December 20, 1973

To the Graduate Council:

I am submitting herewith a thesis written by Charles Arthur McPeake entitled "Attitudes of Purchasers of Performance Tested Bulls at Ames Plantation." I recommend that it be accepted for nine quarter hours of credit in partial fulfillment of the requirements for the degree of Master of Science, with a major in Animal Science.

Major Professor

We have read this thesis and recommend its acceptance:

Kelly Leiter

Fletcher Sweet

Accepted for the Council:

Vice Chancellor for
Graduate Studies and Research

139

ATTITUDES OF PURCHASERS OF PERFORMANCE TESTED BULLS AT AMES PLANTATION

A Thesis

Presented to

the Graduate Council of

The University of Tennessee

In Partial Fulfillment

of the Requirements for the Degree

Master of Science

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by

Charles Arthur McPeake

March 1974

ACKNOWLEDGMENT

The author hereby expresses his sincere appreciation to the following persons who have contributed to this thesis:

To Dr. Haley M. Jamison, Major Professor, for his friendship, wise counsel, assistance in analysis of the data, and guidance during the course of graduate study and for reviewing the manuscript.

To Dr. Ralph L. Hamilton for his counsel and encouragement throughout the course of graduate study.

To Mr. Fletcher Sweet for his counsel and encouragement, serving on the graduate committee, and reviewing the manuscript.

To Dr. B. K. Leiter, Minor Professor, for serving on the graduate committee and reviewing the manuscript.

To Dr. Franklin D. Leuthold for his assistance in construction of the survey form.

To Dr. William L. Sanders, Agricultural Experiment Station Statistician, for his assistance in analysis of the data.

To his professors, associates and secretaries who have made graduate study a more pleasant and meaningful experience.

To his wife, Sandra, for her encouragement, assistance, and understanding throughout the course of graduate study.

The computations associated with the statistical analysis for this research were done with the aid of equipment of the University of Tennessee Computing Center. This Computing Center was established with the aid of a National Science Foundation Grant (No. NSF-G 135-1).

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ABSTRACT

The purpose of this study was to collect data which would indicate the attitudes of purchasers toward bulls purchased in the Ames Plantation sales from 1966 through 1972. The study was designed also to determine what relationship certain personal and experience factors had to the degree of satisfaction.

A questionnaire that contained general, sale, and individual bull questions was sent to persons who had purchased bulls at Ames Plantation during this seven-year period. Survey forms were completed by mail and usable forms were returned from 118 purchasers of 189 bulls.

The individuals who had purchased bulls in this seven-year period were mailed a survey packet.

The purchasers were asked to fill out the questionnaire and return. No other requirement was made of the people who were interviewed.

In the sale information division, 56 percent of the respondents attended their first sale within the last five years. The remaining 44 percent ranged from six to 33 years since attending their first sale at Ames Plantation.

Sixty-three percent received information on their first sale from the Extension Service, while 37 percent were divided among breed publications, mass media, and previous buyers.

Of the bull purchasers 57 percent were full-time farmers. Sixty-seven percent reported as having always raised beef,

32 percent had not always, but for more than five years; and only one percent had raised beef cattle for less than five years.

The contrast of farm size upon satisfaction showed that purchasers with larger farms were better satisfied with their bulls.

Percentages for degree of satisfaction for different major farm enterprises reveal that purchasers with beef and swine as their major enterprises were less satisfied with their purchases than the people with other kinds of major enterprises.

Percentages in the three categories of satisfaction based upon years training in a college of agriculture showed that purchasers who had from one to four years of training were more highly satisfied and fewer that were not satisfied than purchasers with no training or over five years training.

Future Farmers of America training had very little effect upon satisfaction. Similarly, 4-H training had very little effect upon satisfaction.

Satisfaction based upon purchaser age showed the age group from 36 through 55 to be most satisfied.

The relationship of years in school and satisfaction tended to agree with the years of college of agriculture training in that purchasers with one through four years of college were more highly satisfied and fewer in numbers than those who were not satisfied. A smaller percentage of the people with less than nine years total education were highly satisfied and a larger percentage were not satisfied.

Eighty-two percent of the purchasers attended their first sale as a potential buyer, and 76 percent purchased a bull at their first sale.

Of the people in this study, 55 percent had purchased only one bull, 34 percent had purchased two through four bulls, and 11 percent five through eight bulls.

Regarding the number of sales attended since the first sale, 49 percent had attended less than one-half and the rest were divided into three other categories: all of them, more than one-half, and half of them.

To conclude the sale information segment, the purchasers were asked where they would go to find sale information. Sixty percent pointed to the Extension Service, 30 percent to Ames Plantation and 10 percent to other sources.

The average farmer operated 1119 acres. Of these acres, 429 were in crops and 432 in pasture.

The average purchaser had 1.4 years of College of Agriculture training and 2.0, 2.1 years for Future Farmers of America and 4-H training, respectively. The purchaser averaged 50.2 years of age and had 13.7 years of education. The average purchaser owned 110 brood cows and a total of 193 beef animals.

Fifty-nine percent of the purchasers farmed alone, 24 percent farmed with a close relative, and 16 percent had other types of farm arrangments.

Fifty-seven percent of the bull purchasers had never worked off the farm. The remaining 43 percent ranged from one to 50 years off the farm.

A purchaser who operates on a partnership basis tended to be more highly satisfied than the purchaser that operated by himself.

The relationship of effect of purchase price upon satisfaction illustrated that a greater percentage of purchasers who paid $1000 or more were better satisfied while a smaller percentage were not satisfied.

Relationship percentages of effect of type farmer upon satisfaction showed that full-time farmers are better satisfied but not as highly satisfied as the part-time farmer. A greater percentage of part-time farmers are not satisfied.

The contrast of experience in raising beef upon satisfaction showed that people who had always raised beef were better satisfied.

The effect of number of contacts with Extension personnel upon satisfaction revealed that purchasers with from one through ten contacts a year were better satisfied.

The effect of Extension material upon satisfaction indicated that purchasers who utilize Extension material frequently are more highly satisfied.

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CHAPTER I

INTRODUCTION

The Ames Plantation Performance Tested Bull Sales in Grand Junction, Tennessee, have become established as an important segment of the production of Angus bulls for seedstock in the Southeastern United States.

From 1903 until 1937 Mr. Hobart Ames acquired 18,450 acres, which constitute the now existing Ames Plantation. Following his death in 1945, his widow, the late Julia C. Ames, established the Hobart Ames Foundation, consisting of the Plantation and a sizeable trust fund, as a permanent memorial to her husband.

