

AN ASSESSMENT OF INFORMATION NEEDS, PERCEIVED
IMPORTANCE AND PREFERENCES OF DELIVERY
METHODS AMONG SELECTED DAIRY
PRODUCERS IN OKLAHOMA

By

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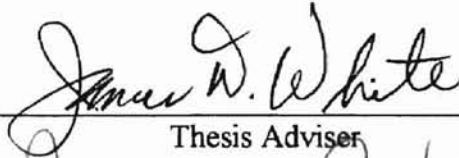
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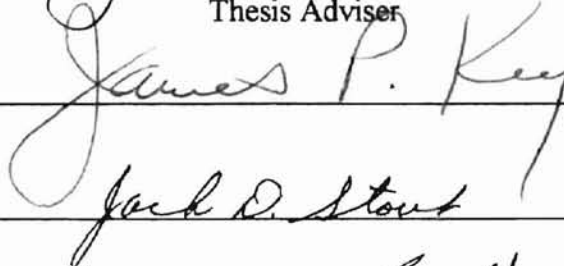
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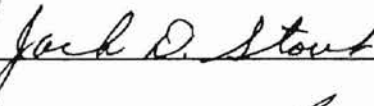
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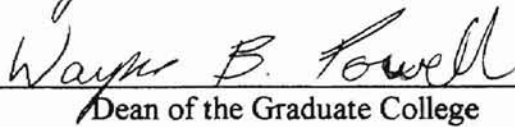
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CHAPTER I

INTRODUCTION

The Smith-Lever Act of 1914 created an agency with the sole purpose of providing information regarding agriculture and home economics. Since its inception, this agency's main focus has been to bring research based information to the people. This agency is known as the Cooperative Extension Service.

Much of the time and energy of Cooperative Extension Service personnel has been focused on helping people apply technology to their own situation--of helping them make practical application of scientific research. Rogers (1963) indicated efforts to encourage farm families to accept and make use of the findings of experiment stations and other sources of research information have been successful to varying degrees. Producers want information that is reliable. They seek information that is based upon proven research, not educated guesses (Blevins, 1994).

The value of information as a commodity in today's information age cannot be overemphasized since it has contributed immensely to the modernization and development of many farming operations. Fedale (1987) emphasized in today's agricultural industry, survival often depends on having an edge on information related to the market, efficient allocation of available resources, and use of new or innovative farming practices.

Cooperative Extension has long been recognized as a link between producers and the users of scientific knowledge (Awa and Crowder, 1978). Extension personnel need to fully understand the most effective strategies for disseminating information to its clientele. The National Agricultural Research and Extension Users Advisory Board said in the March 1980 report to the President and Congress:

We have concern that improved knowledge and technology transfer systems need to be developed by extension. In this interest, we recommend continuing review of extension methods with an eye toward use of the most effective means of transferring knowledge and technology (Brown, 1972, p. 10).

The pressures being placed on the Cooperative Extension Service to adapt new technology transfer systems are increasing. In many situations, Extension is using computers to transfer information in a fast and efficient manner. Agricultural teletext and videotext systems have the capabilities to provide dairy producers with the specialized information they need. These are just two examples of new technology transfer systems that are being utilized.

Today, it is very important for the Cooperative Extension Service to know what types of information have the most impact on dairy producers. In order for Extension personnel to enhance their expertise in helping their clientele, they need to have an awareness of the educational priority needs of Oklahoma dairy producers. The Extension personnel must also have an understanding for how their clientele would like to receive their information and how to assist their clientele in developing more efficient dairy operations.

Dairy producers make decisions each day regarding the several phases of their operations. Effective dissemination of information relating to the major competency areas

such as selection, breeding, feeding, managing, housing, and care of the dairy herd can enhance the productivity of the operation

Statement of the Problem

In the dairy industry, profit or loss may very well depend on the type of information that is available to make decisions relating to the dairy operation. Producers rely heavily upon Extension for timely information about new farming techniques. Agriculture in general has become more technical, and continuing education needs have greatly increased (Mayer, 1972). The Cooperative Extension Service needs to know the priority needs of dairy producers so that it can better serve their clientele.

Purpose of the Study

The purpose of this study was to assess information needs, perceived importance, and preference of delivery methods among selected dairy producers in Oklahoma.

Objectives

To attain the above stated purpose, the following objectives were established:

- (1) Assess the importance of selected dairy industry issues as perceived by the respondents;
- (2) determine selected demographic characteristics of the respondents;
- (3) determine producer preferences regarding delivery of information;
- (4) determine selected sources of technology, information, advice or assistance utilized by selected Oklahoma dairy producers.

Scope of the study

The scope of this study included selected dairy producers in selected counties in Oklahoma.

Definition of Terms

The following definitions are presented as they apply to the study.

Artificial Insemination - The deposition of spermatozoa in the female genitalia by artificial rather than by natural means.

CD ROM (Compact Disks Read Only Memory) - A standard format for placing any digital data on a compact disk.

Computer Modem - From modulator/demodulator; a device which transforms a computer's electrical pulses into analog signals for transmission over a telephone to another computer.

D.E.Q. - Department of Environmental Quality.

Mastitis - An infectious or noninfectious inflammation of the udder.

Milk Quality - The quality of milk regarding standards such as absence of antibiotics, somatic cell score, bacteria count, and sediment count.

Milk Price - The price received by producers per hundred pounds of milk using a formula based on adjustments for butterfat, protein and somatic cell score. The formula price usually starts at \$12 per hundred weight and is adjusted in the following manner. Butterfat has a base of 3.5 percent and for every .1 percent increase in butterfat the price is increased seven cents, the same effect for decreases. Protein has a base of 3.2 percent

and for every .1 percent increase in protein the price is increased ten cents, the same effect for decreases. Somatic cell score has a base of 350,000 to 400,000 count, for every 1,000 count increase the price is reduced one cent up to 750,000 count, at that level the milk is not sellable. For every 1,000 count decrease the price increases one cent to the minimum level of 50,000 count.

Purposive Sampling - Kerlinger (1973) explained purposive sampling as a type non-probability sampling, which is characterized by the use of judgment, experience, an deliberate effort to obtain representative samples by including presumably typical areas or groups in the sample.

CHAPTER II

REVIEW OF LITERATURE

Introduction

The review of literature for this study was divided into three sections for the purpose of organization and clarity: (1)Types of Information Sources, (2)Methods of Receiving Information, and (3)Adoption Process. These three factors are dependent on each other.

Types of Information Sources

Webster's New World Dictionary (1957) defines information as: "(1) an informing or being informed; (2) something told or facts learned; news or knowledge" (p. 749). Additionally, Webster's New World Dictionary (1957) defines source as: "a person or thing which information is or may be gotten" (p. 1393).

The value of information must not be overlook since it has contributed immensely to the stagnation or progress of many farming operations. In the agricultural industry success often depends on having accurate up to date information that is related to the daily operation of each enterprise.

Charges have been leveled against the Cooperative Extension Service, other change agents, and research centers, that much useful technology has been left sitting idle in research centers for lack of appropriate information dissemination strategies (Malton, Cantrell, King & Beniot-Cattin, 1984). The main problem has been identified as a communication gap between researchers, Extension personnel, and the agricultural industry.

For upscale and younger farmers, videotext and teletext are emerging as a "best source" for relatively important or highly priority information like market prices which otherwise seem to complement than replace existing sources of more stable information (Abbott, 1989).

Several studies have clearly pointed out that the Cooperative Extension Service is regarded as an effective source of information. The Cooperative Extension Service is a major source of education and information for rural Americans (Lyons and Hillison, 1983). The County Extension Office is a source of unbiased information about agriculture and farming (Gross, 1977). Blevins (1994) reported that extension fact sheets were an effective source of information. Awa and Crowder (1978) indicated two sources-- Extension and magazines--stand out as the dominant delivery methods of relevant messages for dairy farmers.

Magazines were shown to be another excellent source of information. Blevins (1994) indicated that out of 16 magazines two were shown to be very effective. The other 14 were still shown to be effective sources of information. Magazines were clearly shown as being a source of the latest technical information available by Proctor (1983).

Mass media were considered the most useful source of initial information. Mass media were used to present new ideas and stimulate interest among many farmers. Mass media were often considered the most rapid and efficient method of disseminating which is important in the first phase of adoption (Blevins, 1994).

Methods of Receiving Information

In a study done by the University of Wisconsin Center for Dairy Profitability, researchers found that dairy producers like to receive timely dairy management and related information in the following order: newsletter, magazines, farm tours, one day meetings, videotapes, one-on-one consultations, radio programs, satellite TV Programs, computers, computer bulletin boards, and two day meetings. Riesenbergs and Gor's Study (1989) made the following conclusions and recommendations:

Younger farmers, aged 20 to 35 years, tend prefer computer-assisted instruction, home study, and publications more than the farmers aged 66 years and older. Farmers farming larger acreage tend to prefer farming practices more than farmers with acreage less than 250 acres. Farmers with college of agriculture experience tend to prefer publications, computer assisted instruction, and home study more than farmers without college of agriculture experience.

Extension practitioners and planners who design or disseminate agricultural information should recognize the apparent patterns in preferences based on age, educational status, and farm size towards methods of receiving information on new or innovative farming practices. Such recognition is warranted by the fact that variations do occur, and the more the relations between these subsets of independent variables and farmer preferences are identified, the more successful the dissemination process will be (p. 12).

The Cooperative Extension Service must understand its clientele. Extension serves a diverse clientele that has different preferences about how they receive information. Farmers do not depend on any one source for information. Proctor (1983)

emphasized Extension agents should focus their efforts on transferring information to primary information sources that best serve the clientele.

The Adoption Process

The Cooperative Extension Service personnel must have a full understanding of the adoption process. This may be the most important information the extension service possesses. Realizing what information sources are available is important. Understanding the process and diffusion process is essential. The adoption process is a series of interrelated mental activities that include five distinguishable stages; awareness, information, evaluation, trial and adoption. During these stages the farmer learns about an idea, seeks out information to analyze, examines the idea against alternatives, of the idea is used on a small scale, and finally the decision to initiate full use of the idea.

