1	36.4	62.0	.000[3]
Locks on farm machinery	71.2	61.6	83.2	.000[3]
Locks on farm gates	58.9	45.9	78.0	.000[3]
Locks on window of farm buildings	73.2	67.6	80.2	.012[1]
Bars on grills on storage buildings windows	93.3	92.6	95.3	.324
Outside lights attached to barns and/ or other important farm buildings	37.9	31.6	47.6	.002[2]
Security lights at strategic places on farm	44.9	43.1	49.0	.257
Decals indicating farm equipment and buildings are marked with identification numbers	88.8	86.3	93.1	.041[1]
Alarm systems in farm buildings	97.5	96.7	98.6	.249
"No trespass" or other warning signs on farm property	56.5	47.1	69.4	.000[3]

*Percent of farm reporting "no use" of various kinds of security devices considered appropriate.
[1]Chi-square statistic is significant at .05.
[2]Chi-square statistic is significant at .01.
[3]Chi-square statistic is significant at .001.

APPENDIX TABLE 7
FREQUENCY OF USE MADE OF SELECTED SECURITY BEHAVIOR PRACTICES BY ALABAMA FARMS OPERATORS CLASSIFIED BY VICTIMIZATION STATUS

Kind of crime	Victimization status			
	All	Victim	Nonvictim	Probability
	Pct. fearful*			
Use brands, ear tags or notches, or other means to identify livestock	63.0	66.3	58.5	.213
Put number or identification number on farm machinery	27.6	35.2	15.8	.000[2]
Put number or identification numbers on farm tools and equipment	35.0	42.8	22.4	.000[2]
Keep records of all farm machinery and equipment serial numbers	51.3	58.7	39.5	.001[2]
Keep doors on farm buildings locked	57.3	66.8	42.1	.000[2]
Keep windows on farm buildings locked	36.7	46.1	21.2	.000[2]
Keep farm gates locked	48.0	60.2	27.4	.000[2]
Have insurance on farm machinery	64.2	68.1	58.6	.076
Have theft insurance on livestock	16.5	20.7	8.7	.006[1]
Have a neighbor watch farm when out of town	81.7	82.9	80.6	.563
Inform sheriff when away from farm for several days	12.1	12.9	10.1	.416
Leave farm machinery overnight in fields out of sight from your house	51.5	60.1	42.3	.001[2]

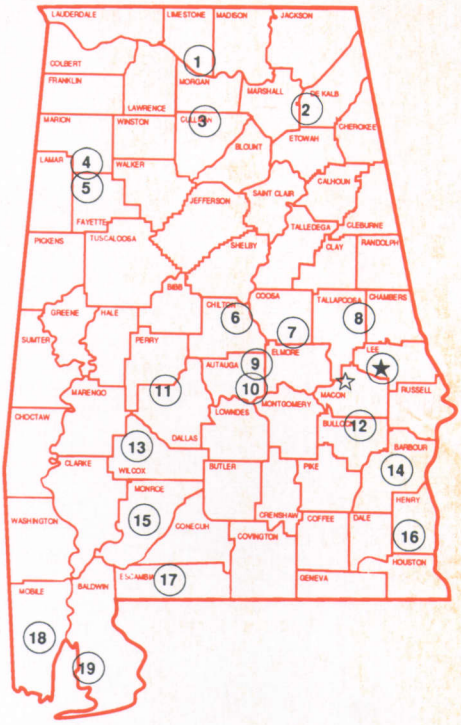
*Combined use responses of "sometimes," "often," and "always."
[1]Chi-square statistic is significant at .01.
[2]Chi-square statistic is significant at .001.

APPENDIX TABLE 8
INFORMATION SOURCES ABOUT CRIME PREVENTION MEASURES FOR FARM PROPERTY PROTECTION USED BY ALABAMA FARM OPERATORS CLASSIFIED BY VICTIMIZATION STATUS

Information sources	Victimization status			
	All	Victim	Nonvictim	Probability
	*pct.**	*pct.**	*pct.**	*pct.**
Hardware or other retail store	8.5	10.1	4.5	.147
Locksmith	4.2	1.5	5.8	.126
Sheriff or Police office	27.6	30.2	20.9	.153
Friends, neighbors, or relatives	54.7	53.7	55.2	.941
State Department of Agriculture	10.3	11.6	7.5	.348
County Extension Service	21.0	18.7	26.9	.187
Civic or community organization	6.5	7.2	4.5	.439
Alabama Farmers Federation or Farm Bureau	38.8	38.1	38.8	.926
Farm magazines	45.8	47.5	43.3	.572
Radio	29.9	26.6	37.3	.120
Television	43.0	43.9	41.8	.776
Newspaper	38.3	34.5	47.8	.069

Alabama's Agricultural Experiment Station System
AUBURN UNIVERSITY

With an agricultural research unit in every major soil area, Auburn University serves the needs of field crop, livestock, forestry, and horticultural producers in each region in Alabama. Every citizen of the State has a stake in this research program, since any advantage from new and more economical ways of producing and handling farm products directly benefits the consuming public.



Research Unit Identification

★ Main Agricultural Experiment Station, Auburn.
☆ E. V. Smith Research Center, Shorter.

1. Tennessee Valley Substation, Belle Mina.
2. Sand Mountain Substation, Crossville.
3. North Alabama Horticulture Substation, Cullman.
4. Upper Coastal Plain Substation, Winfield.
5. Forestry Unit, Fayette County.
6. Chilton Area Horticulture Substation, Clanton.
7. Forestry Unit, Coosa County.
8. Piedmont Substation, Camp Hill.
9. Forestry Unit, Autauga County.
10. Prattville Experiment Field, Prattville.
11. Black Belt Substation, Marion Junction.
12. The Turnipseed-Ikenberry Place, Union Springs.
13. Lower Coastal Plain Substation, Camden.
14. Forestry Unit, Barbour County.
15. Monroeville Experiment Field, Monroeville.
16. Wiregrass Substation, Headland.
17. Brewton Experiment Field, Brewton.
18. Ornamental Horticulture Substation, Spring Hill.
19. Gulf Coast Substation, Fairhope.