Ames Plantation is operated today by The University of Tennessee on a plan agreed upon by the Will Trustees and representatives of the University.

When the University and the Will Trustees entered into the present arrangement, it was decided to expand the Angus breeding program and to incorporate an intensive progeny testing program, popularly known as "performance testing." This program was started in 1955.

The performance tested bull sales were started in the late 1950's and have been continued until the present time. Preceding this time, production sales had been held at Ames Plantation.

One aspect of the growth of the testing program at Ames Plantation is the increase in beef cow numbers in the Southeast during the last

few years. In 1960 Tennessee had an estimated 492,000 beef cows and heifers two years old and over; whereas in 1972, Tennessee had increased to 1,361,000 beef cows and heifers.

Another aspect of the beef performance program at Ames was the transition in body conformation, which affected growth and efficiency of the beef cattle industry.

Prior to this study, no organized statistical analysis had been made of the attitudes of buyers at The Ames Plantation Performance Tested Bull Sales. One of the objectives of this study was to evaluate the attitudes of purchasers toward bulls purchased in the Ames Performance Tested sales from 1966 through 1972. Another objective of this study was to relate the socio-economic characteristics of the purchaser with his attitude.

By setting up these relationships between the purchasers' attitudes and their personal and farm characteristics, it is possible to draw conclusions about associations that exist. With these relationships, we can observe how attitudes toward performance tested beef cattle relate to the purchaser's personal and farm characteristics.

The study should be of interest to both producers and consumers of purebred beef cattle. Purebred producers should be interested in the type of attitudes consumers have about performance tested bulls. This would also help the management to recognize the area in advertising that should receive greatest emphasis.

Buyers of performance tested bulls also should find the results of the study interesting since results should enable them to recognize some of their own personal biases or to find how they compare with

other purchasers as far as attitudes are concerned. This also may enable them to make better analyses of their own situations in comparison with others of the area's beef cattle industry.

Extension workers and other people in the area of adult education also may profit from results of the study.

CHAPTER II

REVIEW OF LITERATURE

Information dealing with attitudes of those who use performance testing data was found to be extremely limited. A large part of the information available had been accumulated from the short history of performance testing and from observations and surveys of attitudes in general. No critical analyses of related data were found.

Baker (1967) stated that programs and attitudes are the products of forces within an industry.

He further reported that the development of Beef Cattle Performance programs has been influenced by attitudes held by the people in the industry. Current attitudes in the industry seem to have evolved through four periods: In the first period the prevailing attitude emphasized the use of registered sires for improvement of all cattle. Rapid expansion of the production of registered cattle resulted. In the second period grain feeding and the slaughter of cattle at younger ages were emphasized to produce beef with superior qualities from the standpoint of the consumer. The weight-for-age concept, introduced in the third period, became highly controversial. The final period involved the concept that yield of trimmed retail cuts at a given age is an important component of true value of a beef animal.

Wasson and McConaughy (1968) conceived that the first requisite of acceptance of a new product is that it offer a perceivably new

bundle of satisfactions, a bundle of greater apparent value to some set of market segments than these segments had been able to get before. Their second requirement is that the prospect be brought to perceive the added value to him as greater than the time and/or money cost of adoption and use. If these conditions are truly satisfied, then the product-acceptance pattern will depend on the amount and kind of learning consumers must acquire to perceive that value and be equipped to realize it.

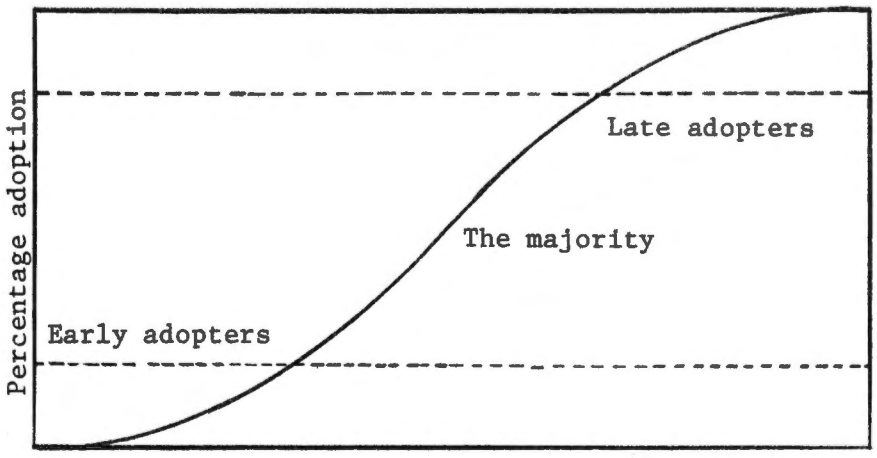
They continued that buying behavior is initiated by some internal tension--by some drive, motive, or aspiration which leads us to pay attention to products, or messages about them, which we perceive as cues that possession of the product will relieve the tension.

They added that rural spending habits are expected to show some distinctive patterns, because "rural" connotes farming and farming has some distinctive characteristics as a style of life.

Lionberger (1961) summarized what several scores of studies show about the characteristics of farm operators and the major sources of farm information used in the relation to the adoption curve as indicated in Figure 1.

Remmers (1954) explained that attitudes of the members of a group are of considerable importance in determining the functioning of the group. Of the many attitudes possessed by group members, attitudes concerned with the presence of the other members are the most significant in relation to the smooth working of the group itself.

Read (1972) expressed that attitudes, while more difficult to determine, may be even more important than level of knowledge.



EARLY ADOPTERS	THE MAJORITY	LATE ADOPTERS
Distinctive Characteristics*		
Large farms	Average farms	Small farms
High income	Average income	Low income
Take risks		Security-minded
Usually under age 50	Age 50 to 60	Usually over age 60
Actively seeking new ideas	Receptive but not actively seeking	Complacent or skeptical
Participate in many nonlocal groups	Participate in some local groups	Seldom participate in formal groups
Sources of Information Used**		
College and other research sources	Adoption leaders and other farmers nearby	Other local farmers and adoption leaders
Agricultural agencies	Farm papers, magazines and radio	Farm papers, magazines and radio
Mass media sources	Commercial sources	Local dealers
Other highly competent farmers far and near	Agricultural agencies	Almanac
Commercial sources		

*In relation to characteristics of those in adjoining categories.