Rogers (1963) identified five stages in the adoption process that are most commonly accepted as follows:

- (1) Awareness stage--the individual is exposed to the innovation but lacks complete information about it.
- (2) Interest stage--the individual becomes interested in a new idea and seeks additional information about it.
- (3) Evaluation stage--the individual mentally applies the innovation to his present and anticipated future situation and then decides whether or not to try.
- (4) Trial stage--the individual uses the innovation on a small scale in order to determine its utility in his situation.
- (5) Adoption stage--the individual decides to continue full use of the innovation (p. 18).

The adoption process has several other variables that effect the length of time it takes a farmer to adopt a new idea. Philpot (1991) pointed out that characteristics of innovations affect the rate of adoption. Some of those that promote more rapid adoption: "Simplicity, visibility of results, compatibility with existing need, degree to which the

innovation can be tried on a limited basis , absence of undesired side effects, low capital investment, and ease of communication" (p. 74). Some innovations move from their first introduction to widespread acceptance in a few years, whereas others require 50 years. What characteristics of innovations affect the rate at which they are diffused and adopted (Rogers, 1963). Rogers (1963) further indicated there are five characteristics that affect the rate of adoption relative to advantage, compatibility, complexity, divisibility, and communicability. Relative advantage refers to the degree to which an innovation is superior to ideas it supersedes. Compatibility is the degree to which an innovation is consistent with existing values and past experiences of the adopters. Complexity is the relative degree to which an innovation is difficult to understand and use. Divisibility is the degree to which an innovation may be tried on a limited basis. Communicability is the degree to which the results of an innovation may be diffused to others.

Rogers and Shoemaker (1971) identified five categories of adopters based on innovativeness: laggards, late and early majority adopters, early adopters, and innovators. Philpot (1991) identified four categories of adopters they were innovators, early adopters, the majority, and late adopters. Philpot (1991) described the categories of adoption as follows:

Innovators--These are the first to adopt. They tend to be adventuresome and have a desire to try new ideas even if it means an occasional failure. Smaller communities probably have only two or three such farmers. Often they have such high prestige, and are active in formal organizations beyond their communities. Most receive their information directly from researchers and subscribe to numerous magazines and journals. They legitimize the innovation in the minds of other farmers who look to them for new concepts.

Early adopters--These farmers usually participate in more organized programs in the community and are viewed as leaders. They also tend to read more publications and are next in line to accept new ideas.

The majority--those in this group are usually less active in organizational work, and need more incentive to adopt new ideas

Late adopters--These usually rely on neighboring farmers for information and are the last to update management ideas and equipment. They do so only after these have been on the market and have been proven successful. The disadvantages of this way of thinking is of course the time and money spent using obsolete ideas and equipment (p. 74).

Summary

There several sources of information however, extension and magazines stand out as the dominant delivery methods of relevant messages for dairy farmers. In a study done by the university of Wisconsin Center of Dairy Profitability, researchers found that dairy producers like to receive timely dairy management and related information in several ways including newsletters magazines and farm tours. Riesenber and Gor (1989) found the age of farmers effected the way information should be delivered. Once information is in the hands of the clientele the adoption process becomes a major factor. The adoption process is a series of interrelated mental activities that include five distinguishable stages; awareness, information, evaluation, trial, and adoption.

The Cooperative Extension Service personnel must recognize that it is a major source of information and must rely on a total communication process. This is accomplished by recognizing sources of information, discovering how farmers would like

to receive information, and fully understanding the adoption process. Once the Cooperative Extension Service has taken all of the above stated factors into consideration, then it can truly serve its clientele.

CHAPTER III

METHODOLOGY

Introduction

The purpose of this chapter was to describe the methods and procedures used in conducting this research study. To meet the purpose and objectives of this study, a population was determined and a survey instrument developed for data collection

Purpose of the Study

The purpose of this study was to assess information needs, perceived importance, and preference of delivery methods among selected dairy producers in Oklahoma.

Objectives

To attain the above stated purpose, the following objectives were established:

- (1) Assess the importance of selected dairy industry issues as perceived by the respondents;
- (2) determine selected demographic characteristics of the respondents;
- (3) determine producer preferences regarding delivery of information;
- (4) determine selected sources of technology, information, advice or assistance utilized by selected Oklahoma dairy producers.

Population

The population of this study from which the purposive sample was drawn included selected dairy operators who were current members of the Oklahoma Producers Associated Milk Producers, Inc. (AMPI) producer participants at Dairy Herd Improvement Association (DHIA) district meetings, and participants at the OSU's Annual Dairy Day activities. The purposive sample involved respondents from 87 dairy operations in 28 counties across Oklahoma (Figure 1).

Institutional Review Board

Federal regulations and Oklahoma State University policy require approval of all research studies that involve human subjects before investigators can begin their research. This study was granted permission to continue and was assigned the following IRB number: AG-96-015 (Appendix A).

Preparation of the Instrument

It was determined that a structured questionnaire would provide the highest response rate and the most accurate and usable information. An instrument developed by the University of Wisconsin Center for Dairy Profitability in 1994 was modified to determine the needs and concerns of selected Oklahoma Dairy Producers. The questionnaire was a combination open and closed form survey to elicit demographic information about the respondents; the importance of selected issues information needs

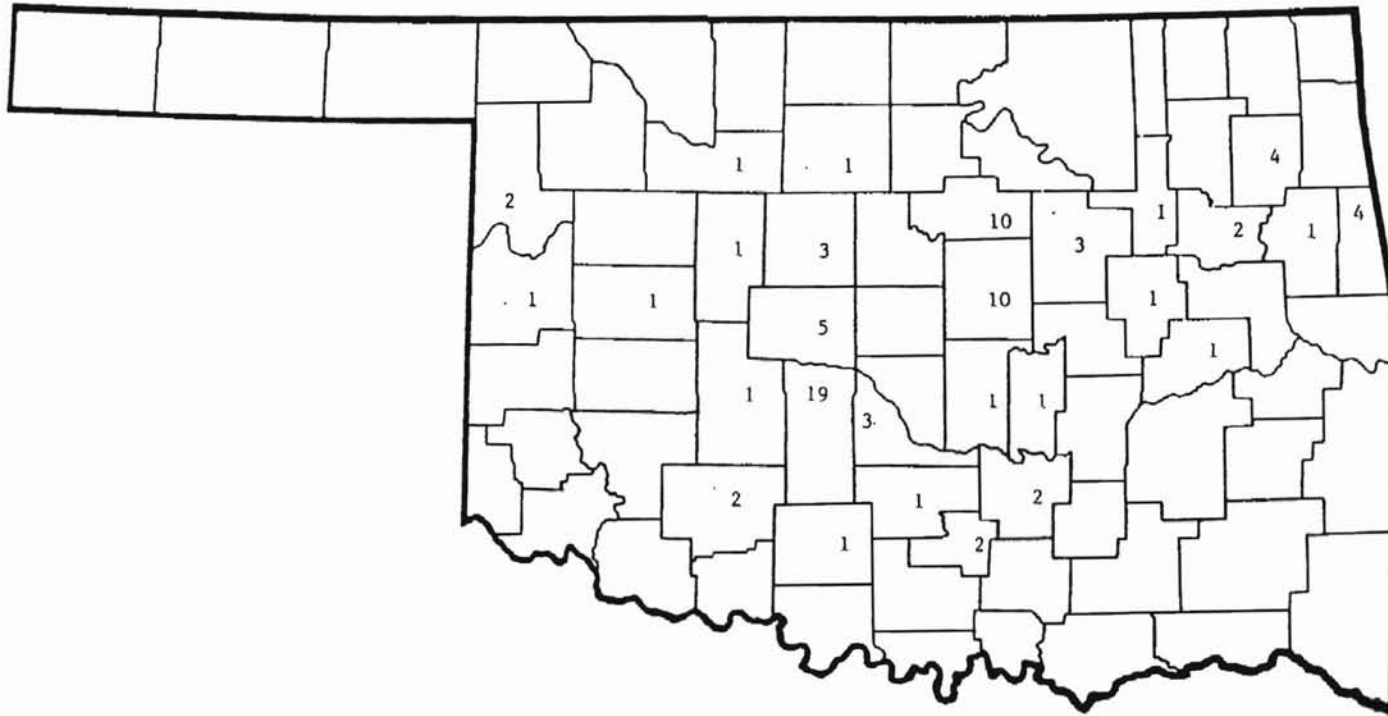


Figure 1. Geographic Location of the 87 Dairy Producer Respondents.

pertinent to the dairy industry, information sources, and delivery methods indicating how the respondents would like to receive information. Part one of the instrument consisted of five selected production related issues impacting the dairy industry. The major issues addressed 48 selected factors ranging from entering and exiting the dairy business to the storage and use of agricultural chemicals.

Part two of the survey included 12 items addressing producers demographics, while part three was directed toward six questions related to information sources; consultation provided by Cooperative Extension, the dairy industry and private entities; educational meetings; delivery of information; and electronic hardware available to assist producers in the management of their operations. However, part four consisted five open-response items designed to ascertain producer concerns regarding the future of the industry, the family farm concept, educational needs, and perceived effectiveness of assistance as a result of OSU's mission of Research, Extension, Instruction. Key (1994) pointed out the advantages of a questionnaire included (1) the economy of expense and time in collecting information over a variety of locations; and (2) uniformity of questions presented to potential respondents.

Collection of the Data

In a personal interview, Stout (1996) indicated distributing information by milk transportation operators was an effective and cost efficient method of delivery. As a result the survey instruments were color coded and delivered to route operators for delivery to producers within specific milk producing areas across the state. The survey instrument along with a stamped-addresses envelope to return completed surveys was delivered by

the milk route operators during early march 1996 to dairy producers on their respective routes. A follow-up of non-respondents was conducted during district DHIA meetings and OSU's Annual Dairy Day.

Analysis of Data

Since this was a descriptive study, the statistical measures of central tendency and variability were used to describe the data which included means, medians, modes, ranges and standard deviations. In addition, numerical frequencies, percentages, rank orders, and qualitative responses were also used to illustrate the data acquired in conducting this study. Key (1996) in addressing descriptive statistics in his Research Design class pointed out:

The primary use of descriptive statistics is to describe information or data through the use of numbers. The characteristics of groups of numbers representing information or data are called descriptive statistics (p. 144).

While Runyon-Habor (1971) specifically emphasized two factors among many frequency distributions which statisticians have developed quantitative methods for describing:

1) Frequently data cluster around a central value which is between the two extreme values of the variable under study. 2) The data tend to be dispersed and distributed about the central value in a way which can be specified quantitatively (p.57).

