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Fatin F. Ismael

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To the Graduate Council:

I am submitting herewith a thesis written by Fatin F. Ismael entitled "Amounts of Tennessee extension staff time expended and numbers of client contacts with selected audiences and teaching methods : fiscal years 1976 and 1978 and possible implications for 1972 and 1977 statewide extension beef production practice checklist surveys and educational programs." I have examined the final electronic copy of this thesis for form and content and recommend that it be accepted in partial fulfillment of the requirements for the degree of Master of Science, with a major in Agricultural Extension.

Robert S. Dotson, Major Professor

We have read this thesis and recommend its acceptance:

Cecil E. Carter Jr, Robert Shrode

Accepted for the Council:

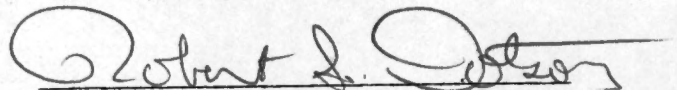
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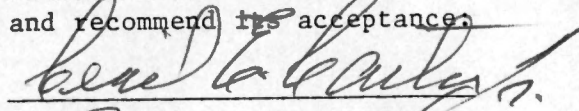
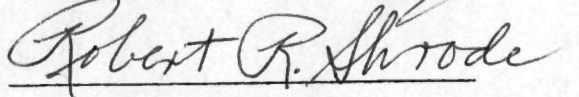
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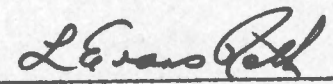
I am submitting herewith a thesis written by Fatin F. Ismael entitled "Amounts of Tennessee Extension Staff Time Expended and Numbers of Client Contacts with Selected Audiences and Teaching Methods, Fiscal Years 1976 and 1978 and Possible Implications for 1972 and 1977 Statewide Extension Beef Production Practice Checklist Surveys and Educational Programs." I have examined the final copy of this thesis for form and content and recommend that it be accepted in partial fulfillment of the requirements for the degree of Master of Science, with a major in Agricultural Extension.


Robert S. Dotson, Major Professor

We have read this thesis
and recommend its acceptance.

Accepted for the Council:


Vice Chancellor
Graduate Studies and Research

A

AMOUNTS OF TENNESSEE EXTENSION STAFF TIME EXPENDED AND NUMBERS OF
CLIENT CONTACTS WITH SELECTED AUDIENCES AND TEACHING METHODS,
FISCAL YEARS 1976 AND 1978 AND POSSIBLE IMPLICATIONS
FOR 1972 AND 1977 STATEWIDE EXTENSION BEEF
PRODUCTION PRACTICE CHECKLIST SURVEYS
AND EDUCATIONAL PROGRAMS

A Thesis

Presented for the

Master of Science

Degree

The University of Tennessee, Knoxville

Fatin F. Ismael

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ABSTRACT

Information from the 1972 and 1977 Tennessee Beef Production Practice Checklist Surveys was studied together with data from the Tennessee Extension Management Information System, TEMIS (i.e., agent days expended and clientele contacts made) for Fiscal Years 1976 and 1978 to determine whether there might be possible implications for the survey and Extension's educational program.

The classifications of beef survey practices and TEMIS primary subjects were assumed to be acceptable for this study. Data considered from five Districts and the State. Use of various teaching methods also were studied.

From the 1972 and 1977 Tennessee Beef Production Surveys, it was found that dollar values of cattle marketed in Tennessee were \$251 million and \$273 million, respectively. Positive relation was observed between numbers of contacts and the number of practices used.

Recommended practices were grouped under primary TEMIS Subject One, "Beef Management and Planning"; Subject Two, "Beef Performance Testing"; Subject Three, "Beef Diseases"; Subject Four, "Beef Facilities and Equipment"; Subject Five, "Beef Feeding and Nutrition"; and Subject Six, "Beef Pests."

Based on 1972 data, four of the Subjects, Subjects One, Two, Three, and Four were below the concern level (i.e. 60 percent) and the other two Subjects were above the concern level. Of the six Subjects mentioned above, Subjects One and Two were the weakest of the six,

suggesting the need to emphasize them more as priority areas in Extension's beef educational program.

There was a decrease in total agent days expended on beef subjects between FY 1976 and FY 1978, a decrease also was noted in total contacts with beef producers made by agents between FY 1976 and FY 1978. No consequential changes in the relative percents of total agent days expended and contacts made between FY 1976 and FY 1978, excepting an increase of 9 percent in District V contacts related to Subject Seven, a non-practice-related subject.

Of Extension methods studied, changes in numbers of agent days devoted to beef Extension work varied from District to District, but, in general, most of the changes for each method were negative in both Individual Methods and Group Meetings, and positive in Mass Media between FY 1976 and FY 1978, though changes in relative percents were not consequential (i.e. 9 percent or greater).

It was not clear whether agents had considered priority beef topics identified in the 1972 survey when planning for the period 1974-1978. It was implied that the survey had not appreciably influenced the Extension beef educational program during the period. Recommendations for use of findings and additional study were included.

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CHAPTER I

INTRODUCTION

A. STUDY BACKGROUND

The primary task of the Extension Service is that of giving informal instruction to the American people in specified areas related to agriculture and home economics. Cooperative Extension work in agriculture and home economics is a partnership undertaking between each state landgrant college and university and the United States Department of Agriculture, in cooperation with local governments and local people. Some 19 agricultural work areas (e.g., beef production, dairy), five home economics areas, five youth development areas and the community resource development area are regularly given emphasis, when appropriate, in Tennessee counties.

While a relatively large area of Tennessee land is submarginal and can grow only pasture and hay crops, the climate makes possible an average 240-day grazing season. Consequently, the sale of cattle and calves was the second most important single source of farm income in Tennessee in 1979, outranked only by soybeans (12:4)*. In recent years, there has been a steady decrease in the production and marketing and increase in the prices of beef cattle in Tennessee. The number of beef cows on farms in 1976 was listed as 1,268,000 cows; this decreased

*Numbers in parentheses refer to alphabetically listed references in the Bibliography; those after the colon are page numbers.

to 1,155,000 cows in 1978. Production of cattle in general in Tennessee was 862,085,000 pounds in 1976. This decreased to 712,090,000 pounds in 1978. In Tennessee in 1976 929,733,000 pounds of beef was marketed, this decreased slightly to 922,290,000 pounds in 1978. Average 1976 cattle and calf prices per 100 pounds were \$29.50 and \$34.60, respectively, increasing to \$41.00 and \$57.80, respectively, in 1978. Cash receipts from farm marketing and sales of farm slaughtered meat totaled \$391 million in 1978 (12:40).