**Listed in estimated rank order of use.

Figure 1. The Adoption Cycle, Adopter Characteristics, and Information Sources by Lionberger (1961).

He added that the audience, whether a single person or a large group, has attitudes toward the message itself in addition to the source of the message. For example: for years farmers judged other farmers by whether corn rows were straight and true. Thus, when soil conservationists first tried to get farmers to plant corn on the contour, attitudes toward the message were negative because contoured rows were not straight.

CHAPTER III

EXPERIMENTAL PROCEDURE

The data used in this study were collected from a seven-year period (1966-1972) that deals with purchasers in the Ames Plantation Performance Tested Angus Bull Sales. The information from 118 bull purchasers who bought 189 bulls was found suitable for this study.

The sales were held annually at Ames Plantation in early December of each year.

The individuals who had purchased bulls in this seven-year period were mailed a survey packet. The packet included a questionnaire, a stamped, self-addressed envelope, and a letter from the Ames beef project leader explaining how the information would be used. Ten days after the survey packet was mailed, a follow-up letter was mailed to the purchasers who had not responded. Thirty days later the purchasers who still had not responded received another complete survey packet.

The purchasers were asked to fill out the questionnaire and return in the envelope. No other requirement was made of the people who were interviewed.

The survey was conducted in the summer of 1973. All of the data used in this study were obtained by mail survey.

The Questionnaire

The first section of the questionnaire as illustrated in the Appendix was related to sale information. The information sought

included dates of first Ames sale attended, how or where the purchaser obtained information on the first sale, whether he attended as a potential buyer or observer, the number of bulls purchased from Ames Plantation, the number of sales attended since the first sale, and where he would go for information on the Ames Plantation bull sale.

The next section included information pertaining to the farm and personal characteristics. The farm operations information contained the farming arrangement, total acres in farm, acres in crops and pasture, and the number of livestock. PMWU's, as explained in the Appendix, were figured for the total operation, for beef and for the major enterprise. The personal characteristics sought by the questionnaire were age, off-farm employment, beef cattle history, years of education, opinion leadership, College of Agriculture training, and FFA and 4-H training. Extension information dealing with news articles, releases, publications and personal contact along with travel by the purchaser were included in this section.

The final section contained attitude and disposal information on the purchased bulls. Questions were asked that dealt with attitudes toward satisfaction, performance in relation to price and performance in weight at weaning. The disposal information included weight, age, and how and why of disposal.

CHAPTER IV

RESULTS AND DISCUSSION

A mental position with regard to a fact or state is commonly referred to as an attitude. Both tangible and intangible facts play an important role in the formation of attitudes. These positions indicate action and are extremely important when dealing with a buying clientele. This study is based on mental positions that deal with tangible and intangible facts from such an audience.

The degree of satisfaction when crosstabulated with other variables concerning persons who purchased bulls at Ames Plantation during the seven-year period from 1966 through 1972 give enlightening results.

The data on characteristics of the three sample divisions were tabulated, discussed, and in some cases, reported in this chapter.

In the sale information division, 56 percent of the respondents attended their first sale within the last five years. The remaining 44 percent ranged from 6 to 33 years since attending their first sale at Ames Plantation.

Sixty-three percent received information on their first sale from the Extension Service, while 37 percent were divided among breed publications, mass media, and previous buyers.

Eighty-two percent of the purchasers attended their first sale as a potential buyer, and 76 percent purchased a bull at their first sale.

Of the people in this study, 55 percent had purchased only one bull, 34 percent had purchased two through four bulls, and 11 percent five through eight bulls.

Regarding the number of sales attended since the first sale, 49 percent had attended less than one-half and the rest were divided into three other categories: all of them, more than one-half, and half of them.

To conclude the sale information segment, the purchasers were asked where they would go to find sale information. Sixty percent pointed to the Extension Service, 30 percent to Ames Plantation and 10 percent to other sources.

In the general information division, the average farmer operated 1119 acres. Of these acres, 429 were in crops and 432 in pasture (Table 1).

Beef is the major enterprise for most of the purchasers with crops being a close second (Table 2). The average number of PMWU's for the total farm is 62 and 19 for beef (Table 3). The percentages for PMWU's (Table 4) show that 40 percent were for beef and 58 percent for the farmer's major enterprise.

The average purchaser had 1.4 years of College of Agriculture training and 2.0, 2.1 years for Future Farmers of America and 4-H training, respectively (Table 5). The purchaser averaged 50.2 years of age and had 13.7 years of education (Table 6). The average purchaser owned 110 brood cows and a total of 193 beef animals (Table 7).

TABLE 1

FARM SIZE

Item	Mean
Total Acres	1119
Acres in Crops	429
Acres in Pasture	432

TABLE 2

MAJOR ENTERPRISE

Item	Percent
Crops	38
Beef	48
Dairy	2
Swine	10
Other	2

TABLE 3

PREDICTED MAN WORK UNITS

Item	Mean
Total Farm	62
Beef	19

TABLE 6

PERSONAL CHARACTERISTICS

Item	Mean
Years of Age	50.2
Educational Level, Years	13.7

TABLE 7

BEEF OWNERSHIP CHARACTERISTICS

Item	Mean
Number of Beef Cows	110
Number of Other Beef Animals	83
Total Beef Animals	193

Fifty-nine percent of the purchasers farmed alone, 24 percent farmed with a close relative, and 16 percent had other types of farm arrangements (Table 8).

Of the 189 sets of individual bull data, 70 percent of bulls were highly satisfactory to their purchaser, 18 percent satisfactory, and only 12 percent dissatisfactory (Table 9). The average purchase price of these bulls was $874.07 (Table 10).

During the first year of ownership, the purchasers had bred 22.6 cows and in years after the first 30.3 cows. See Table 11 for these means.

Of the bulls that had been disposed of, 36 percent were sold for breeding purposes and all the bulls had a disposal weight and age of 1342 pounds and 5 years, respectively (Tables 12 and 13).

The experience factor included years worked off the farm, whether a full-time farmer, and experience in years of raising beef cattle. Fifty-seven percent of the bull purchasers had never worked off the farm. The remaining 43 percent ranged from one to 50 years off the farm.

Of the bull purchasers, 57 percent were full-time farmers.

In the experience of raising beef cattle, 67 percent reported as having always raised beef, 32 percent had not always, but for more than five years; and only one percent had raised beef cattle for less than five years.