To determine mean scores from the responses ascertained from the selected 48 items identified, within the five issues representing Financial and Farm Mgt., Milk pricing and policy, Dairy Herd Mgt., Facilities and Equipment, and Environmental Controls, a "Likert-type" scale was used. As a result numerical values and real limits were established in order to describe the data presented in a logical, sequential manner. The numerical

values assigned the five categories dealing with levels of importance were: “Extremely Important” (EI)=5, “Very Important” (VI)=4, “Important” (I)=3, “Somewhat Important” (SWI)=2, and “Not Important” (NI)=1. Therefore, real limits were established and the corresponding interpretation of the range in values with specific categories of agreement were shown in Table I.

TABLE I
REAL LIMITS AND CATEGORIES OF AGREEMENT
USING A "LIKERT-TYPE" ARRANGEMENT

Category of Agreement	Range of Values
Extremely Important	4.50 - 5.00
Very Important	3.50 - 4.49
Important	2.50 - 3.49
Somewhat Important	1.50 - 2.49
Not Important	1.00 - 1.49

CHAPTER IV

PRESENTATION AND ANALYSIS OF DATA

Introduction

The purpose of this chapter was to report the results from the survey instrument used to conduct the study. The purpose of the study was to assess the information needs and preferences of delivery among selected dairy producers in Oklahoma.

The scope of this study included selected dairy producers from across the state. The study population was derived from participant/member directory or list in the Oklahoma Division of AMPI Marketing Group, DHIA members, and the annual OSU dairy day participants. A survey instrument with a combination open and closed response form was used to elicit information from the selected dairy producers.

Findings of the Study

Table II was constructed to present a summary of Dairy Producers perceptions concerning levels of importance by selected financial and farm business management issues. The five levels of importance were as follows: Extremely Important (EI)=5, Very Important (VI)=4, Important (I)=3, Somewhat Important (SWI)=2, and Not Important (NI)=1. The top three issues identified by the respondents were “debt management”, “Financial record keeping & analysis,” and “personnel management.”

TABLE II

A SUMMARY OF DAIRY PRODUCERS PERCEPTIONS CONCERNING LEVELS OF IMPORTANCE BY
SELECTED FINANCIAL AND FARM BUSINESS MANAGEMENT ISSUES

Selected Issues	Levels Of Importance										N=87	Mean	SD
	EI		VI		I		SWI		NI				
	N	%	N	%	N	%	N	%	N	%			
Dairy Farming Entry & Exit	11	13.10	17	20.20	34	40.50	12	14.30	10	11.90	84	3.08	1.16
Property Tax Reform	39	44.80	20	23	17	19.50	7	8	4	4.60	87	3.95	1.18
Personnel Management	36	41.40	22	25.30	21	24.10	7	8	1	1.10	87	3.97	1.04
Employment Skill Training	11	12.60	24	27.60	34	39.10	12	13.80	6	6.90	87	3.25	1.07
Business Mgt. Skill Development	34	40	20	23.50	26	30.60	3	3.50	2	2.40	85	3.95	1.32
Health Insurance	31	35.60	14	16.10	27	31	6	6.90	9	10.30	87	3.60	0.95
Debt Management	51	58.60	21	24.10	11	12.60	2	2.30	2	2.30	87	4.34	1.17
Equity Financing Options	23	28.40	26	32.10	21	25.90	5	6.20	6	7.40	81	3.70	1.12
Farm Business Plan Developing	23	27.70	31	37.30	17	20.50	8	9.60	4	4.80	83	3.73	1.16
Dairy Expansion Planning Guidelines	15	17.20	26	29.90	27	31	12	13.80	7	8	87	3.34	0.94
Financial Record Keeping & Analysis	43	50	29	33.70	8	9.30	5	5.80	1	1.20	86	4.26	1.18
Enterprise Analysis	16	19	22	26.20	23	27.40	18	21.40	5	6	84	3.31	1.14
Contract Production	6	6.90	17	19.50	37	42.50	12	13.80	15	17.20	87	2.85	1.31
Estate Planning	27	31	19	21.80	23	26.40	9	10.30	9	10.30	87	3.53	1.12
Off Farm Investment Analysis	4	4.60	15	17.20	33	37.90	18	20.70	17	19.50	87	2.67	1.04
Farm Business Arrangements	12	14.30	17	20.20	42	50	7	8.30	6	7.10	84	3.26	1.01
Other	3	75		1	25							4.50	

“Debt management” as shown in Table II was rated the top issue facing the respondents with a mean score of 4.34. A breakdown of the 81 respondents showed the following responses: 51 (58.6%) producers perceived that “debt management” was “extremely important,” to their operations, while 21 (24.1%) stated it was “very important,” and 11 (12.6%) described it as important. However, two (2.3%) respondents stated that “debt management” was only “somewhat important” and two (2.3%) expressed that it was “not important” in their opinions.

“Financial record keeping & analysis” as illustrated in Table II was rated second highest by the respondents with a mean score of 4.26. A breakdown of the 86 respondents revealed: 43 (50%) producers indicated “financial record keeping & analysis” were “extremely important” to their operations, while 29 (33.7%) stated it was “very important,” and eight (9.3%) described “financial record keeping & analysis” as “important”. Whereas five (5.8%) stated it was “somewhat important” and only one (1.2%) said it was “not important.”

“Personnel management” as revealed in Table II had the third highest rating among producer respondents with a mean score of 3.97. A breakdown of the 87 respondents disclosed that 36 (41.4%) producers indicated “personnel management” was “extremely important” to their operations, while 22 (25.3%) stated it was “very important,” and 21 (24.1%) revealed it was “important.” However, seven (8%) stated that “personnel management” was only “somewhat important,” and one (1.1%) felt it was “not important.”

The mean scores for the remaining issues included property tax reform 3.95, business management skill development 3.95, farm business plan development 3.73, equity

financing options 3.70, health insurance 3.60, estate planning 3.53, enterprise analysis 3.36, dairy expansion planning guidelines 3.34, farm business arrangements 3.26, employment skill training 3.25, dairy farming entry and exit 3.08, contract operations production 2.85, and off-farm investment analysis 2.67.

Table III was developed to present a summary of dairy producers' perceptions concerning market strategies and their levels of importance by selected pricing and policy issues. The top three issues rated by producers were "multiple component pricing," "federal dairy policy" and "federal milk marketing order reform."

"Multiple component pricing" as shown in Table III was highest rated topic by the respondents with a mean score of 4.08. A breakdown of the 86 respondents revealed the following: 43 (50%) producers indicated "multiple component pricing" was "extremely important" to their operation, while 18 (20.9%) stated it was "very important," and 17 (19.8%) described multiple pricing "important." However, five (5.8%) indicated that "multiple component pricing" was only somewhat important and three (3.5%) said it was 'not important.'

"Federal dairy policy" as revealed in Table III was rated the second highest issue by the respondents with a mean score of 3.91. A breakdown of the 86 respondents showed that 34 (39.5%) producers perceived "federal dairy policy" was "extremely important" to their operations, where as 23 (26.7%) stated it was "very important," and 20 (23.3%) described "federal dairy policy" as "important." Only five (5.8%) respondents stated that "federal dairy policy" was "somewhat important."

The "Federal milk marketing order" as illustrated in Table III was rated third highest by respondents with a mean score of 3.8. A breakdown of the 85 respondents

TABLE III

A SUMMARY OF DAIRY PRODUCERS PERCEPTIONS CONCERNING MARKETING STRATEGIES AND THEIR LEVELS OF IMPORTANCE BY SELECTED PRICING AND POLICY ISSUES

Selected Issues	Levels of Importance										N=87	Mean	SD
	EI		VI		I		SWI		NI				
	N	%	N	%	N	%	N	%	N	%			
Federal Milk Marketing Order Reform	30	35.3	19	22.4	27	31.8	7	8.2	2	2.4	85	3.8	1.09
Multiple Component Pricing	43	50	18	20.9	17	19.8	5	5.8	3	3.5	86	4.08	1.12
Use of Dairy Futures and Options	14	16.3	16	18.6	29	33.7	13	15.1	14	16.3	86	3.03	1.29
Federal Dairy Policy	34	39.5	23	23.7	20	23.3	5	5.8	5	4.7	86	3.91	1.13
Other	1	16.7	1	16.7	3	50			1	16.7	6	3.17	1.33

disclosed, 30 (35.3%) producers believed the “federal milk marketing order reform” was “extremely important” to their operations, while 19 (22.4%) stated it was “very important,” and 27 (31.8%) reported “federal milk marketing order reform” was “important.” However, seven (8.2%) producers perceived it was “somewhat important” and only two (2.4%) stated it was “not important.”

The mean score for the remaining issue was “use of dairy futures and options” was 3.03.

Table IV was designed to present a summary of dairy producers perceptions concerning levels of importance by selected dairy herd management issues. The top three issues revealed by producers were “feeding and nutrition,” “mastitis,” and “milk quality.”

“Feeding and nutrition” as shown in Table IV was rated highest by the respondents with a mean score of 4.68. A breakdown of the 87 respondents disclosed that 65 (73.6%) producers indicated “feeding and nutrition” were “extremely important” to their operations, while 19 (21.8%) stated it was “very important,” and four (4.6%) indicated that “feeding and nutrition” were “important.”

“Mastitis” as shown in Table IV was rated second highest by the respondents with a mean score of 4.63. A breakdown of the 86 respondents revealed 62 (72.1%) producers reported “mastitis” was “extremely important” to their operations, while 16 (18.6%) stated it was “very important,” and eight (9.3%) described “mastitis” as “important.”