Needs of special target audiences, in the case of the present study, those of beef producers, are determined as a basis for developing Extension programs in counties where beef or some other livestock or enterprise may provide a major source of agricultural income.

Extension's charge in work with beef producers is like that in other areas: to diffuse research-verified facts and practices and encourage adoption of the same. This annually has involved agent time and contacts devoted to beef records, beef diseases, beef housing and structures, beef management, beef feeding and nutrition, beef breeding and production, and other beef subjects. Also, individual group and mass methods have been used by agents to teach these subjects.

B. PURPOSE OF THE STUDY

The major purpose of this study was to determine the possible implications of the 1976 and 1978 Tennessee Extension Management Information System (TEMIS) data for the 1972 Statewide Beef Practice checklist Survey and Extension's educational program.

Specific study objectives included the following:

1. To study selected Beef Practice Checklist Survey and Extension Management Information System data together in a meaningful, prioritized way.
2. To study shifts in time expended in FY 1976 and 1978 by Tennessee agents doing beef educational work in five Extension Supervisory Districts (see Figure 1) in order to try to measure the impact of the 1972 Statewide Beef practice Checklist Survey based on changes reflected in the 1977 survey.
3. To study shifts in contacts made between FY 1976 and FY 1978 reports made by Tennessee agents doing beef educational work in the five Districts and to try to measure any shift brought about by the 1972 beef practice Checklist Survey based on changes or improvements reflected in the 1977 Survey.
4. To study Extension methods used in FY 1976 and FY 1978 and shifts in methods used and to consider the relative effectiveness of the methods.

C. DEFINITION OF TERMS

Certain terms are used frequently throughout the study and will be defined below.

Beef Producers. This refers to individuals making all or part of their farming income from the production of beef.

Individual Contacts. Individual contact refers to farm and home visits by an agent, personal letters, telephone calls, and other

on-site visits to discuss beef or other subject matter with an individual.

Group Contacts. This refers to group meetings such as meetings at farm test, method, field and result demonstrations; conferences; field days; workshop meetings; and tours.

Mass Media. Mass media include radio, television, news stories, circular letters, exhibits, posters, publications, and visuals.

Other Methods. This teaching method category accounts for Planning and Preparation, Evaluating, and Publication Development.

Tennessee Beef Practice Checklist Survey (TBPCS). Refers to 1972 and 1977 beef surveys used for the present study. They provided outcome data used for educational program planning and evaluation.

Tennessee Extension Management Information System (TEMIS). TEMIS provides a vehicle for the flow of management information to be used in program planning input information for purposes of improved decision making and program accountability. Agent hours expended and contacts made with clients constitute important measures included in reports.

Concern Level. A concern level was set for use in this study. It is generally considered that if a research-verified beef or other practice is being used by 60 percent or fewer of the beef producers or others, it should be considered of educational concern (i.e., concern level).

All Other Beef Subjects. This refers to beef subjects listed in FY 1976 and FY 1977 TEMIS Handbooks that were not related to the six priority ones (i.e., Beef Management and Planning, Beef Performance Testing, Beef Diseases, Beef Facilities and Equipment, Beef Feeding and Nutrition, and Beef Pests).

D. LIMITATIONS

The present study was designed assuming that TEMIS data for the period FY 1974 through 1978 would be available for both time planned and time expended as well as contacts made. As it turned out, only time spent and contacts made for FY 1976 and 1978 were available. Consequently, agents in Tennessee may have spent (and planned) more or less time in other years during the intended study period than noted in the present study.

CHAPTER II

REVIEW OF LITERATURE

A careful search of relevant literature disclosed few items relating directly to the present study. Those that did relate in some way are reviewed briefly below.

A. STUDIES RELATING TEMIS AND AGRICULTURAL PRACTICE CHECKLIST SURVEY DATA

Many studies similar to the present study were conducted to relate TEMIS data to practice survey results.

In 1979, Tengku (10) made a study conducted in the wheat work area. It related agent time planned and expended and contacts made in 1975 and 1977 to information from the 1972 and 1977 Statewide Tennessee Wheat Practice Checklist Surveys (TWPCS). There was an increase in total agent days planned and expended and total contacts made between FY 1975 and FY 1977. Of Extension methods studied time devoted to wheat instruction using individual methods of instruction, had increased more than time devoted to Group and Mass methods. Agents did not appear to have considered priority wheat (small grain) areas identified via the 1972 survey when planning for the period 1974-1978, it was implied that the districtwide survey of Wheat (small grain) producers did not appreciably influence Extension programs during the period.

In 1980, Yatim (15) studied the related data collected by practice checklist survey in FY 1970 and the TEMIS during FY 1971-1975

on the dairy work area. His study concerned the relationships between the situations of Grade A dairymen in 41 Tennessee counties in FY 1970 and the number of activities conducted, hours spent and contacts Extension agents made during FY 1971-1975. He found that the amount of Extension teaching in these major dairy producing counties was a function of the number of Extension staff members available rather than the number of Grade A dairymen in counties. He also found that the Extension program emphasis by agents in the 41 major dairy production counties was not significantly different between counties, whether or not a high proportion of the Grade A dairymen was or was not using the recommended dairy breeding, feeding and herd management practices.

In 1978, Klaeser (7) made a study to characterize homemakers in Tennessee Extension Supervisory District I. The study dealt with analysis of Clothing Practice Checklist Survey data from 1972 and 1977 and TEMIS information for FY 1972 and FY 1977 for 21 counties with headquarters in Jackson, Tennessee. There was little relation between weaker clothing subjects identified and time planned and expended by agents. She noted also that homemakers most frequently mentioned "meetings" as their primary contact with Extension.

Allen, in 1977, (1) conducted a study in the soybean work area. In related agent time planned and expended and contacts made in FY 1972 and FY 1975 to information from the 1972 Statewide Tennessee Soybean Practice Checklist Survey (TSPCS). Little relation was found between weak soybean subject areas identified and time planned and spent by agents.

Trail, in 1977, (13) made a similar study on corn. He related the TEMIS data and 1970 Statewide Tennessee Corn Practice Checklist Survey (TCPCS) on amounts of staff time planned and expended, and clientele contacts with selected audiences and teaching methods, FY's 1972 and 1975. He found little relation between weaker corn subjects identified and time planned and expended by agents.

Webb, in 1977, (14) indicated that findings of the 1970 Tennessee Swine Practice Checklist Survey (TSPCS), were not reflected in the planning of future swine educational programs, in this study of data from the 1970 and 1975 TSPCS with data from TEMIS for FY 1972-1975. He also found a decrease in total agent days planned, total agent days expended and total clientele contacts made on swine subjects between FY 1972 and FY 1975. Of Extension methods studied, he found the greatest increase for Individual Teaching methods and found that greatest increase in numbers and percents of clientele contacts made was through Group Methods.