Contingency tables were used to determine the relationships between satisfaction with the individual bull purchased and 20 selected

TABLE 8

FARM ARRANGEMENT

Item	Percent
Alone	59
With Father	11
With Son	10
With Brother	3
Other	16

TABLE 9

DEGREE OF SATISFACTION

Item	Percent
Not Satisfied	12
Satisfied	18
Highly Satisfied	70

TABLE 10

PRICE

Item	Mean
Bull Purchase Price	874.07

TABLE 11

NUMBER OF COWS BRED

Item	Mean
First Year	22.6
Other Years	30.3

TABLE 12

DISPOSAL MEASURES

Item	Mean
Weight of Bull (pounds)	1342
Age of Bull (years)	5

TABLE 13

METHOD OF DISPOSAL

Item	Percent
Breeding Purposes	35
Non-breeding Purposes	65

variables from the general information and individual bull data sections of the questionnaire.

The relationships were tested for significance by the Chi-square in RxC contingency tables according to Snedecor and Cochran (1967).

The data were coded and punched on IBM cards according to the format presented in Tables 14 and 15.

The contrast of farm size upon satisfaction showed that purchasers with larger farms were better satisfied with their bulls. Chi-square analysis of acres in farm had no significant ($P<.05$) effect upon satisfaction. These results are presented in Table 16.

Percentages for degree of satisfaction for different major farm enterprises reveal that purchasers with beef and swine as their major enterprises were less satisfied with their purchases than the people with other kinds of major enterprises. These data were subjected to statistical analysis and found to be non-significant ($P<.05$) as shown in Table 17.

The effect of total farm predicted man work units upon satisfaction gave the same indication as farm size; the larger the operators tended to be more highly satisfied with the bulls they purchased at Ames Plantation. No significant difference ($P<.05$) was found when these data were statistically analyzed as indicated in Table 18.

Satisfaction based upon total beef predicted man work units agreed with total farm predicted man work units in that the larger producers tended to be more highly satisfied. A Chi-square analysis indicated no significant difference ($P<.05$) as shown in Table 19.

TABLE 14

FORMAT FOR INDIVIDUAL BULL DATA

Data	Code	IBM Card Column Numbers
I.D. of bulls	Use assigned no.	1-3
I.D. of purchaser	Use assigned no.	4-6
Sale year	Ex. 1972=01, 1971=02	7-8
Lot no.	Use actual no.	9-10
Price/head	Use actual no. (coded to nearest $10)	11-13
Purchaser satisfaction		14
Highly	4	
Well	3	
Fair	2	
Somewhat displeased	1	
Dissatisfied	0	
Price performance ratio		15
Good	2	
Average	1	
Poor	0	
Increase in weaning performance due to bull		16
Yes, 20 pounds or more	2	
Yes, less than 20 pounds	1	
No	0	
No. of cows bred/year		
First year	Use actual no.	17-18
Other years	Use actual no.	19-20
Percent increase in no. cows bred from first year	Use actual no.	21-23
Weight at disposal	Use actual no. (coded to nearest 10 lbs.)	24-26
Age at disposal		27
Method of disposal		28
For non-breeding purposes	2	
For breeding purposes	1	

TABLE 14 (Continued)

Data	Code	IBM Card Column Numbers
Most important reason for disposal		29
Off spring's performance	4	
Inbreeding due to heifers	3	
Physical defect	2	
Temperament	1	
Other	0	
Scheme of above reasons		30-34
Answer checked	1	
Answer not checked	0	

TABLE 15

FORMAT FOR SALE INFORMATION AND GENERAL INFORMATION

Data	Code	IBM Cards Column Numbers
I.D. of purchaser	Use assigned number	1-3
Year attended first sale	Ex. 1972=01, 1971=02	4-5
Information on 1st sale		6
Breed publication	3	
Extension service	2	
Mass media	1	
Previous buyer	0	
Observer or potential buyer at first sale		7
Observer	1	
Potential buyer	0	
Purchase at first sale		8
Yes	1	
No	0	
First bull purchase	Ex. 1972=01, 1971=02	9-10
No. bulls purchased	Use actual no.	11
Sales attended since 1st sale		12
All of them	3	
More than one-half	2	
Half of them	1	
Less than one-half	0	
Sales attended		13-14
Potential buyer	Use actual no.	
Observer	Use actual no.	
Obtain sale information		15
Extension service	2	
Ames Plantation	1	
Other	0	
Farming arrangement		16
Other	5	
Brother	4	
Son	3	
Father	2	
Yes	1	
No	0	

TABLE 15 (Continued)

Data	Code	IBM Cards Column Numbers
No. years off farm	Use actual no.	17-18
Full-time farmer		19
Yes	1	
No	0	
Have always raised beef cattle		20
Yes	2	
No, but 5 years or more	1	
No, but less than 5 years		
Present age	Use actual no.	21-22
No. years of school	Use actual no.	23-24
Acres in farm	Use actual no. (nearest 10 acres)	25-27
Acres in crops	Use actual no. (nearest 10 acres)	28-30
Acres in pasture	Use actual no. (nearest 10 acres)	31-33
No. beef cows	Use actual no.	34-36
No. other beef	Use actual no.	37-39
PMWU's for total farm	Use actual no. (nearest 10 units)	40-42
PMWU's for beef	Use actual no. (nearest 10 units)	43-45
Percent specialization for beef	Use actual no.	46-47
Percent specialization for major enterprise	Use actual no.	48-49
Major enterprise		50
Other	4	
Swine	3	
Dairy	2	
Beef	1	
Crops	0	

TABLE 15 (Continued)

Data	Code	IBM Cards Column Numbers
College of Agriculture training		51
Yes	Use actual no. of years	
No	0	
FFA		52
Yes	Use actual no.	
No	0	
4-H		53
Yes	Use actual no.	
No	0	
Times talked to County Ext. Leader in last year	Use actual no.	54-55
About beef problems	Use actual no.	56-57
Read Extension articles on beef cattle		58
Frequently	3	
Regularly	2	
Occasionally	1	
Seldom	0	
Scheme of extension publications used		59-64
Checked	1	
Not checked	0	
Total of above publications	Use actual no.	65
Discussion with farmers about beef		66
At least once a week	4	
At least once a month	3	
A few times per year	2	
Less than once a year	1	
Never	0	
Are you more or less likely to be asked for beef cattle advice		67
More	2	
About the same	1	
Less	0	

TABLE 15 (Continued)

Data	Code	IBM Cards Column Numbers
Are you regarded by neighbors as a good source of information on beef practices		68
Yes	2	
About the same	1	
No	0	
Total of above three items	Use actual no. (as coded)	69
Travel 20 miles to discuss beef		70
At least once a month	3	
A few times a year	2	
Less than once a year	1	
Never	0	
Travel out of Tennessee to obtain beef information		71
Yes, in past 3 years	2	
Yes, not in past 3 years	1	
No	0	
Talked about farm problem with person from U.T.		72
Yes, in past 3 years	2	
Yes, not in past 3 years	1	
No	0	
Total of above 2 items	Use actual no. (as coded)	73

TABLE 16

RELATIONSHIP PERCENTAGES OF EFFECT OF ACRES IN FARM UPON SATISFACTION[a]

No. Acres	Not Satisfied	Satisfied	Highly Satisfied	Total
500 and Under	13.7	17.7	68.6	100
510-1000	6.7	20.0	73.3	100
> 1000	5.6	13.9	80.5	100

[a] $\chi^2 = 2.60$; d.f. = 4; $P<.75$.