“Milk quality” as shown in Table IV was the third highest rated factor among respondents with a mean score of 4.54. A breakdown of the 87 respondents disclosed 57 (65.5%) producers indicated “milk quality” was “extremely important” to their operations,

TABLE IV

A SUMMARY OF DAIRY PRODUCERS PERCEPTIONS CONCERNING LEVELS
OF IMPORTANCE BY SELECTED DAIRY HERD MANAGEMENT ISSUES

Selected Issues	Levels of Importance										N=87	Mean	SD
	EI		VI		I		SWI		NI				
	N	%	N	%	N	%	N	%	N	%			
Record Keeping Analysis	48	56.5	26	30.6	11	12.9	0	0.0	0	0.0	85	4.44	1.16
Milk Quality	57	65.5	22	25.3	7	8.0	5	5.8	1	1.1	87	4.54	0.74
Food Safety	37	43.0	27	31.4	16	18.6	5	5.8	1	1.2	86	4.09	0.98
Feeding and Nutrition	65	73.6	19	21.8	4	4.6	0	0.0	0	0.0	87	4.68	0.55
Animal Welfare	28	32.2	9	10.3	30	34.5	15	17.2	5	5.4	87	3.46	1.26
Mastitis	62	72.1	16	18.6	8	9.3	0	0.0	0	0.0	86	4.63	0.65
Artificial Insemination	34	39.1	23	26.4	24	27.6	5	5.7	1	1.1	87	3.96	1.01
Genetic Improvement	41	47.1	28	32.2	11	12.6	5	5.7	1	1.1	87	4.16	1.01
Intensive Grazing	26	31.0	23	27.4	22	26.2	7	8.3	6	7.1	84	3.67	1.21
Other	2	33.3	3	50.0	1	16.7	0	0.0	0	0.0	6	4.17	0.75

while 22 (25.3%) stated it was “very important” and seven (8%) revealed it was “important.” However, one (1.3%) stated the “milk quality” was “not important.

The mean scores for the remaining issues as shown in Table IV were “record keeping analysis” 4.44, “genetic improvement” 4.16, “food safety” 4.09, “artificial insemination” 3.96, “intensive grazing” 3.67, and “animal welfare” 3.46.

Table V was developed to present a summary of dairy producers’ perceptions concerning levels of importance concerning issues relative to selected facilities and equipment issues. The top three issues rated by producers were “feeding handling and storage,” “manure handling” and “milking system trouble-shooting.”

“Feeding handling and storage” as shown in Table V was rated highest by the respondents with a mean score of 3.97. A breakdown of the 87 respondents revealed 34 (39.1%) producers reported “feeding, handling and storage” were “extremely important” to their operations, while 25 (29%) stated it was “very important” and 21 (24.1%) described “feeding, handling and storage” was “important.” However, five (5.8%) stated it was only “somewhat important” and two (2.3%) said it was “not important.”

“Manure handling” as revealed in Table V was rated as the second highest issue by the respondents with a mean score of 3.9. A breakdown of the 87 respondents indicated “manure handling” was “extremely important” to 28 (32.2%) producers in their operations, where as, 30 (35%) stated it was “very important” and 23 (26.4%) described it was “important.” On the other hand, only four (4.6%) respondents state that “manure handling” was “somewhat important” and two (2.3%) producers responded “not important.”

TABLE V

A SUMMARY OF DAIRY PRODUCERS PERCEPTIONS CONCERNING LEVELS OF IMPORTANCE
BY SELECTED FACILITIES AND EQUIPMENT ISSUES

Selected Issues	Levels Of Importance										N=87	Mean	SD
	EI		VI		I		SWI		NI				
	N	%	N	%	N	%	N	%	N	%			
Milking System Design	12	13.8	27	31	31	35.6	11	12.6	6	6.9	87	3.32	1.08
Milking System Trouble-shooting	35	40.2	22	25.3	21	24.1	5	5.7	4	4.6	87	3.9	1.14
Housing Design	13	15.1	25	29.1	26	30.2	13	15.1	9	10.5	87	3.23	1.19
Farm Safety	32	36.8	23	26.4	24	27.6	6	6.9	2	2.3	87	3.89	1.06
Manure Handling	28	32.2	30	34.5	23	26.4	4	4.6	2	2.3	87	3.9	0.99
Farmstead Planning	13	14.9	24	27.6	30	34.5	15	17.2	5	5.7	87	3.29	1.1
Feeding, Handling, and Storage	34	39.1	25	28.7	21	24.1	5	5.7	2	2.3	87	3.97	1.04
Stray Voltage Analysis	31	35.6	19	21.8	29	33.3	4	4.6	4	4.6	87	3.79	1.12
Other	2	66.7			1	33.3					3	4.33	1.15

“Milking system trouble-shooting” as illustrated in Table V was rated third highest by respondents with a mean score of 3.9. A breakdown of the 87 respondents disclosed 35 (40.2%) producers respondents believed “milking system trouble-shooting” was “extremely important” to their operations, while 22 (25%) stated it was “very important,” and 21 (24.1%) reported “milking system trouble-shooting” was “important.” However, five (5.7%) producers stated it was “somewhat important” and only four (4.6%) stated trouble-shooting was “not important.”

The mean scores for the remaining issues as shown in Table V were “farm safety,” 3.89, “stray voltage analysis,” 3.79, “milking system design,” 3.32, “farmstead planning,” 3.29 and “housing design,” 3.23.

Table VI was developed to present a summary of dairy producer perceptions regarding levels of importance by selected “environmental control” issues. The top three topics identified by the respondents were “water quality,” “chemical storage and usage” and “manure nutrient management.”

“Water quality” as shown in Table VI was rated highest by the respondents with a mean score of 3.93. A breakdown of 87 participants showed 29 (33.3%) producers indicating “water quality” as being “extremely important” to their operations, while 34 (39.1%) stated it was “very important,” and 17 (19.5%) described it as “important.” However, three (3.4%) respondents stated that “water quality” was only “somewhat important” and four (4.6%) expressed that it was “not important.”

“Chemical storage/usage” as shown in Table VI was ranked the second highest factor by the respondents with a mean score 3.47. A breakdown of the 87 respondents revealed 20 (23%) producers indicating “chemical storage/usage” was an “extremely

TABLE VI

A SUMMARY OF DAIRY PRODUCERS PERCEPTIONS CONCERNING LEVELS OF IMPORTANCE
BY SELECTED ENVIRONMENTAL CONTROL ISSUES

Selected Issues	Levels Of Importance										N=87	Mean	SD
	EI		VI		I		SWI		NI				
	N	%	N	%	N	%	N	%	N	%			
Crop Record Keeping	15	17.2	19	21.8	36	41.4	12	13.8	5	5.7	87	3.31	1.09
Manure Nutrient Management	12	13.8	30	34.5	29	33.3	10	11.5	6	6.9	87	3.37	1.07
Land Use and Zoning	11	12.9	25	29.4	29	34.1	12	14.1	8	9.4	87	3.22	1.13
Water Quality	29	33.3	34	39.1	17	19.5	3	3.4	4	4.6	87	3.93	1.04
Air quality / Odor Control	14	16.1	28	32.2	26	29.9	14	16.1	5	5.7	87	3.37	1.11
Chemical Storage / Usage	20	23	20	23	35	40.2	5	5.7	7	8	87	3.47	1.14
Other	1	50			1	50					2	4	1.66

important” concern in their operations, while 20 (23%) stated it was “very important,” and 35 (40.2%) described “chemical storage/usage” as “important.” Where as, five (5.7%) stated it was “somewhat important” and seven (8%) state it was “not important.”

“Manure nutrient management” as shown in Table VI had the third highest rating among respondents with a mean score of 3.37. A breakdown of the 87 respondents disclosed the following responses: 12 (13.8%) producers indicated “manure nutrient management” was “extremely important” to their operations, while 30 (34.5%) stated it was “very important,” and 27 (33.3%) producers revealed it was “important.” Nevertheless, 10 (11.5%) indicated “manure nutrient management” was only “somewhat important” and six (6.9%) stated it was “not important.”

The mean scores for the remaining issues as shown in Table VI were “air quality/odor control,” 3.37, “crop record keeping and analysis,” 3.31, and “land use and zoning,” 3.22.

Table VII was constructed to present a distribution of selected dairy producers by county. The respondents in the study represented dairy operations in 28 counties. The top three counties in relation to the number of respondents were Grady, Lincoln and Payne. Out of 88 responses Grady had 19 (21.6%), Lincoln and Payne Counties both had 10 (11.4%) each. Other counties included: Adair, Blaine, Caddo, Canadian, Cherokee, Commanche, Creek, Custer, Ellis, Garfield, Garvin, Kingfisher, Mayes, Major, McClain, McIntosh, Murray, Okmulgee, Pontotoc, Pottawattomie, Roger Mills, Seminole, Stephens, Tulsa and Wagoner.

The data reported in Table VIII illustrated a distribution of selected dairy producers by the “number of families involved in dairy operations.” Forty-three (51.2%)

TABLE VII
A DISTRIBUTION OF SELECTED
DAIRY PRODUCERS BY COUNTY

County	N=85	Percent (%)
Adair	4	4.7
Blaine	1	1.2
Caddo	1	1.2
Canadian	5	5.9
Cherokee	1	1.2
Commanche	2	2.4
Creek	3	3.5
Custer	1	1.2
Ellis	2	2.4
Garfield	1	1.2
Garvin	1	1.2
Grady	19	22.4
Kingfisher	3	3.5
Lincoln	10	11.8
Mayes	4	4.7
Major	1	1.2
McClain	3	3.5
McIntosh	1	1.2
Murray	2	2.4
Okmulgee	1	1.2
Payne	10	11.8
Pontotoc	2	2.4
Pottawattomie	1	1.2
Roger Mills	1	1.2
Seminole	1	1.2
Stephens	1	1.2
Tulsa	1	1.2
Wagoner	2	2.4
Total	85	100

TABLE VIII

A DISTRIBUTION OF SELECTED DAIRY PRODUCERS BY NUMBER
OF FAMILIES INVOLVED IN THE DAIRY OPERATION

Number of Families	N=84	Percent (%)
One	43	51.2
Two	17	20.2
Three	19	22.6
Four	4	4.8
Five	1	1.2
Total	84	100

of the dairy producers were “single family operations,” while 17 (20.2%) producers were involved in “two family operations,” and 19 (22.6%) were involved in a “three family dairy operations.” However, four (4.8%) respondents were involved in a “four family operation” and one (1.2%) indicated they were involved in a “five family operation.”

The data in Table IX revealed the selected producers that were middle aged with 66 (75.8%) being between 31 and 60 years of age. In addition, 18 (20.7%) of the respondents ranged in age from 61 to 82 years of age, while only three (3.5%) were 30 years of age or less. As a group, the dairy producers had a median age of 49 years and an average age of 49.5 years, while the most frequent age reported among the producers was 50.

The data illustrated in Table X revealed the respondents by whether or not the respondents “employed hired labor.” The results indicated “Yes,” 73 (83.9%) of the respondents “employed hired labor,” while 14 (16.1%) did not.