Schlosshan, in 1975, (9) related 1972 and 1974 TEMIS data on agent time planned and expended and contacts made to a 1972 Statewide Tennessee Extension Clothing Practice Survey. She found that percentages of total agent days planned and expended on weak clothing and textile subjects between 1972 and 1974 showed no appreciable increase.

Downen's study in 1975, (4) also was related to TEMIS data and had to do with influence of the 1971 Statewide Tennessee Extension Food and Nutrition Survey on amounts of staff time planned and expended, and clientele contacts with selected audiences and teaching methods. It

appeared that the 1971 Food and Nutrition Survey had little influence and that other factors were more influential or that system and/or data available did not effectively measure or permit proper relation to test the influence of the survey.

B. STUDIES RELATING TO TENNESSEE PRACTICE

CHECKLIST SURVEYS

Cary in 1975 (3) studied the situation in Tennessee regarding the practice checklist approach to establishing educational priorities and evaluating progress. Data for this study were collected from 28 selected Tennessee County Extension Leaders across the state. The major findings of the study were as follows: (1) the majority of Extension Leaders were following recommended Tennessee Agricultural Extension Service procedures for conducting practice checklist surveys; (2) the majority of Extension Leaders felt that the survey data obtained were accurate; (3) the majority of Extension Leaders recommended no change in the survey instrument content and felt that change in practice use by producers was a good criterion measure for purposes of planning and evaluating the County Extension program; (4) the majority of Extension Leaders felt that practice checklist data were useful for purposes of Extension planning and evaluation; and (5) the majority of Extension Leaders considered the overall practice checklist approach to planning and evaluation to be practical, pertinent, functional, accurate, valid, and reliable.

Mohamad (8) studied practices used by beef producers in Tennessee in 1978. She found that with respect to most practices, higher percentages

of large producers than of small producers were using them. She found also that 13 of 14 recommend beef production practices and 17 or 18 pasture practices were significantly related to one or more kinds of Extension contact.

C. STUDIES RELATING TO THE TENNESSEE EXTENSION
MANAGEMENT INFORMATION SYSTEM (TEMIS)

In 1975, Henderson (6) studied the description and evaluation of the Tennessee Extension Management Information System (TEMIS). Data for this study were collected by personal interviews in late 1974 and early 1975 with 28 selected Extension Leaders from across the state. Major findings of the study included: (1) the majority of Extension Leaders were keeping some type of record of their daily activities; (2) the majority of Extension Leaders felt that the weekly activity report data were most useful for purposes of evaluating and less useful for planning and reporting; (3) a majority of the leaders felt also that the data could show what they did, but not the effectiveness of the programs conducted; (4) the majority of Extension Leaders recommended no significant changes in the report form; (5) the majority of Extension Leaders felt that the fields on the report form that were most difficult and least accurate were subject code and purpose code.

In 1976, Gault (5) made a study concerned with determining the reliability of data received from TEMIS, particularly weekly activity reports. He collected his data by personal interviews with 30 selected Extension Leaders and the information gathered from the state office files containing the weekly activity reports. Findings of the study are

stated as follows: (1) the leaders were highly consistent in weekly activity report fields, audience and personal location; (2) the leaders had low coding consistency in number-in-audience and time-expended fields; (3) overall, the Extension Leaders showed very high levels of coding correctness in reporting two hypothetical activities when given adequate information and instructions, and (5) the Leaders revealed a lack of knowledge concerning the proper codes to use in reporting in-service training meetings.

Since the present study is the first of its kind relating the Statewide Beef Survey to TEMIS data on time expended and contacts made in five Districts and the State and teaching methods no other specifically relevant studies were found.

CHAPTER III

METHODS AND PROCEDURES

The primary sources of information for this study were the 1972 and 1977 Tennessee Beef Production Surveys, and TEMIS data for FY 1976 and FY 1978. The 1972 and 1977 statewide beef production surveys summarized practices of Tennessee beef producers in regard to their use of the 12 recommended beef production practices. The information received from these surveys allowed the Extension Agent to group beef producers according to their need for educational assistance related to production. Further, it allowed Extension personnel to determine the subject areas most in need of improvement and educational assistance.

Data from TEMIS computer printouts of agent days expended and contacts made according to methods used for teaching beef subjects were collected and arranged in order of beef production priorities in a descending order, that is from least used (i.e., weakest) practice to most used (i.e., strongest) practice, by percentages of producers in each of the five Extension Supervisory Districts and the state.

Each of the 12 recommended beef production practices was classified under one of six major TEMIS beef subjects, namely: Beef Management and Planning, Beef Performance Testing, Beef Diseases, Beef Facilities and Equipment, Beef Feeding and Nutrition, and Beef Pests. All of the recommended practices were considered to be equally important (i.e., of equal weight) for study purposes. They were arranged in order from the least used practice in the 1972 survey under each subject to that used most that year.

It was decided that any practice used by 60 percent and fewer producers would be considered as needing improvement. This was arbitrarily selected as the concern level in this study on the basis of established Tennessee Extension practice. Data from 1972 and 1977 surveys were compared to not changes in percentages of producers using the various practices

All data from TEMIS were arranged in order of subject priority for the beef producers by Districts and for the state. These were numbers and percentages of agent days expended and contacts made according to teaching methods used.

Calculations of increases or decreases in actual number of agent days allocated to beef subject were made by subtracting those for FY 1978 from those for 1976. The resulting figures represent absolute changes from 1976 and 1978.

Likewise, increases or decreased in relative percentages of time spent on the subjects studied were made by subtracting FY 1978 percentages from those for 1976. These figures, therefore, represent relative shifts in percentages of time and are not comparable with data showing actual changes in numbers of agent days expended.

A. ASSUMPTIONS

TEMIS data for the period FY 1974--FY 1978 were requested in order to get a complete picture of time planned and spent on the various practice related subjects using selected Extension methods during the planning period immediately following the 1972 BPCS.

Unfortunately, only agent time spent and contacts made were available for two years, FY 1976 and FY 1978. It is assumed that the data not available would have agreed with the findings based on the present information.

CHAPTER IV

RESULTS AND DISCUSSION

The findings of this study will be presented below as they relate to the following in five Tennessee Extension Supervisory Districts and the State: (1) Educational needs of beef producers; (2) Shifts in agent days expended doing beef educational work between Fiscal Years (FY) 1976 and 1978; (3) Shifts in contacts made by agents with beef producers between FY 1976 and 1978; (4) Shifts in agent days devoted to beef using various teaching methods; and (5) Shifts in contacts by agents with beef producers using various teaching methods.