TABLE 17

RELATIONSHIP PERCENTAGES OF EFFECT OF MAJOR ENTERPRISE UPON SATISFACTION[a]

Major Enterprise	Not Satisfied	Satisfied	Highly Satisfied	Total
Crops	2.2	23.9	73.9	100
Beef	13.0	13.0	74.0	100
Dairy	0.0	0.0	100.0	100
Swine	22.2	11.1	66.7	100
Other	0.0	0.0	100.0	100

[a] $\chi^2 = 8.65$; d.f. = 8; $P<.50$.

TABLE 18

RELATIONSHIP PERCENTAGES OF EFFECT OF TOTAL FARM PREDICTED MAN WORK UNITS UPON SATISFACTION[a]

No. PMWU	Not Satisfied	Satisfied	Highly Satisfied	Total
<25	14.0	16.3	69.7	100
25-50	11.1	25.9	63.0	100
51-100	7.7	11.5	80.8	100
>100	0.0	11.1	88.9	100

[a] $X^2 = 6.11$; d.f. = 6; $P<.50$.

TABLE 19

RELATIONSHIP PERCENTAGES OF EFFECT OF TOTAL BEEF PREDICTED MAN WORK UNITS UPON SATISFACTION[a]

No. PMWU	Not Satisfied	Satisfied	Highly Satisfied	Total
<10	14.3	14.3	71.4	100
10-20	5.7	22.9	71.4	100
21-30	7.1	21.4	71.5	100
>30	10.0	5.0	85.0	100

[a] $X^2 = 4.78$; d.f. = 6; $P<.75$.

Percentages in the three categories of satisfaction based upon years training in a college of agriculture showed that purchasers who had from one to four years of training were more highly satisfied and fewer that were not satisfied than purchasers with no training or over five years training. This indicated that the people with no training lack the expertise of how to select a superior bull. The purchasers with five or more years training were probably more critical of the bulls. These data were found non-significant ($P<.05$) when subjected to a statistical analysis. The results of the analysis are found in Table 20.

Future Farmers of America training had very little effect upon satisfaction. In the statistical analysis these data were non-significant ($P<.05$) as shown in Table 21.

Similarly, 4-H training had very little effect upon satisfaction. The Chi-square analysis indicated no significant difference ($P<.05$) as shown in Table 22.

Satisfaction based upon purchaser age showed the age group from 36 through 55 to be most satisfied. The data in Table 23 indicated non-significant ($P<.05$) when subjected to a statistical analysis.

The relationship of years in school and satisfaction tended to agree with the years of college of agriculture training in that purchasers with one through four years of college were more highly satisfied and fewer in numbers than those who were not satisfied. A smaller percentage of the people with less than nine years' total education were highly satisfied and a larger percentage were not satisfied (Table 24). These data were found to be non-significant ($P<.05$).

TABLE 20

RELATIONSHIP PERCENTAGES OF EFFECT OF YEARS TRAINING IN A COLLEGE OF AGRICULTURE UPON SATISFACTION[a]

Yrs. in Training	Not Satisfied	Satisfied	Highly Satisfied	Total
0	9.9	19.8	70.3	100
1-4	4.4	8.7	86.9	100
5 or More	11.1	11.1	77.8	100

[a] $_{X}^{2}$ = 2.84; d.f. = 4; P<.75.

TABLE 21

RELATIONSHIP PERCENTAGES OF EFFECT OF FFA UPON SATISFACTION[a]

No. Years	Not Satisfied	Satisfied	Highly Satisfied	Total
0	10.0	13.3	76.7	100
1-4	7.4	20.4	72.2	100

[a] $_{X}^{2}$ = 1.14; d.f. = 2; P<.75.

TABLE 22

RELATIONSHIP PERCENTAGES OF EFFECT OF 4-H UPON SATISFACTION[a]

No. Years	Not Satisfied	Satisfied	Highly Satisfied	Total
0	7.7	13.8	78.5	100
1-4	10.4	20.8	68.8	100

[a] $_{X}^{2}$ = 1.38; d.f. = 2; P<.75.

TABLE 23

RELATIONSHIP PERCENTAGES OF EFFECT OF PURCHASER AGE UPON SATISFACTION[a]

Age	Not Satisfied	Satisfied	Highly Satisfied	Total
<36	12.5	25.0	62.5	100
36-55	8.1	17.7	74.2	100
>55	13.2	13.2	73.6	100

[a] $X^2 = 1.86$; d.f. = 4; $P<.90$.

TABLE 24

RELATIONSHIP PERCENTAGES OF EFFECT OF YEARS IN SCHOOL UPON SATISFACTION[a]

Yrs. in School	Not Satisfied	Satisfied	Highly Satisfied	Total
<9	28.6	14.3	57.1	100
9-12	12.2	20.4	67.4	100
13-16	4.8	14.3	80.9	100
>16	11.8	17.7	70.5	100

[a] $X^2 = 5.04$; d.f. = 6; $P<.75$.

Percentage effect of numbers of beef cows upon satisfaction was sharply reduced for the highly satisfied group that own over 200 cows. The 101-200 cow producers had a larger percent that were highly satisfied and a smaller percent that were not satisfied. When subjected to a statistical analysis, these data indicated no significant difference ($P<.05$). The results are presented in Table 25.

Data in Table 26 indicated that a purchaser who operates on a partnership basis tended to be more highly satisfied than the purchaser that operated by himself. The Chi-square analysis showed these data to be non-significant ($P<.05$).