The data shown in Table XI revealed the “number of full time employees.” Of the 87 respondents 41 (47.1%) stated they hired no “full time employees,” while 21 (24.1%) hired “one full time employee” and 15 (17.2%) hire “two full time employees.” The three to seven full time employee range showed a noticeable drop off as two (2.3%) hired “three full time employees,” and two (2.3%) hired “five full time employees.” Surprisingly, four (4.6%) producer respondents hired “six full time employees” and one (1.1%) hired “seven full time employees.”

Table XII was developed to illustrate the number of part time employees. Of the 87 respondents, 35 (40.2%) producers hired “no part time help,” while 33 (37.9%) respondents hired “one part time employee,” and 15 (17.2%) producers employed “two

TABLE IX
A DISTRIBUTION OF PRODUCERS BY AGE

Age	N=87	Percent %
< 31 years of age	3	3.5
31 - 40	23	26.4
41 - 50	24	27.6
51 - 60	19	21.8
61 - 70	15	17.2
71 - 80	2	2.3
> 80 years of age	1	1.2
Total	87	100

TABLE X
A DISTRIBUTION OF SELECTED DAIRY PRODUCERS BY
WHETHER OR NOT THEY EMPLOYED HIRED LABOR

Employed Hired Help	N=87	Percent %
Yes	73	83.9
No	14	16.1
Total	87	100

TABLE XI
A DISTRIBUTION OF SELECTED DAIRY PRODUCERS REGARDING
NUMBER OF FULL TIME EMPLOYEES

Number of Full Time Employees	N=87	Percent %
Zero	41	47.1
One	21	24.1
Two	15	17.2
Three	2	2.3
Four	1	1.1
Five	2	2.3
Six	4	4.6
Seven	1	1.1
Total	87	100

TABLE XII
A DISTRIBUTION OF SELECTED DAIRY PRODUCERS CONCERNING
NUMBER OF PART-TIME EMPLOYEES

Number of Part-time Employees	N=87	Percent %
Zero	35	40.2
One	33	37.9
Two	15	17.2
Three	3	3.4
Four	0	0
Five	0	0
Six	1	1.1
Total	87	100

part time workers.” Furthermore, three (3.4%) respondents stated they hired “three part time employees” and one (1.1%) producer employed “six part time employees.”

The data revealed in Table XIII grouped the respondents by their membership in DHIA. Fifty-nine (67.8%) of the producers said “Yes” they were members of DHIA, while 19 (21.8%) said “No” they were not members of DHIA. Nine respondents (10.4%) indicated they had previously been involved as a member producer in DHIA.

The data in Table XIV indicated a distribution of cropland reported among producer respondents by number of tiable acres operated. Sixty-seven (77%) of the dairy producers operated less than 500 acres of tiable cropland, while nine (10.3%) operated 501 to 1000 acres, and eight (9.2%) had 1001 to 1500 acres of cropland. Furthermore, three (3.5%) of the producers operated 1501 to 2000 acres of tiable cropland.

Table XV illustrated a distribution of rangeland reported among producer by number of acres operated. Sixty-seven (77%) of the dairy producers operated 500 or less acres rangeland , while 12 (13.8%) producers had 501-1000 acres on operation. However, one (1.1%) respondent operated 1501-2000 acres and 3 (3.5%) had 2001-2500 acres of rangeland.

The data shown in Table XVI revealed a summary of producers plans concerning past, present, and future estimates of herd size over time. The 87 respondents indicated that in 1989 the estimated number of cows was revealed by a mean score of 90.6, while in 1996 producers stated their estimate herd size was 125.8, and in 1999 the number of cows in production estimated by producers is 144.7. Stout (1996) stated “in the last 30 years the average increase in herd size was five head per year which is consistent with USDA

TABLE XIII

A DISTRIBUTION OF PRODUCER RESPONDENTS BY DHIA MEMBERSHIP

Membership	Frequency (N=87)	Percent %
Yes	59	67.8
No	19	21.8
Previous	9	10.4
Total	87	100

TABLE XIV

A DISTRIBUTION OF CROPLAND REPORTED AMONG PRODUCERS
BY NUMBER OF TILABLE ACRES OPERATED

Number of Acres	Frequency (N=87)	Percent %
500 or less	67	77
501 - 1000	9	10.3
1001 - 1500	8	9.2
1501 - 2000	3	3.5
Total	87	100

TABLE XV
A DISTRIBUTION OF RANGELAND REPORTED AMONG PRODUCERS
BY NUMBER OF ACRES

Number of Acres	Frequency (N=87)	Percent %
500 or less	67	77
501 - 1000	12	13.8
1001 - 1500	4	4.6
1501 - 2000	1	1.1
2001 - 2500	3	3.5
Total	87	100

TABLE XVI
A SUMMARY OF PRODUCERS PLANS CONCERNING PAST, PRESENT
AND FUTURE ESTIMATES OF HERD SIZE OVER TIME

Time Frame	Year	Estimate Herd Size
Past	1989	90.6
Present	1996	125.8
Future	1999	144.7

data.” In this study from 1989 to 1996 the average gain per year in herd size was five head and from 1996 to 1997 the average herd expansion was also five head per year.

Table XVII was constructed to illustrate a distribution of producer respondents by estimated percentage of cows currently artificially inseminated. Of the 87 respondents, 20 (23%) stated they artificially inseminated less than 20% of cows bred, while only two (2.3%) of producers artificially inseminated 21-40% of cows, and 13 (14.9) artificially inseminated 61-80% and 45 (51.7%) stated they artificially inseminated 81% or more cows bred.

The data shown in Table XVIII a distribution of producer respondents by estimated percentage of heifers currently artificially inseminated. Out of the 87 respondents, 31 (36%) stated they artificially inseminated less than 20% heifers bred, while only one (1%) artificially inseminated 21-40% heifers and 10 (11%) used artificial insemination to breed 41-60% of their heifers. However, 13 (15%) producers artificially inseminated 61-80% and 32 (37%) respondents indicated they artificially inseminated 81% or more heifers.

Table XIX was developed to present a summary of sources dairy producers used for receiving updated information and consultation regarding their dairy operations. The respondents were asked to determine whether Extension, Private Sector or Industry consultants provided update information and consultation for 12 selected operational areas. The private sector ranked first in eight of the 12 operational areas which included; “herd management,” 31 (35.6%), “employer recruiter,” 32 (36.8%), “financial consultant,” 46 (52.9%), “legal consultant,” 49 (56.3%), “tax consultant,” 50 (57.5%), “routine vet consultant,” 55 (63.2%), “accountant,” 54 (62.1%) and “commodity marketing.”

TABLE XVII

A DISTRIBUTION OF PRODUCER RESPONDENTS BY ESTIMATED
PERCENTAGE OF COWS CURRENTLY ARTIFICALLY INSEMINATED

Percentage of Cows	Frequency (N=87)	Percent %
less than 20%	20	23
21 - 40%	2	2.3
41 - 60%	13	14.9
61 - 80%	7	8.1
81% or more	45	51.7
Total	87	100

TABLE XVIII

A DISTRIBUTION OF PRODUCER RESPONDENTS BY ESTIMATED
PERCENTAGE OF HEIFERS CURRENTLY ARTIFICALLY INSEMINATED

Percentage of Heifers	Frequency (N=87)	Percent %
less than 20%	31	35.7
21 - 40%	1	1.1
41 - 60%	10	11.5
61 - 80%	13	14.9
81% or more	32	36.8
Total	87	100

TABLE XIX

A DISTRIBUTION OF SELECTED DAIRY PRODUCERS CONCERNING THE SOURCE OF UPDATE INFORMATION AND CONSULTATION

Update Information or Consultation	Extension		Private		Industry	
	N=87	%	N=87	%	N=87	%
Herd Management	25	28.7	31	35.6	14	16.1
Nutrition	14	16.1	25	28.7	37	42.5
Employer Recruiter	1	1.1	32	36.8	4	4.6
Financial	1	1.1	46	52.9	7	8.1
Legal Consultant	2	2.3	49	56.3	7	8.1
Crop Consultant	31	35.6	17	19.5	15	17.2
Tax Consultant	5	5.7	50	57.5	11	12.6
Accountant	1	1.1	54	62.1	10	11.5
Routine Vet	6	6.9	55	63.2	15	17.2
Commodity Marketing	8	9.4	23	26.4	21	24.1
Milk Purchasing	1	1.1	9	10.3	46	52.9
Facilities	18	20.7	20	23.1	22	25.3

Producer respondents indicated in three of the 12 operational areas of “nutrition,” 37 (42.5%), “milk purchasing,” 46 (52.9%) and “facilities,” 22 (25.3%), dairy industry representatives were ranked as their first choice for updating information and consultation.

Extension rated first in one of the twelve operational area which was “crop consulting” with 31 (35.6%) producers indicating that cooperative extension was their primary source of information.

Table XX was designed to indicate the technology available or will be available for producers to use in their dairy operations. The top five technology items used by the producer respondents in this study were “VCR,” 63 (83.9%), “computer,” 56 (64.4%), “cellular phone,” 45 (51.7%), CD ROM 30 (34.5%) and “computer modem,” 28 (32.2%).

Table XXI was developed to reveal a distribution of producer respondents by number of educational meetings attended each year. Of the 87 respondents, 49 (56.3%) attended 3 meetings or less each year. Thirteen (14.9%) attended no educational meetings and 36 (41.4%) went to 1-3 meetings each year. However, 26 (29.9%) producers attend 4-6 educational meetings, while only four (4.6%) attend 7-9 meetings and eight (9.2%) respondents stated they attended 10-12 educational meetings each year.

The data shown in Table XXII revealed a distribution of producer respondents by percentage of educational meeting affiliated with OSU. A breakdown of 87 respondents revealed, 14 (16.1%) producers attended 25% or less educational meetings affiliated with OSU, while 18 (20.7%) respondents attend 26-50% educational meetings with OSU and 15 (17.2%) producers attend 51-75% educational meetings affiliated with OSU. However 27 (31.1%) respondents attend 76-100% educational meetings affiliated with OSU and 13 (14.9%) respondents stated they attend no meetings.