A. EDUCATIONAL NEEDS OF BEEF PRODUCERS

Information collected via the 1972 and 1977 Tennessee Beef Practice Checklist Surveys (BPCS) included, among others, the following points:

1. A study by Carter (2) showed that the number of 12 Extension recommended beef production practices used by 949 cow-calf producers surveyed in 1977 in 57 counties were positively related with the number of contacts producers had with Extension through individual, group, and mass methods.

2. Eight of 12 recommended beef production practices studied were below the 60 percent concern level of usage in 1972 compared to seven of 12 in 1977.

Comparison by Subjects

Comparison of subjects with respect to concern level is possible from an examination of Table I, which shows that three of the six subjects were considerably below the 60 percent concern level. Since the subjects are listed in the table in their increasing order of practice use, it is a simple matter to determine relative emphasis between districts and between any district and the State as a whole. Also, from the table, it can be discerned as to which practices changed in percentages of use between the 1972 and 1977 surveys.

Subjects which included practices showing increases between the two surveys were: Subject Two, Beef Performance Testing; Subject Three, Beef Diseases; Subject 4 Beef Facilities and Equipment; and Subject Six, Beef Pests. A subject which included practices showing decreases between the two surveys was Subject Five, Beef Feeding and Nutrition. Subject One, Beef Management and Planning showed no change. Some changes were small, while others were appreciable. Variation in changes between districts indicates different relative emphasis given the subjects by Extension personnel in these districts.

Several subjects, even though they showed improvement between the two surveys, were still below the 60 percent concern level, indicating continued need for increased educational emphasis. These include Subject Two, Beef Performance Testing; and Subject Three, Beef Diseases.

The percentage of producers using Subject One, Beef Management and Planning, of course, was an extremely low eight percent both times.

TABLE I

RECOMMENDED BEEF CATTLE PRODUCTION PRACTICES ARRANGED IN ASCENDING ORDER OF EDUCATIONAL PRIORITY BASED ON 1972 AND 1977 TENNESSEE SURVEYS IN THE FIVE DISTRICTS AND THE STATE ACCORDING TO PERCENTAGE OF INTERVIEWERS USING PRACTICES IN THE DISTRICT AND STATE TOTALS

TEMIS Primary Beef Cattle Subjects & Related Recommended Practices	Showing FY 1976 and FY 1978 TEMIS Primary Subject Relations																		
	State Total		Districts I				Districts II				Districts III				Districts IV		Districts V		
	1972*	1977		1972	1977		1972	1977		1972	1977		1972	1977		1972	1977		
	81 Co.	57 Co.	+	20 Co.	14 Co.	+	18 Co.	8 Co.	+	14 Co.	8 Co.	+	13 Co.	11 Co.	+	16 Co.	16 Co.	+	
	N=22.4	N=949	-	N=546	N=124	-	N=482	N=155	-	N=372	N=157	-	N=346	N=203	-	N=496	N=310	-	
1. Beef Mgmt. & Plan. (0616)																			
A Cows Pregnancy Check Following Breeding Season	8	8	0	13	12	-1	9	9	0	3	8	5	3	7	4	9	8	-1	
Subtotal Av.	8	8	0	13	12	-1	9	9	0	3	8	5	3	7	4	9	8	-1	
2. Beef Performance Testing (0620)																			
a. Used Performance Tested bulls	19	28	9	24	28	4	15	21	6	11	37	26	19	29	10	24	25	1	
b. Bulls Met Minimum Requirements of the Breeders Performance Tested Bulls	25	47	22	28	57	29	21	35	14	21	48	27	21	45	24	30	46	16	
c. Herd Enrolled in TBIF	4	5	1	5	8	3	5	5	0	1	8	7	4	3	-1	4	4	0	
Subtotal Av.	16	27	11	19	31	12	14	20	6	11	31	20	15	26	11	19	25	6	
3. Beef Diseases (0605)																			
a. Brood Cows & Replacements Vaccinated for Lepto.	15	27	12	16	34	18	12	26	14	12	31	19	17	27	10	16	22	6	
b. Calves Vaccinated for Blackleg & Malignant Edema.	73	82	9	66	70	4	70	82	12	76	79	3	64	84	20	87	85	-2	
Subtotal Av.	44	55	11	41	52	11	41	54	13	44	55	11	41	56	15	52	54	2	
4. Beef Facilities & Equipment (0607)																			
a. Adequate Working Pens, Lots, & Restraining Equipment	59	66	7	69	74	5	61	61	0	57	67	10	60	61	1	46	67	21	
Subtotal Av.	59	66	7	69	74	5	61	61	0	57	67	10	60	61	1	46	67	21	

TABLE I (continued)

Showing FY 1976 and FY 1978 TEMIS Primary Subject Relations																			
TFM1: Primary Beef Cattle Subjects & Related Recommended Practices	State Total		Districts I				Districts II			Districts III			Districts IV		Districts V				
	1972*	1977	+	1972	1977	+	1972	1977	+	1972	1977	+	1972	1977	+	1972	1977	+	
	81 Co.	57 Co.	-	20 Co.	14 Co.	-	18 Co.	8 Co.	-	14 Co.	8 Co.	-	13 Co.	11 Co.	-	16 Co.	16 Co.	-	
	N=22.4	N=949	-	N=546	N=124	-	N=482	N=155	-	N=372	N=157	-	N=346	N=203	-	N=496	N=310	-	
5. Beef Feeding & Nutrition (0618)																			
a. Beef Herd Had Access to Recom. Mineral Mixture	74	85	11	79	90	11	84	86	2	73	92	19	77	83	6	59	79	20	
b. Thin Cows and Cows That Recently Calved Fed More & Better With Quality Feed Than Others	46	41	-5	42	54	12	48	29	-19	44	33	-11	48	43	-5	51	NA	DNA	
c. Bred Cows Fed With Supplemental Protein When Receiving Low Quality Grass Hay	70	51	-19	80	74	-6	79	49	-30	65	40	-25	75	66	-9	53	43	-10	
Subtotal Av.	63	59	-4	67	73	6	70	55	-15	61	55	-6	67	64	-3	54	NA	DNA	
6. Beef Pests (0611)																			
a. External Parasite Control Practices Followed for Flies and Lice	83	94	11	86	97	11	86	95	9	79	94	15	80	91	11	80	NA	DNA	
b. Recommended Grub Control Practices Followed	42	63	21	41	66	25	51	63	12	38	68	30	30	58	28	44	63	19	
Subtotal Av.	63	79	16	64	82	18	69	79	10	59	81	22	55	75	20	62	NA	DNA	
GRAND TOTAL AV.	43.2	49.8	6.6	45.8	55.3	9.5	45.1	46.8	1.7	40.0	50.4	10.4	41.5	49.8	8.3	41.9	44.2	2.3	

*County
 NA = Not Available
 DNA = Does Not Apply

B. SHIFT IN AGENT BEEF TIME EXPENDED COMPARING
FY 1976 AND FY 1978

Tables II and III present the numbers and percentages of agents days expended for FY 1976 and FY 1978, respectively. The increases and/or decreases between the numbers and percentages of agent days expended for FY 1976 and FY 1978 are shown in Tables IV and V. TEMIS Primary Subjects are arranged in descending order of 1972 educational priority. The rankings are as follows: Subject One, Beef Management and Planning; Subject Two, Beef Performance Testing; Subject Three, Beef Diseases; Subject Four, Beef Facilities and Equipment; Subject Five, Beef Feeding and Nutrition; Subject Six, Beef Pests and Subject Seven, All Other Beef Subjects. The TEMIS data are presented for the five selected Extension Supervisory Districts and the State.