The relationship of effect of purchase price upon satisfaction illustrated that a greater percentage of purchasers who paid $1000 or more were better satisfied while a smaller percentage were not satisfied. This could be due to larger producers that can afford to pay more for a bull and also the willingness to pay for the top performing bull they have selected. The data from this relationship were found to be non-significant ($P<.05$) when subjected to the statistical analysis as shown in Table 27.

The contrast of number of cows bred the first year upon satisfaction showed that purchasers who bred more cows to the bull the first year were more highly satisfied with their bulls. More calves the first year gave the purchaser a better chance to evaluate the bull early. Chi-square analysis of number of cows bred the first year had a significant ($P<.05$) effect upon satisfaction as shown in Table 28.

Attitude based upon the number of cows bred other than first year followed the same satisfaction pattern but not to as great of an

TABLE 25

RELATIONSHIP PERCENTAGES OF EFFECT OF NUMBER OF BEEF COWS UPON SATISFACTION[a]

No. Cows	Not Satisfied	Satisfied	Highly Satisfied	Total
<25	20.0	10.0	70.0	100
25-50	14.3	14.3	71.4	100
51-100	6.9	27.6	65.5	100
101-200	4.0	88.0	88.0	100
>200	21.1	5.3	73.6	100

[a] $X^2 = 10.44$; d.f. = 8; $P<.25$.

TABLE 26

RELATIONSHIP PERCENTAGES OF EFFECT OF FARMING ARRANGEMENT UPON SATISFACTION[a]

Arrangement	Not Satisfied	Satisfied	Highly Satisfied	Total
Alone	11.8	20.6	67.6	100
Partner	10.0	12.0	78.0	100

[a] $X^2 = 1.76$; d.f. = 2; $P<.25$.

TABLE 27

RELATIONSHIP PERCENTAGES OF EFFECT OF PURCHASE PRICE UPON SATISFACTION[a]

Price	Not Satisfied	Satisfied	Highly Satisfied	Total
<600	16.7	20.0	63.3	100
600-799	10.2	28.6	61.2	100
800-999	15.8	15.8	68.4	100
1000 or more	7.5	11.3	81.1	100

[a] $X^2 = 7.992$; d.f. = 6; $P<.25$.

TABLE 28

RELATIONSHIP PERCENTAGES OF EFFECT OF NUMBER OF COWS BRED THE FIRST YEAR UPON SATISFACTION[a]

No. Bred	Not Satisfied	Satisfied	Highly Satisfied	Total
< 20	22.2	22.2	55.6	100
20 and Over	9.6	11.3	79.1	100

[a] $X^2 = 6.501$; d.f. = 2; $P<.05$.

extent. These data, when exposed to a statistical analysis, indicated no significant difference ($P<.05$). The data are presented in Table 29.

Relationship percentages of effect of type farmer upon satisfaction showed that full-time farmers are better satisfied but not as highly satisfied as the part-time farmer. A greater percentage of part-time farmers are not satisfied. The data were non-significant ($P<.05$) when statistically analyzed (Table 30).

Table 31 illustrated that purchasers who had worked ten or more years off the farm were not satisfied as well as the purchasers who had worked less than ten years off the farm. This indicated the same pattern in attitude as the type of farmer relationship upon satisfaction. Chi-square analysis showed that these data were non-significant ($P<.05$).

The contrast of experience in raising beef upon satisfaction presented in Table 32 showed that people who had always raised beef were better satisfied. This indicated that they have a better knowledge in selection of bulls and also they do not expect too much from one animal. When subjected to a statistical analysis, the data were found to be non-significant ($P<.05$).

The effect of number of contacts with Extension personnel upon satisfaction revealed that purchasers with from one through ten contacts a year were better satisfied as shown in Table 33. People with over ten contacts per year were not as satisfied as the other segments. This indicated that these purchasers who were not satisfied contact the Extension leaders about their problems. A Chi-square analysis showed these data to be non-significant ($P<.05$).

TABLE 29

RELATIONSHIP PERCENTAGES OF EFFECT OF NUMBER OF COWS BRED OTHER THAN FIRST YEAR UPON SATISFACTION[a]

No. Bred	Not Satisfied	Satisfied	Highly Satisfied	Total
< 30	18.0	23.1	58.9	100
30 and Over	7.9	17.1	75.0	100

[a] $X = 3.736$; d.f. = 2; $P<.10$.

TABLE 30

RELATIONSHIP PERCENTAGES OF EFFECT OF TYPE FARMER UPON SATISFACTION[a]

Type Farmer	Not Satisfied	Satisfied	Highly Satisfied	Total
Full Time	7.6	21.2	71.2	100
Part Time	12.0	12.0	76.0	100

[a] $X^2 = 2.08$; d.f. = 2; $P<.50$.

TABLE 31

RELATIONSHIP PERCENTAGES OF EFFECT OF YEARS OFF FARM UPON SATISFACTION[a]

No. Years Off Farm	Not Satisfied	Satisfied	Highly Satisfied	Total
<10	5.6	20.8	73.6	100
10-20	20.0	20.0	60.0	100
>20	17.9	7.1	75.0	100

[a] $\chi^2 = 7.03$; d.f. = 4; $P<.25$.

TABLE 32

RELATIONSHIP PERCENTAGES OF EFFECT OF EXPERIENCE IN RAISING BEEF UPON SATISFACTION[a]

Type	Not Satisfied	Satisfied	Highly Satisfied	Total
Always	6.3	20.3	73.4	100
Not Always	16.2	10.8	73.0	100

[a] $\chi^2 = 3.94$; d.f. = 2; $P<.25$.

TABLE 33

RELATIONSHIP PERCENTAGES OF EFFECT OF NUMBER OF CONTACTS WITH EXTENSION LEADER UPON SATISFACTION[a]

No. Of Contacts	Not Satisfied	Satisfied	Highly Satisfied	Total
0	10.0	15.0	75.0	100
1-10	4.8	21.0	74.2	100
11 and Over	17.9	10.7	71.4	100

[a] $X^2 = 4.89$; d.f. = 4; $P<.50$.

Table 34 with the relationship effect of Extension material upon satisfaction indicated that purchasers who utilize Extension material frequently are more highly satisfied. This indicated that the purchasers understand some of the problems in beef cattle management. This relationship was found to be non-significant ($P<.05$) when statistically analyzed.

The effect of opinion leadership index as explained in the Appendix upon satisfaction indicated that purchasers with a higher opinion of themselves as beef cattlemen are more highly satisfied. These purchasers know what to expect from a bull and how to better cope with problems. These data in Table 35 were non-significant ($P<.05$) when subjected to a statistical analysis.