TABLE XX

A DISTRIBUTION OF SELECTED DAIRY PRODUCERS WHO OWN
OR PLAN TO OWN COMMUNICATION TECHNOLOGY

Technology	N=87	Percent %
VCR	73	83.9
Computer	56	64.4
Cellular Phone	45	51.7
CD Rom	30	34.5
Computer Modem	28	32.2
Fax Machine	26	29.9
Satellite Dish	25	28.7
Cable TV	16	18.4
Two-way Radio	14	16.1
Pager	8	9.2

TABLE XXI

A DISTRIBUTION OF PRODUCER RESPONDENTS BY NUMBER OF
EDUCATIONAL MEETINGS ATTENDED DURING THE YEAR

Number of Meetings	Frequency (N=87)	Percent(%)
0	13	14.9
1-3	36	41.4
4-6	26	29.9
7-9	4	4.6
10-12	8	9.2
Total	87	100

TABLE XXII

A DISTRIBUTION OF SELECTED PRODUCER RESPONDENTS BY
PERCENTAGE OF EDUCATIONAL MEETINGS AFFILIATED
WITH OKLAHOMA STATE UNIVERSITY

Affiliated with OSU	Frequency (N=87)	Percentage (%)
25 or less	14	16.1
26-50	18	20.7
51-75	15	17.2
76-100	27	31.1
No Response	13	14.9
Total	87	100

Table XXIII was developed to show how dairy producers prefer to receive “dairy management and related information.” The respondents were asked to rank 12 delivery methods first to last. The top five delivery methods were “newsletter” with a mean score of 3.78, “magazine” 4.82, “one-on-one consultation,” 5.41, “one day meetings,” 5.52, and “farm tours,” 6.33.

Table XXIV was developed to illustrate the publications were regularly read by the 87 respondents. *Hoards Dairyman* led the way with 82 (94.3%) producers reading this publication regularly. Rounding out the top five was: *Dairyman's Digest*, 63 (83.9%), *Dairy Today*, 66 (75.9%), *Dairy Herd Management*, 65 (74.7%), and *Farm Journal*, (72.4%).

The respondents were asked five open ended questions: (1) List the top three concerns regarding the future of the Oklahoma dairy industry. (2) List the top three concerns regarding the future of your family farm. (3) What do you think are the major educational needs for Oklahoma dairy producers to help ensure competitiveness in the 21st century? (4) How can OSU research, instruction, and Extension most effectively help the Oklahoma dairy industry? (5) Respond to other concerns regarding the dairy industry today and its impact on your livelihood. The responses to the first four questions can be found in table form in Appendix D. The fifth open ended question had diverse comments that ranged from “New packaging and processing which enhances to have a longer shelf life for the product on the market.” To “Foreign imports being balanced.” These other responses can also be found in Appendix D.

TABLE XXIII

A DISTRIBUTION OF SELECTED DAIRY PRODUCERS PERCEPTIONS
CONCERNING THE RANK ORDER OF DISSEMINATING DAIRY
MANAGEMENT AND RELATED INFORMATION BY
METHODS OF DELIVERY

Delivery Methods	Mean Scores	Ranking
Newsletter	3.78	1
Magazine	4.82	2
One-on-One Consultation	5.41	3
One Day Meetings	5.52	4
Farm Tours	6.33	5
Videotape	7.21	6
Computer	8.57	7
Radio Program	9.10	8
Two Day Meetings	9.40	9
Satellite TV Program	9.47	10
Computer Bulletin Board	9.61	11
Other	11.25	12

TABLE XXIV

A DISTRIBUTION OF SELECTED DAIRY PRODUCERS BY PUBLICATION
WHICH ARE REGULARLY READ

Publication	Frequency (N=87)	Percent (%)
Hoard's Dairyman	82	94.3
Dairyman's Digest	73	83.9
Dairy Today	66	75.9
Dairy Herd Mgt.	65	74.7
Farm Journal	63	72.4
Farmers Stockman	58	66.7
Progressive Farmer	45	51.7
The Dairyman	35	40.2
Breed Journals	33	37.9
Successful Farming	25	28.7

CHAPTER V

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

Introduction

The Oklahoma dairy industry is faced with many problems including profitability and survival. However, most of the concerns have risen as a result of a lack of awareness and understanding regarding the complexity or potential of a particular practice or issue. Today's dairyman must learn to deal with the management of their operation using technology and sound management practices.

The purpose of this chapter was to summarize the study's procedures and findings relative to the purpose and objectives. Furthermore, this chapter will present the major findings, conclusions, and recommendations based upon the analysis of data collected and observations made in the process of the study.

Purpose

The purpose of this was to determine the priority needs of selected Oklahoma dairy producers.

Objectives

To attain the above stated purpose, the following objectives are established:

- (1) assess the importance of selected issues as perceived by the respondents;
- (2) determine selected demographic characteristics about the respondents; (3) determine producer preferences regarding delivery information; (4) determine selected sources of technology, information, advice or assistance utilized by selected Oklahoma dairy producers.

Procedures

The population of this study from which the purposive sample was drawn included selected dairy operators who were current members of the Oklahoma Division Associated Milk Producers, Inc. (AMPI), producer participants at Dairy Herd Improvement Association (DHIA) district meetings, and participants at the OSU's Annual Dairy Day activities. The purposive sample involved respondents from 87 dairy operations in 28 counties across Oklahoma.

It was determined that a structured questionnaire would provide the highest response rate and the most accurate and usable information. An instrument developed by the University of Wisconsin Center for Dairy Profitability in 1994 was modified to determine the needs and concerns of selected Oklahoma Dairy Producers. The questionnaire was a combination open and closed form survey to elicit demographic information about the respondents; the importance of selected issues information needs pertinent to the dairy industry, information sources, and delivery methods indicating how

the respondents would like to receive information. Part one of the instrument consisted of five selected production related issues impacting the dairy industry. The major issues addressed 48 selected factors ranging from entering and exiting the dairy business to the storage and use of agricultural chemicals.

Summary of the Major Findings

Objective One: Perceived Importance

of Selected Issues

Over 58 percent of the producer respondents in this study perceived “Debt Management” as being a major factor of importance. The respondents rated it as “extremely important” in the context of Financial and Farm Business Management issues with a mean score of 4.34. In addition; producer respondents saw “Financial Record-keeping and Analysis” as the second leading area of importance with 50 percent rating it as “very important” with an overall mean score of 4.26.

More than 70 percent of the producer respondents viewed “multiple component pricing” as either “extremely important” or “very important” when compared to the other factors which made up the issue of “Milk Pricing and Policy”. “Multiple component pricing” had a mean score of 1.12.

“Feeding and Nutrition” and “Controlling Mastitis” were the priority factors among the selected producer respondents. Almost 74 percent rated “Feeding and nutrition” as “extremely important” with a mean score 4.68 and a standard deviation of .55. In addition, “controlling mastitis” was the second ranking factor among “Dairy Herd

Management” issues with over 72 percent of the respondents expressing that it was an “extremely important” factor in “Dairy Herd Management” with a mean score 4.63.

Nearly 68 percent of the producers in this study perceived “Feeding, handling and storage” as being “extremely important” or “very important” to their operations regarding selected facilities and equipment issues. Furthermore, the respondents identified “manure handling” as the second leading factor with more than 32 percent rating it as being “extremely important,” while over 34 percent indicated the factor as “very important” with a mean score of 3.9 and a standard deviation of .99

Regarding Environmental Control Issues producer respondents saw “Water Quality” as the top priority with a mean score of 1.04. Over 74 percent of the producers revealed that “water quality” as either “extremely important” or “very important” issue.

Objective Two: Producer Demographics

Several demographic characteristics were obtained from the 87 dairymen in 28 counties across the state. Slightly less than 25 percent of the dairy producers were from Grady County. Almost one-tenth of were from Lincoln County and Payne County with over 11 percent each.

Over one-half of the producers indicated they were involved in a “one family operation”, with slightly under one-fourth reporting a “three family operation.”

Almost three-fourths of those participating were in the age category of 31-60. The top three age groups in descending order were: the 41-50 age group consisting of 27 percent; while there was over 26 percent in the 31-40 age range; and over 21 percent of the producers were in the 51-60 age group.

Nearly 84 percent of the dairy producers employed hired labor. Almost half of the participants indicated they did not hire full-time employees. However, nearly one-fourth of the dairy producers indicated they had one full time employee, while over 17 percent reported two employees. Over 95 percent of the producers indicated they had two or less part-time employees.

Over two-thirds (67.8 percent) reported they were DHIA members. Almost one-fourth were not members of DHIA.

Seventy-seven percent of the producer respondents operated 500 or less tailable acres and the same percentage of producers maintain 500 or less rangeland acres as part of their operations.

The estimated herd size reported by producer respondents in 1989 was slightly over 90, while in 1996 the estimated herd size increased to over 125, and the predicted herd size in 1999 rose to nearly 145.

Over 51 percent of the respondents reported they artificially inseminated 81 percent or more of their cows. Nearly 37 percent of the producers artificially inseminated 81 percent or more of their heifers. In addition, almost 36 percent of the respondents stated they artificially inseminated less than 20 percent of heifers in their operation.

Suprisingly, over 55 percent of the producer respondents reported they attended three or less educational meetings during the year. Whereas almost 15 percent of the producers attended no educational meetings and over 41 percent respondents attended only 1-3 educational meetings. Furthermore, slightly more than 31 percent of the producer respondents stated 76-100 percent of the educational meetings they attended were affiliated with Oklahoma State University.

Objective Three: Perceived Preferences

of Delivery Methods

According to the producer respondents in this study newsletters were the top delivery method with a mean score 3.78. In addition, magazines, one-on-one consultations, one day meetings, and farm tours round out the top five preferences for receiving dairy management and related information.

Objective Four: Sources of Technology, Information,

Advice or Assistance

The producer respondents in the study used the private sector as a major source of update information and consultation in eight of 12 operational areas illustrated by the consultation sources of Extension, Private and Industry representatives. Over 63 percent used the private sector for veterinary consultation. Furthermore, over 62 percent of the producers in this study used the private sector for accounting consultation. More than 52 percent of the producer respondents used the industry representatives to provide update information and consultation regarding milk purchasing. For crop consultation over 35 percent of the producer respondents used Extension as a priority source of update information and consultation.

Over 83% of the producer respondents in this study own or planned to own a VCR, while nearly 65 percent of the producers own or planned to own a computer. Furthermore, more than 28 percent of the producers own or planned to own a satellite dish.

The top five magazines read by producer respondents were indicated as follows:

94 percent - *Hoards Dairyman*, 84 percent - *Dairyman's Digest*, 76 percent - *Dairy Today*, 75 percent - *Dairy Herd Management*, and 72 percent - *Farm Journal*.