Comparison by Number of Agent Days Expended

Comparison of subjects and districts with respect to numbers of agents days expended--FY 1976 and FY 1978 from an examination of Tables II and III which show the order from highest to lowest number of days of State total in FY 1976 were as follows: All Other Beef Subjects, Beef Management and Planning, Beef Feeding and Nutrition, Beef Performance Testing, Beef Pests, Beef Diseases, and Beef Facilities and Equipment. The only change in this order occurred in 1978 and was a changing of places between Beef Diseases and Beef Pests due to an increase of 22 day expended on the former and a decrease of 46.3 days spent on the latter. (See Table IV.)

TABLE II

NUMBERS AND PERCENTAGE OF AGENT DAYS EXPENDED IN FY 1976 IN ALL THE DISTRICTS AND THE STATE BY BEEF CATTLE SUBJECTS ARRANGED IN ORDER OF PRIORITY EDUCATIONAL NEED

TEMIS Beef Subject	State Total		Extension District									
	Agent Days		I		II		III		IV		V	
	No.	%	Agent No.	Days %	Agent No.	Days %	Agent No.	Days %	Agent No.	Days %	Agent No.	Days %
1. Beef Mgmt. & Plan. (0616)	622.2	11.4	184.4	3.4	225.3	4.1	75.8	1.4	37.8	0.7	98.9	1.8
2. Beef Performance Testing (0620)	421.2	7.7	93.4	1.7	163.5	3.0	44.5	0.8	41.9	0.8	77.9	1.4
3. Beef Diseases (0605)	186.3	3.4	34.1	0.6	43.4	0.8	20.9	0.4	62.5	1.1	25.4	0.5
4. Beef Facilities & Equipment (0607)	54.9	1.0	22.1	0.4	8.5	0.2	7.5	0.1	5.8	0.1	11.0	0.2
5. Beef Feeding & Nutrition (0618)	483.4	8.9	172.0	3.2	123.4	2.3	60.1	1.1	55.4	1.0	72.5	1.3
6. Beef Pests (0611)	204.5	3.7	42.3	0.8	28.8	0.5	50.9	0.9	33.4	0.6	49.1	0.9
7. All Other Beef Subjects (06--)	3483.9	63.9	838.8	15.4	728.9	14.4	570.7	10.5	467.1	8.6	818.4	15.0
Total	5456.4	100.0	1387.1	25.5	1381.8	25.3	830.4	15.2	703.9	12.9	1153.2	21.1

TABLE III

NUMBERS AND PERCENTAGE OF AGENT DAYS EXPENDED IN FY 1978 IN ALL THE DISTRICTS AND THE STATE
BY BEEF CATTLE SUBJECTS ARRANGED IN ORDER OF PRIORITY EDUCATIONAL NEED

Priority Subject (Ranked)	State Total		Extension District									
	Agent Days		I		II		III		IV		V	
	No.	%	Agent No.	Days %	Agent No.	Days %	Agent No.	Days %	Agent No.	Days %	Agent No.	Days %
1. Beef Mgmt. & Plan.	473.0	10.1	141.3	3.0	97.8	2.1	85.6	1.8	35.0	0.7	113.3	2.4
2. Beef Performance Testing	332.4	7.1	59.4	1.3	135.9	2.9	37.8	0.8	39.5	0.8	59.8	1.3
3. Beef Diseases	208.3	4.4	50.1	1.1	48.4	1.0	22.3	0.5	63.6	1.5	18.9	0.4
4. Beef Facilities & Equipment	50.0	1.1	16.6	0.4	10.3	0.2	6.8	0.1	3.3	0.1	13.0	0.3
5. Beef Feeding & Nutrition	435.6	9.3	165.5	3.5	120.1	2.6	25.8	0.6	52.8	1.1	71.4	1.5
6. Beef Pests	158.2	3.4	31.4	0.7	24.8	0.5	14.1	0.3	33.4	0.7	54.5	1.2
7. All Other Beef Subjects	3030.1	64.6	742.9	15.8	695.3	14.8	463.6	9.9	430.1	9.2	698.2	14.9
Total	4687.6	100.0	1207.2	25.8	1132.6	24.2	656.0	14.0	662.7	14.1	1029.1	21.9

TABLE IV

AGENT DAY INCREASES OR DECREASES (ACTUAL SHIFTS COMPARING TIME EXPENDED) FOR ALL DISTRICTS AND THE STATE FROM FY 1976 TO FY 1978 BY BEEF SUBJECTS ARRANGED IN ORDER OF PRIORITY NEED

Priority Subject (Ranked)	Extension District					
	State Total	I	II	III	IV	V
1. Beef Mgmt. & Plan.	- 149.2	- 43.1	- 127.5	9.8	- 2.8	14.4
2. Beef Performance Testing	- 88.8	- 34.0	- 27.6	- 6.7	- 2.4	- 18.1
3. Beef Diseases	22.0	16.0	5.0	1.4	6.1	- 6.5
4. Beef Facilities & Equipment	- 4.9	- 5.5	1.8	- 0.7	- 2.5	2.0
5. Beef Feeding & Nutrition	- 47.8	- 6.5	- 3.3	- 34.3	- 2.6	- 1.1
6. Beef Pests	- 46.3	- 10.9	- 4.0	- 36.8	0.0	5.4
7. All Other Beef Subjects	- 453.8	- 95.9	- 93.6	-107.1	-37.0	- 120.2
Total	- 768.8	- 179.9	- 249.2	-174.4	-41.2	- 124.1
Total Agent Days 1976	5,456.4	1,387.1	1,381.8	830.4	703.9	1,153.2
Total Agent Days 1978	4,687.6	1,207.2	1,132.6	656.0	662.7	1,029.1