TABLE 34

RELATIONSHIP PERCENTAGES OF EFFECT OF EXTENSION MATERIAL UPON SATISFACTION[a]

Frequency	Not Satisfied	Satisfied	Highly Satisfied	Total
Occasionally	4.6	27.3	68.1	100
Regularly	14.7	20.6	64.7	100
Frequently	8.6	8.6	82.8	100

[a] $X^2 = 6.80$; d.f. = 4; $P<.25$.

TABLE 35

RELATIONSHIP PERCENTAGES OF EFFECT OF OPINION LEADERSHIP INDEX UPON SATISFACTION[a]

Score	Not Satisfied	Satisfied	Highly Satisfied	Total
<3	9.1	27.3	63.6	100
3-4	8.1	27.0	64.9	100
5-6	11.1	8.9	80.0	100
>6	9.1	9.1	81.8	100

[a] $X^2 = 6.74$; d.f. = 6; $P<.50$.

CHAPTER V

SUMMARY

The purpose of this study was to collect data which would indicate the attitude of purchasers toward bulls purchased in the Ames Plantation sales from 1966 through 1972. The study was designed also to determine what relationship certain personal and experience factors had to the degree of satisfaction.

A questionnaire that contained general, sale, and individual bull questions was sent to persons who had purchased bulls at Ames Plantation during this seven-year period. Survey forms were completed by mail and usable forms were returned from 118 purchasers of 189 bulls.

The individuals who had purchased bulls in this seven-year period were mailed a survey packet.

The purchasers were asked to fill out the questionnaire and return. No other requirement was made of the people who were interviewed.

In the sale information division, 56 percent of the respondents attended their first sale within the last five years. The remaining 44 percent ranged from 6 to 33 years since attending their first sale at Ames Plantation.

Sixty-three percent received information on their first sale from the Extension Service, while 37 percent were divided among breed publications, mass media, and previous buyers.

Eighty-two percent of the purchasers attended their first sale as a potential buyer, and 76 percent purchased a bull at their first sale.

Of the people in this study, 55 percent had purchased only one bull, 34 percent had purchased two through four bulls, and 11 percent five through eight bulls.

Regarding the number of sales attended since the first sale, 49 percent had attended less than one-half and the rest were divided into three other categories: all of them, more than one-half, and half of them.

To conclude the sale information segment, the purchasers were asked where they would go to find sale information. Sixty percent pointed to the Extension Service, 30 percent to Ames Plantation and 10 percent to other sources.

The average farmer operated 1119 acres. Of these acres, 429 were in crops and 432 in pasture.

The average purchaser had 1.4 years of College of Agriculture training and 2.0, 2.1 years for Future Farmers of American and 4-H training, respectively. The purchaser averaged 50.2 years of age and had 13.7 years of education. The average purchaser owned 110 brood cows and a total of 193 beef animals.

Fifty-nine percent of the purchasers farmed alone, 24 percent farmed with a close relative, and 16 percent had other types of farm arrangements.

Fifty-seven percent of the bull purchasers had never worked off the farm. The remaining 43 percent ranged from one to 50 years off the farm.

Of the bull purchasers 57 percent were full-time farmers. Sixty-seven precent reported as having always raised beef, 32 percent had not always, but for more than five years; and only one percent had raised beef cattle for less than five years.

The contrast of farm size upon satisfaction showed that purchasers with larger farms were better satisfied with their bulls.

Percentages for degree of satisfaction for different major farm enterprises reveal that purchasers with beef and swine as their major enterprises were less satisfied with their purchases than the people with other kinds of major enterprises.

Percentages in the three categories of satisfaction based upon years training in a college of agriculture showed that purchasers who had from one to four years of training were more highly satisfied and fewer that were not satisfied than purchasers with no training or over five years training.

Future Farmers of America training had very little effect upon satisfaction. Similarly, 4-H training had very little effect upon satisfaction.

Satisfaction based upon purchaser age showed the age group from 36 through 55 to be most satisfied.

The relationship of years in school and satisfaction tended to agree with the years of college of agriculture training in that purchasers with one through four years of college were more highly satisfied and fewer in numbers than those who were not satisfied. A smaller percentage of the people with less than nine years total education were highly satisfied and a larger percentage were not satisfied.

A purchaser who operates on a partnership basis tended to be more highly satisfied than the purchaser that operated by himself.

The relationship of effect of purchase price upon satisfaction illustrated that a greater percentage of purchasers who paid $1000 or more were better satisfied while a smaller percentage were not satisfied.

Relationship percentages of effect of type farmer upon satisfaction showed that full-time farmers are better satisfied but not as highly satisfied as the part-time farmer. A greater percentage of part-time farmers are not satisfied.

The contrast of experience in raising beef upon satisfaction showed that people who had always raised beef were better satisfied.

The effect of number of contacts with Extension personnel upon satisfication revealed that purchasers with from one through ten contacts a year were better satisfied.

The effect of Extension material upon satisfaction indicated that purchasers who utilize Extension material frequently are more highly satisfied.

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LITERATURE CITED

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APPENDIX

SALE INFORMATION

What year did you attend your first purebred cattle sale at Ames Plantation? _____

Where did you learn or hear about the first Ames sale you attended?

( ) - Breed publication
( ) - Extension service
( ) - Mass media
( ) - Previous buyer

Did you attend your first Ames sale as an observer or potential buyer?

( ) - Observer
( ) - Potential buyer

Did you purchase a bull at the first Ames sale you attended?

( ) - Yes
( ) - No

If "No" to the previous question, what year did you purchase your first bull from Ames Plantation? _____

How many bulls have you purchased from Ames Plantation? _____

How many sales have you attended since your first sale?

( ) - All of them
( ) - More than one-half
( ) - Half of them
( ) - Less than one-half

How many of the Ames bull sales have you attended as a potential buyer? _____ As an observer? _____

Where would you go for information on the Ames Plantation bull sale?

_____

_____

GENERAL INFORMATION

Do you operate your farm with another person (such as father, son, brother, etc.)?

( ) - No ( ) - Yes: Explain arrangement and with whom _____

_____

Have you farmed all of your life (excluding military service or part-time jobs)?

( ) - Yes ( ) -No: How many years have you worked off the farm?

_____

Are you a full-time farm operator?

( ) - Yes ( ) - No: Indicate type of part-time work and approximate hours per week _____

Have you always raised beef cattle?