Conclusions

Based on the analysis of data and subsequent findings from completed questionnaires of the selected dairy producers contacted, it was concluded that:

- 1) The major concerns regarding the future of the Oklahoma Dairy Industry were farm milk prices, government regulations, and operating costs.
- 2) The major concerns regarding the future of the family farm were operating cost, profitability / cash flow, and milk prices.
- 3) It was apparent the major educational need among dairy producers in Oklahoma was in the area of management skills.
- 4) Producers seemed to indicate OSU Research, Instruction, Extension can most effectively help the Oklahoma Dairy Industry by providing work shops/ meetings / seminars as well as newsletters with update information and applied research.
- 5) Newsletters were considered the best method of disseminating dairy management and related information.
- 6) It was obvious Hoard's Dairyman, Dairyman's Digest, and Dairy Today had the highest overall number of readers.
- 7) The producer respondents indicated Feeding and Nutrition, Milk Quality, and Mastitis were extremely important to the survival to their dairy operations.

Recommendations

- 1) It was recommended that change agents should continue to concentrate on disseminating production and management information through updating meetings, workshops, and newsletters to encourage adoption.
- 2) It was recommended that Extension Agents use the available channels of communication available to best reach the clientele, with update information and new practices and technology.
- 3) It was recommended that the Cooperative Extension Service focus on educational programming and information which was economically beneficial to producers.

Recommendations for Additional Research

It was recommended that a study be conducted by working in conjunction with Extension Agents in the top five milk producing counties in the state concerning and assessment of producers needs which address economically important issues and providing educational programming and update information to dairy producers.

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APPENDIXES

APPENDIX A

INSTITUTIONAL REVIEW BOARD

APPROVAL FORM

OKLAHOMA STATE UNIVERSITY
INSTITUTIONAL REVIEW BOARD
HUMAN SUBJECTS REVIEW

Date: 01-26-96

IRB#: AG-96-015

Proposal Title: AN ASSESSMENT OF INFORMATION NEEDS AND PREFERENCES OF DELIVERY AMONG DAIRY PRODUCERS IN OKLAHOMA

Principal Investigator(s): James D. White, Justin Bray

Reviewed and Processed as: Exempt

Approval Status Recommended by Reviewer(s): Approved

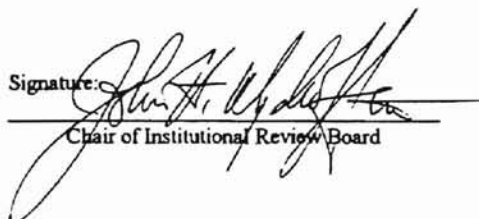
ALL APPROVALS MAY BE SUBJECT TO REVIEW BY FULL INSTITUTIONAL REVIEW BOARD AT NEXT MEETING.

APPROVAL STATUS PERIOD VALID FOR DATA COLLECTION FOR A ONE CALENDAR YEAR PERIOD AFTER WHICH A CONTINUATION OR RENEWAL REQUEST IS REQUIRED TO BE SUBMITTED FOR BOARD APPROVAL.

ANY MODIFICATIONS TO APPROVED PROJECT MUST ALSO BE SUBMITTED FOR APPROVAL.

Comments, Modifications/Conditions for Approval or Disapproval are as follows:

Signature: _____

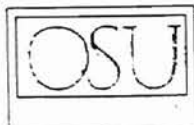


Chair of Institutional Review Board

Date: February 7, 1996

APPENDIX B

LETTER TO DAIRY PRODUCERS



Oklahoma Cooperative Extension Service
Division of Agricultural Sciences and Natural Resources
Oklahoma State University

Office of the Dean and Director • 139 Agricultural Hall
Stillwater, Oklahoma 74078-0500 • (405) 744-5398 • FAX (405) 744-5339

Date: February 9, 1996

To: Oklahoma Dairy Producers

From: Justin Bray

Enclosed is a survey to determine the informational needs of dairy producers in Oklahoma. By completing this survey, your answers will help identify those needs and how the Oklahoma Cooperative Extension Service can better serve your needs through educational programs. As a graduate student of Oklahoma State University, I will be compiling this information which will hopefully be a benefit to you as well as the Oklahoma Cooperative Extension Service. Your cooperation will be greatly appreciated.

Sincerely,

Justin Bray

P.S.

I am working with Justin on this project as I have thought for a long time that we should get more input from producers as to what kind of educational programs were needed. Your completion and returning of this survey will help him with his thesis. He in turn, will provide summary data to the State Extension Service and your local County Director. Hopefully a new Dairy Extension Specialist will be in place by the completion of this project. What a good set of data to provide a new specialist!

Thank you for your cooperation.

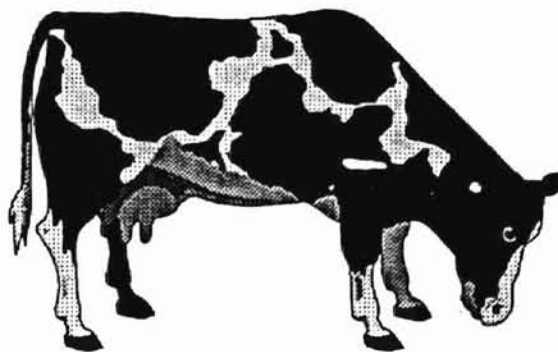
Jack D. Stout
Extension Dairy Specialist (retired)

APPENDIX C

QUESTIONNAIRE



OKLAHOMA COOPERATIVE EXTENSION SERVICE
DAIRY PRODUCERS NEEDS ASSESSMENT



Please complete the survey and return as soon as possible.
Enclosed is a pre-addressed stamped envelope for your convenience.

Thank you in advance for your time and cooperation.

**OKLAHOMA COOPERATIVE EXTENSION SERVICE
DAIRY PRODUCERS NEEDS ASSESSMENT**

The number of issues facing the Oklahoma dairy industry is very large and all are important. The Oklahoma Cooperative Extension Service must necessarily choose among issues it can address. We would appreciate your assessment of the relative importance of the dairy issues (listed below) to the future profitability of your business by circling the number in front of each issue:

5 = extremely important 4 = very important 3 = important
2 = somewhat important 1 = not important

FINANCIAL AND FARM BUSINESS MGMT. ISSUES:

- 1 2 3 4 5 Dairy farm entry and exit
- 1 2 3 4 5 Property tax reform
- 1 2 3 4 5 Personal management
- 1 2 3 4 5 Employment skill training
- 1 2 3 4 5 Business mgmt. skill development
- 1 2 3 4 5 Health insurance
- 1 2 3 4 5 Debt management
- 1 2 3 4 5 Equity financing options
- 1 2 3 4 5 Farm business plan development
- 1 2 3 4 5 Dairy expansion planning guidelines
- 1 2 3 4 5 Financial record-keeping & analysis
- 1 2 3 4 5 Enterprise analysis
- 1 2 3 4 5 Contract raising (heifers, crops)
- 1 2 3 4 5 Estate planning
- 1 2 3 4 5 Off farm investment analysis
- 1 2 3 4 5 Farm business arrangements
- 1 2 3 4 5 Other (specify & rate) _____

MILK PRICING AND POLICY ISSUES:

- 1 2 3 4 5 Federal milk marketing order reform
- 1 2 3 4 5 Multiple component pricing
- 1 2 3 4 5 Use of dairy futures and options
- 1 2 3 4 5 Federal dairy policy
- 1 2 3 4 5 Other (specify & rate) _____

DAIRY HERD MGNT. ISSUES:

1 2 3 4 5 Record-keeping & analysis

1 2 3 4 5 Milk quality

1 2 3 4 5 Food safety

1 2 3 4 5 Feeding and nutrition

1 2 3 4 5 Animal welfare

1 2 3 4 5 Mastitis

1 2 3 4 5 Artificial Insemination

1 2 3 4 5 Genetic improvement

1 2 3 4 5 Intensive grazing

1 2 3 4 5 Other (specify & rate) _____

FACILITIES AND EQUIPMENT:

1 2 3 4 5 Milking system design

1 2 3 4 5 Milking system trouble-shooting

1 2 3 4 5 Housing design

1 2 3 4 5 Farm safety

1 2 3 4 5 Manure handling

1 2 3 4 5 Farmstead planning

1 2 3 4 5 Feeding handling and storage

1 2 3 4 5 Stray voltage analysis

1 2 3 4 5 Other (specify & rate) _____

ENVIRONMENTAL CONTROL:

1 2 3 4 5 Crop record keeping and analysis

1 2 3 4 5 Manure nutrient management

1 2 3 4 5 Land use and zoning

1 2 3 4 5 Water quality

1 2 3 4 5 Air quality/odor control

1 2 3 4 5 Chemical storage/usage

1 2 3 4 5 Other (specify & rate) _____

PRODUCER DEMOGRAPHICS:

- ◆ In what county is your farm located? _____
- ◆ How many families (including your own) are involved in dairy operation? _____
- ◆ Ages of principal farm operator(s): _____, _____, _____, _____, _____
- ◆ Do you employ hired labor? _____
- ◆ How many full time _____ part time _____
- ◆ Are you a Member of DHIA? _____
 Nonmember _____
- Previous member _____
- ◆ If previous, why did you drop? _____
- ◆ How many acres of tillable cropland do you control (own & rent)? _____
- ◆ How many acres of pasture or rangeland do you control (own & rent)? _____
- ◆ Approximately what percentage of your total farm business gross income comes from milk and dairy animal sales? _____
- ◆ Approximately how many cows (milking and dry) did/do/will you have:
 in 1989 _____
- currently _____
- in 1999 _____
- ◆ What percentage of your dairy animals are artificially inseminated?
 Cows _____
- Heifers _____

◆ Update information or consultation is provided by: (more than one source may be used)

E = Extension P = Private I = Industry

<input type="checkbox"/> herd mgmt consultant	<input type="checkbox"/> legal consultant	<input type="checkbox"/> routine vet consultant
<input type="checkbox"/> nutrition consultant	<input type="checkbox"/> crop consultant	<input type="checkbox"/> commodity market consultant
<input type="checkbox"/> employee recruiter	<input type="checkbox"/> tax consultant	<input type="checkbox"/> milk purchaser representative
<input type="checkbox"/> financial consultant	<input type="checkbox"/> accountant	<input type="checkbox"/> facilities consultant
<input type="checkbox"/> Other (please specify) _____		

◆ Which of the following do you own OR plan to purchase in 1996? Check all that apply

<input type="checkbox"/> cable TV service	<input type="checkbox"/> computer CD-ROM drive	<input type="checkbox"/> fax machine	<input type="checkbox"/> pager
<input type="checkbox"/> computer modem	<input type="checkbox"/> satellite dish	<input type="checkbox"/> computer	<input type="checkbox"/> VCR
<input type="checkbox"/> cellular phone	<input type="checkbox"/> two way radio		

◆ Approximately how many education meetings do you attend each year? _____

◆ Approximately what percentage of these meetings are affiliated with OSU or your local County OSU Extension? _____

◆ How would you like to receive dairy management and related information in the future?
(Please rank from 1 to 12 with 1 being the most desirable.)