TABLE V

PERCENTAGE INCREASES AND DECREASES (RELATIVE SHIFTS) COMPARING EXTENSION AGENT DAYS EXPENDED
IN ALL DISTRICTS AND THE STATE FROM FY 1976 TO FY 1978 BY BEEF SUBJECTS
ARRANGED IN ORDER OF PRIORITY NEED

Priority Subject (Ranked)	Extension District					
	State Total	I	II	III	IV	V
1. Beef Mgmt. & Plan.	-1.4	-0.4	-2.0	0.4	0.0	0.6
2. Beef Performance Testing	-0.6	-0.4	-0.1	0.0	0.0	-0.1
3. Beef Diseases	1.1	0.5	0.2	0.1	0.4	-0.1
4. Beef Facilities & Equipment	0.1	0.0	0.0	0.0	0.0	0.1
5. Beef Feeding & Nutrition	0.4	0.3	0.3	-0.5	0.1	0.2
6. Beef Pests	-0.3	-0.1	0.0	-0.6	0.1	0.3
7. All Other Beef Subjects	0.7	0.4	0.4	-0.6	0.6	-0.1
Total	0.0	0.3	-1.2	-1.2	1.2	0.9

Comparison of the districts for 1976 shows that District I had the highest number of days, while District IV had the lowest. In 1978, District III had the lowest number of days. The reason for this change was due to increase and/or decrease of days and expended on each subject within each district (Tables IV and V).

Comparison by Percentages of Agent Days

Table V presents information regarding changes in relative percentages of agent days expended according to the beef priority subjects for the five districts and the State between FY 1976 and FY 1978. The percentages of agent time expended by subjects ranged from a slight decrease of 1.4 percent for Subject One, Beef Management and Planning to a increase of 1.1 percent for Subject Three, Beef Diseases.

Districts II and III showed total decreases of 1.2 percentages, respectively, while District I, IV, and V showed slight total increases of 0.3, 1.2, and 0.9 percentages, respectively.

Thus, overall no relative percentage changes of any real consequence (e.g. 0.9 percent of more) were to be seen. Relative percentages of time spent in FY 1976 and 1978 were about the same. However, fewer actual days were spent in FY 1978 than in FY 1976.

C. SHIFTS IN AGENT BEEF CONTACTS MADE COMPARING FY 1976 AND FY 1978

Tables VI and VII present the numbers and percents of agent contacts made for FY 1976 and FY 1978, respectively. The increases

TABLE VI

NUMBERS AND PERCENTAGE OF CONTACTS MADE IN FY 1976 IN ALL DISTRICTS AND THE STATE
BY BEEF SUBJECTS ARRANGED IN ORDER OF PRIORITY EDUCATIONAL NEED

Priority Subject (Ranked)	State Total Contact		Extension District									
			I Contact		II Contact		III Contact		IV Contact		V Contact	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
1. Beef Mgmt. & Plan.	25,218	13.4	7,610	4.0	10,246	5.5	1,971	1.0	1,307	0.7	4,084	2.2
2. Beef Performance Testing	5,938	8.2	654	0.4	2,293	1.2	383	0.2	1,040	0.6	1,563	0.8
3. Beef Diseases	7,037	3.8	1,631	0.9	2,630	1.4	475	0.3	805	0.4	1,496	0.8
4. Beef Facilities & Equipment	799	0.4	186	0.1	127	0.1	195	0.1	255	0.1	66	0.0
5. Beef Feeding & Nutrition	13,813	7.3	4,066	2.1	6,569	3.5	1,149	0.6	781	0.4	1,248	0.7
6. Beef Pests	8,997	4.8	1,659	0.9	2,745	1.5	1,939	1.0	1,345	0.7	1,309	0.7
7. All Other Beef Subjects	126,207	67.1	27,652	14.7	41,442	22.0	15,678	8.4	19,944	10.6	21,491	11.4
Total	188,009	100.0	43,458	23.1	66,052	35.2	21,795	11.6	25,447	13.5	31,257	16.6

TABLE VII

NUMBERS AND PERCENTAGE OF CONTACTS MADE IN FY 1978 IN ALL DISTRICTS AND THE STATE BY BEEF SUBJECTS ARRANGED IN ORDER OF PRIORITY EDUCATIONAL NEED

Priority Subject (Ranked)	State Total Contact		Extension District									
			I		II		III		IV		V	
			Contact No.	%	Contact No.	%	Contact No.	%	Contact No.	%	Contact No.	%
1. Beef Mgmt. & Plan.	19,014	10.3	6,659	3.6	4,236	2.3	2,441	1.3	296	0.2	5,382	2.9
2. Beef Performance Testing	4,731	2.6	528	0.3	3,137	1.7	301	0.2	342	0.2	423	0.2
3. Beef Diseases	14,343	7.8	3,394	1.8	5,086	2.8	962	0.5	2,325	1.3	2,576	1.4
4. Beef Facilities & Equipment	956	0.5	94	0.0	133	0.1	140	0.1	16	0.0	573	0.3
5. Beef Feeding & Nutrition	12,862	7.0	3,845	2.1	5,992	3.3	618	0.3	350	0.2	2,057	1.1
6. Beef Pests	2,823	1.5	499	0.3	460	0.2	470	0.2	329	0.2	1,065	0.6
7. All Other Beef Subjects	129,164	70.3	21,842	11.9	39,384	21.4	18,834	10.3	11,496	6.2	37,608	20.5
Total	183,893	100.0	36,861	20.0	58,428	31.8	23,766	12.9	15,154	8.3	49,684	27.0

and/or decreases between the numbers and percents of agents contacts made for FY 1976 and FY 1978 are shown in Tables VIII and IX. TEMIS Primary Subjects also are arranged in descending order of 1972 educational priority.

Comparison By Numbers of Contacts Made

Table VIII shows the actual increases and/or decreases between numbers of agent contacts made in FY 1976 and FY 1978 by beef priority subjects for the five districts studied and the State.

Comparison of subjects and districts with respect to contacts made in FY 1976 and FY 1978 may be made from an examination of Tables VI and VII which show the order from highest to lowest numbers of contacts made of State totals in FY 1976 were as follows: All Other Beef Subjects, Beef Management and Planning, Beef Feeding and Nutrition, Beef Pests, Beef Diseases, Beef Performance Testing and Beef Facilities and Equipment. The order of these subjects according to the State total of contacts made in FY 1978 changed to the following: All Other Beef Subjects, Beef Management and Planning, Beef Diseases, Beef Feeding and Nutrition, Beef Performance Testing, Beef Pests and Beef Facilities and Equipment. The reasons for these changes are increases or decreases in numbers of contacts made (see Tables VIII and IX) in each Subject within each district.