( ) - Yes

( ) - No, but have for past five years

( ) - No, but less than five years: How many years? _____

What is your present age? _____

How many years of school did you complete? _____

How many total acres does your farm contain (both owned and rented land)? _____

_____ How many acres are in crops?

_____ How many acres in pasture land?

Indicate below the number of beef animals you presently have. (Check the boxes for livestock enterprises you do NOT have.)

( ) - No beef
____ Number of beef cows
____ Number of feeders fed out during the past year
____ Number of beef heifers
____ Number of other beef
Indicate _____

( ) - No Dairy
____ Number of dairy cows
____ Number of heifers
____ Number of other dairy
Indicate _____

( ) - No Swine
____ Number of sows
____ Number of feeder pigs fed out during past year
____ Number of other swine
Indicate _____

( )- No Sheep
____ Number of ewes
____ Number of lambs fed out during past year
____ Number of other sheep
Indicate _____

Other Livestock:

____ Number: Indicate kind _____
____ Number: Indicate kind _____
____ Number: Indicate kind _____

Did you have any College of Agriculture training?

( ) - No ( ) - Yes: How many years? _____

Did you have Vocational Agriculture training in high school?

( ) - No

( ) - Yes: How many years? _____ Did you have a beef enterprise?_____

Did you have any 4-H training?

( ) - No

( ) - Yes: How many years? ____ Did you have a beef project? _____

How many times in the past year did you talk to a County Extension Leader about farming?_____

About beef cattle problems? _____

How often do you read or hear Extension articles, releases, and other Extension material relating to beef cattle?_____

( ) - Frequently ( ) - Occasionally

( ) - Regularly ( ) - Seldom

Indicate which of the following UT Agricultural Extension Service publications you have used?

( ) - Beef Cattle In Tennessee ( ) - Let's Go SOLO

( ) - Tennessee Beef Cattle Calendar ( ) - TBCIP *What It Is *How It Works

( ) - How Good is Your Feed? ( ) - Summer Feed

How frequently would you say that you discuss with other farmers those beef cattle practices you have found to be successful?

( ) - Never

( ) - Less than once a year

( ) - A few times per year

( ) - At least once a month

( ) - At least once a week

As compared to most farmers you know, would you say you are more likely or less likely to be asked for advice about beef cattle practices?

( ) - Less ( ) - About the same ( ) - More

Would you say you are generally regarded by your neighbors as a pretty good source of ideas about beef cattle practices?

( ) - No ( ) - About the same ( ) - Yes

How frequently do you travel 20 miles or more to discuss beef cattle with other farmers?

( ) - Never

( ) - Less than once a year

( ) - A few times a year

( ) - At least once a month.

Have you ever traveled outside of Tennessee to obtain and discuss beef cattle information?

( ) - No

( ) - Yes: Where? _____ When? _____

Have you ever talked about a farm problem with a person from a College of Agriculture or Institute of Agriculture at the University of Tennessee?

( ) - No

( ) - Yes: Who? _____ When? _____

INDIVIDUAL BULL DATA

Sale Year _____ Lot _____ Tattoo_____

How satisfied are you with your purchase?

( ) - Highly

( ) - Well

( ) - Fair

( ) - Somewhat displeased

( ) - Dissatisfied

Do you feel that you paid a price equal to the performance of the bull in your herd?

( ) - Good performance in relationship to price

( ) - Average performance in relationship to price

( ) - Poor performance in relationship to price

Do you feel the Ames bull has increased the performance of your herd?

( ) - No ( ) - Yes: If yes, approximately _____ pounds per calf at age seven (7) months or about weaning time.

How many cows did you breed to this Ames bull per year, on the average?

_____ First year _____ Other years

How much did your Ames bull weigh when you disposed of him? _____ lbs.

( ) - Does not apply

How old was your Ames bull when you disposed of him? _____ years

( ) - Does not apply

How did you dispose of this aged bull?

( ) - For non-breeding purposes ( ) - For breeding purposes

( ) - Does not apply

If you have disposed of this bull, indicate why did you disposed of this Ames bull. First, check all the important reasons and second circle the most important one.

( ) - Off spring performed unsatisfactorily.

( ) - Possibility of inbreeding due to heifers sired by him.

( ) - Physical defect or defects (size, feet and legs, health, problem of settling cows). Indicate reason: _____

_____

( ) - Temperament

( ) - Other. (Specify - death, etc.): _____

_____

OPINION LEADERSHIP AND PMWU CALCULATIONS

Opinion Leadership

Question: How frequently would you say that you discuss with other farmers those beef cattle practices you have found to be successful?
never - 0; less than 1/yr - 1; few times / yr.-2;
at least 1/month - 3; at least once/week - 4.

Question: As compared to most farmers you know, would you say you are more likely or less likely to be asked for advice about beef cattle practices?
less - 0; about the - 1; more - 2.

Question: Would you say you are generally regarded by your neighbors as a pretty good source of ideas about beef cattle practices?
less - 0; about the same - 1; more - 2.

PMWU

Crops: 0.6 times acreage
Pasture: 0.2 times acreage

Dairy cattle: 0.7 times number of cows
0.8 times number of heifers

Beef cattle: 1.2 times number of cows and bulls
0.8 times number of heifers
0.6 times number of feeders and calves

Swine: 3.6 times number of sows and boars if pigs are fed for market
2.2 times number of sows and boars if pigs are sold for feeder pigs

Sheep: 0.5 times number of ewes and rams

VITA

Charles Arthur McPeake was born on October 12, 1945, in Henderson County, Lexington, Tennessee. He was educated in the elementary and secondary schools of Lexington and Henderson County, respectively, and was graduated from Lexington High School, Lexington, in May, 1963.

Having been reared on a livestock and crop farm, he entered The University of Tennessee at Martin in September, 1963, as a student in the College of Agriculture, majoring in General Agriculture.

In June, 1968, he received his Bachelor of Science degree in Agriculture.

While an undergraduate, he was initiated into the Alpha Gamma Rho Fraternity.

In September, 1968, he joined the staff of the Agricultural Extension Service, University of Tennessee, as Assistant Extension Agent. He served Giles County in this capacity until January, 1972, at which time he started studies toward a Master's degree in Animal Husbandry with a minor in Journalism at The University of Tennessee, Knoxville. He expects to receive the degree in the graduation exercises in March, 1974.

While a graduate student, he was initiated into the Gamma Sigma Delta Fraternity.

He is married to the former Sandra Faye Harrison of Pulaski, Tennessee.