<input type="checkbox"/> newsletter	<input type="checkbox"/> two day meeting	<input type="checkbox"/> one-on-one consultation
<input type="checkbox"/> videotape	<input type="checkbox"/> radio program	<input type="checkbox"/> computer bulletin board
<input type="checkbox"/> magazines	<input type="checkbox"/> farm tours	<input type="checkbox"/> satellite TV program
<input type="checkbox"/> computer	<input type="checkbox"/> one day meeting	<input type="checkbox"/> other _____

◆ Which of the following publications do you regularly read? (Please check all that apply)

<input type="checkbox"/> Hoard's Dairyman	<input type="checkbox"/> Successful Farming	<input type="checkbox"/> Dairy Herd Management
<input type="checkbox"/> Farm Journal	<input type="checkbox"/> The Dairyman	<input type="checkbox"/> Progressive Farmer
<input type="checkbox"/> Dairy Today	<input type="checkbox"/> Farmers Stockman	<input type="checkbox"/> Your Breed Journal
<input type="checkbox"/> Dairyman's Digest	<input type="checkbox"/> Other _____	

◆ List the top three concerns regarding the future of the Oklahoma dairy industry.

◆ List the top three concerns regarding the future of your family farm.

◆ What do you think are the major educational needs for Oklahoma dairy producers to help ensure competitiveness in the 21st century?

◆ How can OSU research, instruction, and Extension most effectively help the Oklahoma dairy industry?

◆ If you are interested in a summary of results, please list name and address:

**RESPOND TO OTHER CONCERNS REGARDING THE DAIRY INDUSTRY
TODAY AND ITS IMPACT ON YOUR LIVELIHOOD:**

APPENDIX D

RESPONSES TO OPEN ENDED
QUESTIONS

TABLE XXV

A SUMMARY OF PRIORITY CONCERNS REGARDING THE FUTURE OF
THE OKLAHOMA DAIRY INDUSTRY

Selected Priorities	Frequency (N=87)
Milk prices	36
Government Regulations (Environment, Waste Mgt., ect.)	34
Operating Costs (Feed and Other Variable Costs)	34
Marketing & Cooperatives	16
Corporate Dairies	8
Profitability/Cash Flow	8
Cull Cow/Beef Prices	7
Dairy Management	6
Consumer Knowledge and Image	6
Shortage of Young Dairy Producers	4
Weather	3
DEQ	3
Lack of Milk Processors	2
Breeding & Genetics	2
Taxes	2
Farm Policy	2
Expansion Of Herd Size	2
Milk Marketing Order (Loss)	1
Production Of Quality Milk	1
Bacteria Tests	1
Production Levels	1
Grazing	1
Dairy Literacy	1
Sources of Unbiased Information	1
Foreign Milk Product Sales	1
Nutrition	1
Researching Value Of Milk Products	1
Competent Dairy Veterinarian	1

TABLE XXVI

A SUMMARY OF PRIORITY CONCERNS REGARDING THE FUTURE
OF THE FAMILY FARM

Selected Priorities	Frequency (N=87)
Operating Costs (Feed And Other Variable Costs)	31
Profitability/Cash Flow	24
Milk Prices	21
Expansion	9
Labor	9
Corporate Dairies	8
Survival Of The Family Farms	7
Finances	7
Government	6
Marketing & Cooperatives	6
Cattle Prices	4
Health Costs	4
Taxes	3
Adopting New Technology	2
Cost of Living	2
Land Availability	2
Management	2
Weather	2
Adequate Facilities	1
Age	1
Equipment & Maintenance	1
Genetics	1
Grazing Technology & Strategies	1
Litigation	1
Milk Quality	1
Social Welfare	1

TABLE XXVII

A SUMMARY OF MAJOR EDUCATIONAL NEEDS FOR DAIRY PRODUCERS
IN OKLAHOMA

Educational Needs	Frequency (N=87)
Management Skills (Production, Business Plan, Marketing Skills, Debt, Financing, ect.)	35
Feeding & Nutrition	16
Breeding & Genetics	10
Profitability	7
Herd Health	5
Consumer Use Of Product	4
Cost Analysis	4
Technology	4
Efficiency	3
Computer Literacy	2
Economics	2
Estate Planning	1
Formation Of Dairy Mgt. Association	1
Higher Education	1

TABLE XXVIII

A SUMMARY OF SELECTED PRIORITIES CONCERNING HOW OSU RESEARCH,
INSTRUCTION, EXTENSION CAN MOST EFFECTIVELY HELP THE
OKLAHOMA DAIRY INDUSTRY

Selected Priorities	Frequency (N=87)
Workshops/Meetings/Seminars	18
Newsletters With Updated Research & Information	12
Advanced Technology, Innovative Practices, & Research	9
On Farm Visits	7
Nutrition, Feeding, & Grazing Alternatives	7
One-on-One Consultation	4
Management Efficiencies	4
Focus on Local/State Issues	3
Personal Contact with OSU Administration, Faculty, & Staff	3
Value-added Product Research	2
DHIA Herdbook Clinics	1
Easy Entry & Exit in the Industry	1
Educate Policy Makers	1
Field Representatives	1

RESPONSES TO OTHER CONCERNS REGARDING THE DAIRY INDUSTRY
TODAY AND ITS IMPACT ON DAIRY PRODUCERS LIVELIHOOD:

“Why is it that I can work 80 hour a week and still not bring in enough income to support my family as well as anyone else who just works a 40 hour week.

A dairyman should be able to earn a living with enough cows to keep busy doing the work himself.

I like to milk, feed, breed, raise, and be with my cows myself. But I am forced to hire someone to do the work I like and I have to sit at a desk and do paperwork, payroll, and manage labor. Things that are no fun to a real dairyman.”

“To me everything about my dairy and its future is important . Anything you think could help the small family farm to survive is what we family farms needs to know. The large farms and CO-OP is taking over but the smaller farms would love to stay in the business too. We are all having a very hard time doing just that for quite sometime, most people I know is the same way.”

“When we get beaurocrats out of it, the fit will survive, until then it won't get any better and when I say beaurocrats that includes these deadbeats that are on these milk boards and to me that will answer all the milk pricing problems and most of your questions.”

“New packaging and process to have a longer shelf life for the product on the market.”

“Large commercial dairy's are becoming increasingly more common. The small family dairy's will decrease in number over time. Over the last 25 years family dairy's have decreased drastically in number and those that do dairy, cow numbers per dairy have probably doubled in the last 25 years. Now, feed, prices are out lined compared to milk prices . Very low prices for bullcalves and even larger Holstein. Male animals at this time in the dairy Industry. Call cows are extremely cheap.

“The things that are happening today with the industry has already had a major impact on my livelihood. We had considered in 1995 to sell out. But decided to hag on. Culled cows - regrouped cows made some improvements. But cash flow is about the same. High feed prices have been a killer offset by lower milk prices, with none left in sight. Something has got to give, or there will be no farms; large or small.”

“Old attitudes such as: If acceptable SCC is 75,000 why bother to better it. If acceptable standard plate count is 100,000 why bother to better it. Allow grade A dairymen to sell raw milk to stores, cafe's, and schools.”

“Foreign imports being balanced.”

“Marketing strategy, less controls, attack false information on dairy products use Co-ops to process our goods instead of letting the individual plants control our marketing”

“The ability of the private processor to publish wrong information and get by with it.

Protect us from subsidized imports and let supply and demand dictate the domestic market.”

“The look down the road for our future but we are tired of the total confinement of dairying. The are family operated only, so never get away but have to manage it totally or we wouldn't have survived and been going this long. It's sad to see the younger generation with no farm future as no money is out here now. They feel our government has really screwed the farmers. We also feel some of those congressman should have to follow a dairyman or farmer around a few days especially during harvest or a snow storm and see the work involved. The truth we told, they wouldn't survive an hour and sure wouldn't work for the wages we bring in. Our health insurance costs are skyrocketing way out of control for self-employed and we can't be without it or they take everything you own. Machinery costs are unbelievable and so many are doing with what they have and keep fixing. Right now our future doesn't look very good for the future I he dairy. These ones that are paying interest are being ate up as can't keep up and then the government says we have to pay back our payments. We hear in this area that will finish off many of our younger ones as money is spent and gone and none saved.

Good luck on your thesis Mr. Bray, a very difficult subject to pursue at this time. We are very thankful we have our family and our kids are responsible adults now and none are related to any job concerning agriculture or dairy. We are extremely grateful the Good Lord gave us an opportunity it provide a college education for our kids. We are very proud of them and our kids know what hard work and long hours are and always there to help when Mom and Dad needed it. So see, we are truly blessed. Thank you.”

VITA

Justin Lee Bray

Candidate for the Degree of

Master of Science

Thesis: AN ASSESSMENT OF INFORMATION NEEDS, PERCEIVED IMPORTANCE AND PREFERENCES OF DELIVERY METHODS AMONG SELECTED DAIRY PRODUCERS IN OKLAHOMA

Major Field: Agricultural Education

Biographical:

Personal Data: Born in Chickasha, Oklahoma, January 26, 1969, the son of Carolyn Bray and the late Virgil Bray.

Education: Graduated from Amber-Pocassett High School, Amber, Oklahoma, 1987; received Bachelor of Science degree in Agricultural Economics/ Agricultural Education from Oklahoma State University in December, 1992; received Master of Science degree from Oklahoma State University in December, 1997.

Professional Experience: Agricultural Education Instructor at Stillwater Public Schools for the past four years. Accomplishments include: Who's Who Among American Educators, Stillwater P.I. President and Vice-President, Pete Gailey Committee Chairman.