Comparison of district totals shows that District II had the highest number of contacts made in both years (see Tables VI and VII) while the lowest numbers of contacts were in District III in 1976 and in District IV in 1978.

TABLE VIII

INCREASES AND DECREASES (ACTUAL SHIFTS) COMPARING NUMBERS OF CONTACTS MADE IN ALL DISTRICTS AND THE STATE FROM FY 1976 TO FY 1978 BY BEEF SUBJECT ARRANGED IN ORDER OF PRIORITY NEED

Priority Subject (Ranked)	Extension District					
	State Total	I	II	III	IV	V
1. Beef Mgmt. & Plan.	-6,204	- 951	-6,010	470	- 1,011	1,298
2. Beef Performance Testing	-1,207	- 126	844	- 87	- 698	-1,140
3. Beef Diseases	7,306	1,763	2,456	487	1,520	1,080
4. Beef Facilities & Equipment	157	- 92	6	- 55	- 209	507
5. Beef Feeding & Nutrition	- 951	- 221	- 577	- 531	- 431	809
6. Beef Pests	-6,174	-1,160	-2,285	-1,469	- 1,016	- 244
7. All Other Beef Subjects	2,957	-5,810	-2,058	3,156	- 8,448	16,117
Total	-4,116	-6,597	-7,624	1,971	-10,293	18,427
Total Contacts Made 1976	188,009	43,458	66,052	21,795	25,447	31,257
Total Contacts Made 1978	183,893	36,861	58,428	23,766	15,154	49,684

TABLE IX

PERCENTAGE INCREASE OR DECREASE (RELATIVE SHIFTS) COMPARING CONTACTS MADE IN ALL DISTRICTS
AND THE STATE FROM FY 1978 BY BEEF ARRANGED IN ORDER OF PRIORITY NEED

Priority Subject (Ranked)	Extension District					
	State Total	I	II	III	IV	V
1. Beef Mgmt. & Plan.	-3.1	-0.4	-3.2	0.3	-0.5	0.7
2. Beef Performance Testing	-0.6	-0.1	0.5	0.0	-0.4	-0.6
3. Beef Diseases	4.0	0.9	1.4	0.2	0.9	0.6
4. Beef Facilities & Equipment	0.1	-0.1	0.0	0.0	-0.1	0.3
5. Beef Feeding & Nutrition	-0.3	0.0	-0.2	-0.3	-0.2	0.4
6. Beef Pests	-3.3	-0.6	-1.3	-0.8	-0.5	-0.1
7. All Other Beef Subjects	3.2	-2.8	-0.6	1.9	-4.4	9.1
Total	0.0	-3.1	-3.4	1.3	-5.2	10.4

Comparison By Percentages of Contacts Made

Table IX presents information regarding changes in relative percents of agent contacts made according to the beef priority subjects for the five districts and the State between FY 1976 and FY 1978. Percents for subject contacts ranged from a relative large net decrease of 3.3 percent for Beef Pests to a relatively small net increase of 4.0 percent for Beef Diseases.

Regarding total relative changes by District I had a decrease of 3.1 percent; District II had a decrease of 3.4 percent and District IV had a decrease of 5.2 percent. Districts III and V had a increase of 1.3 and 10.4 percent, respectively, in contacts made.

Regarding total relative changes, only District V had a consequential shift in relative percent of time spent between FY 1976 and 1978 (i.e., 10.4 percent). It is interesting to note that most of the shift was accounted for by the 9.1 percent increase in relative percent of time spent on all other Beef Subjects in District V. Thus, following the 1977 statewide beef practice checklist survey, District V agents reported an unusually large emphasis on a non-practice related subject heading.

D. SHIFTS IN AGENT TIME DEVOTED TO BEEF SUBJECTS

USING VARIOUS TEACHING METHODS

Table X and XI present the numbers and percents of agent days expended on beef subjects using the four commonly used general groups of Extension methods for FY 1976 and FY 1978. The uses of these methods

TABLE X

NUMBERS AND PERCENTAGE OF AGENT DAYS EXPENDED ON SELECTED BEEF SUBJECTS USING VARIOUS EXTENSION
TEACHING METHODS BY ALL THE DISTRICT STAFFS AND TOTALS, FY 1976

TEMIS Beef Subjects and Teaching Methods	State No.	%	Extension Supervisory Districts									
			I		II		III		IV		V	
			No.	%	No.	%	No.	%	No.	%	No.	%
Agent Days Expended												
1. Beef Mgmt. & Plan.												
a. Individual	433.2	9.7	136.8	3.1	148.3	3.3	53.3	1.2	32.5	0.7	62.3	1.4
b. Group Meetings	98.0	2.2	17.8	0.4	40.5	0.9	7.1	0.2	13.8	0.3	18.8	0.4
c. Mass Media	43.0	0.9	7.1	0.2	17.5	0.4	10.0	0.2	2.0	0.0	6.4	0.1
d. Other	21.3	0.4	1.6	0.0	9.1	0.2	6.6	0.1	3.4	0.1	0.6	0.0
Total*	595.5	13.2	163.3	3.7	215.4	4.8	77.0	1.7	51.7	1.1	88.1	1.9
2. Beef Performance Testing												
a. Individual	346.8	7.7	78.3	1.7	137.3	3.0	38.6	0.9	26.6	0.6	66.8	1.5
b. Group Meetings	48.3	1.1	9.6	0.2	21.1	0.5	1.8	0.0	11.3	0.3	4.5	0.1
c. Mass Media	1.4	0.3	2.4	0.1	4.8	0.1	0.9	0.0	1.0	0.0	2.3	0.1
d. Other	14.4	0.3	0.8	0.0	7.5	0.2	2.6	0.1	2.0	0.0	1.5	0.0
Total	421.7	9.4	91.1	2.0	170.7	3.8	43.9	1.0	40.9	0.9	75.1	1.7
3. Beef Diseases												
a. Individual	151.7	3.4	28.8	0.7	27.6	0.6	15.6	0.3	57.9	1.3	21.8	0.5
b. Group Meetings	18.7	0.4	5.9	0.1	4.8	0.1	3.5	0.1	3.4	0.1	1.1	0.0
c. Mass Media	11.7	0.2	1.8	0.0	4.8	0.1	1.4	0.0	0.9	0.0	2.8	0.1
d. Other	4.0	0.1	0.0	0.0	1.4	0.0	2.6	0.1	0.0	0.0	0.0	0.0
Total	186.1	4.1	36.5	0.8	38.6	0.8	23.1	0.5	62.2	1.4	25.7	0.6
4. Beef Facilities & Equipment												
a. Individual	45.9	1.0	16.5	0.4	9.8	0.2	5.5	0.1	5.5	0.1	8.6	0.2
b. Group Meetings	5.3	0.1	3.6	0.1	0.9	0.0	0.0	0.0	0.0	0.0	0.8	0.0
c. Mass Media	5.1	0.1	0.1	0.0	0.1	0.0	3.8	0.1	0.3	0.0	0.8	0.0
d. Other	2.8	0.0	2.1	0.0	0.4	0.0	0.3	0.0	0.0	0.0	0.0	0.0
Total	59.1	1.2	22.3	0.5	11.2	0.2	9.6	0.2	5.8	0.1	10.2	0.2

TABLE X (continued)

TEMIS Beef Subjects and Teaching Methods	State No.	State %	Extension Supervisory Districts									
			I		II		III		IV		V	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
5. Beef Feeding & Nutrition			Agent Days Expended									
a. Individual	377.6	8.4	141.9	3.1	83.5	1.9	43.4	1.0	55.4	1.2	53.4	1.2
b. Group Meetings	39.9	0.9	15.4	0.4	10.8	0.2	1.4	0.0	3.4	0.1	8.9	0.2
c. Mass Media	32.8	0.7	8.5	0.2	13.4	0.3	7.5	0.2	0.9	0.0	2.5	0.0
d. Other	15.2	0.3	0.3	0.0	7.8	0.2	5.9	0.1	0.3	0.0	0.9	0.0
Total	465.5	10.3	166.1	3.7	115.5	2.6	58.2	1.3	60.0	1.3	65.7	1.4
6. Beef Pests												
a. Individual	143.9	3.3	26.1	0.6	21.5	0.5	29.1	0.6	29.3	0.7	37.9	0.9
b. Group Meetings	30.9	0.7	9.5	0.2	3.0	0.1	7.5	0.2	8.8	0.2	2.1	0.0
c. Mass Media	24.3	0.6	4.5	0.1	5.9	0.1	7.3	0.2	2.8	0.1	3.8	0.1
d. Other	5.3	0.1	1.1	0.0	1.3	0.0	3.1	0.1	0.0	0.0	0.8	0.0
Total	204.4	4.7	41.2	0.9	31.7	0.7	47.0	1.1	40.9	1.0	44.6	1.0
7. All Other Beef Subjects												
a. Individual	1222.3	27.4	267.0	6.0	294.4	6.6	218.6	4.9	162.5	3.6	279.8	6.3
b. Group Meetings	946.8	21.2	223.1	5.0	238.5	5.3	111.1	2.5	161.1	3.6	213.0	4.8
c. Mass Media	114.1	2.5	18.9	0.4	35.5	0.8	19.6	0.4	11.5	0.3	28.6	0.6
d. Other	263.8	6.0	43.5	1.0	77.0	1.7	56.1	1.3	25.3	0.6	61.9	1.4
Total	2547.0	57.0	552.5	12.4	645.4	14.4	405.4	9.1	360.4	8.1	583.3	13.1
Grand Total	4479.3	100.0	1073.0	24.0	1228.5	27.3	663.2	14.9	621.9	13.9	892.7	19.9

*Totals are smaller than those indicated in Table II, page 21, since zero and blank subject entries were deleted.

TABLE XI

NUMBERS AND PERCENTAGE OF AGENT DAYS EXPENDED ON SELECTED BEEF SUBJECTS USING VARIOUS EXTENSION TEACHING METHODS BY ALL THE DISTRICT STAFFS AND TOTALS, FY 1978

TEMIS Beef Subjects & Teaching Methods	State No.	%	Extension Supervisory Districts									
			I		II		III		IV		V	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
			Number of Agent Days Expended									
1. Beef Mgmt. & Plan.												
a. Individual	303.8	7.8	103.8	2.7	66.9	1.7	51.9	1.3	23.6	0.6	57.6	1.5
b. Group Meetings	86.7	2.2	16.6	0.4	14.5	0.4	16.9	0.4	9.8	0.3	28.9	0.7
c. Mass Media	23.9	0.8	11.0	0.3	5.5	0.1	8.5	0.2	0.6	0.0	7.3	0.2
d. Other	21.6	0.6	4.5	0.1	4.9	0.1	4.3	0.2	0.0	0.0	7.9	0.2
Total *	445.0	11.4	135.9	3.5	91.8	2.3	81.6	2.1	34.0	0.9	101.7	2.6
2. Beef Performance Testing												
a. Individual	249.8	6.4	47.6	1.2	99.4	2.6	27.3	0.7	24.6	0.6	50.9	1.3
b. Group Meetings	50.7	1.3	6.6	0.2	22.8	0.6	3.8	0.1	12.9	0.3	4.6	0.1
c. Mass Media	13.0	0.3	2.0	0.0	4.6	0.1	5.1	0.2	0.0	0.0	1.3	0.0
d. Other	11.8	0.3	2.1	0.1	3.8	0.1	3.3	0.1	0.8	0.0	1.8	0.0
Total	325.3	8.3	58.3	1.5	130.6	3.4	39.5	1.1	38.3	0.9	58.6	1.4
3. Beef Diseases												
a. Individual	147.4	3.8	31.4	0.8	28.4	0.8	12.6	0.3	66.1	1.7	8.9	0.2
b. Group Meetings	14.4	0.4	4.4	0.1	4.9	0.1	3.1	0.1	0.0	0.0	2.0	0.1
c. Mass Media	40.2	1.0	22.8	0.6	8.8	0.2	3.5	0.1	1.6	0.0	3.5	0.1
d. Other	14.2	0.3	6.0	0.1	4.3	0.1	0.8	0.0	0.0	0.0	3.1	0.1
Total	216.2	5.5	64.6	1.6	46.4	1.2	20.0	0.5	67.7	1.7	17.5	0.5
4. Beef Facilities & Equipment												
a. Individual	33.4	0.9	14.3	0.4	1.4	0.0	6.1	0.2	3.0	0.1	8.6	0.2
b. Group Meetings	0.8	0.0	0.4	0.0	0.0	0.0	0.4	0.0	0.0	0.0	0.0	0.0
c. Mass Media	4.6	0.1	0.8	0.0	0.4	0.0	0.3	0.0	0.0	0.0	3.1	0.1
d. Other	0.3	0.0	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total	39.1	1.0	15.8	0.4	1.8	0.0	6.8	0.2	3.0	0.1	11.7	0.3

TABLE XI (continued)

TEMIS Beef Subjects & Teaching Methods	State No.	%	Extension Supervisory Districts									
			I		II		III		IV		V	
			No.	%	No.	%	No.	%	No.	%	No.	%
			Number of Agent Days Expended									
5. Beef Feeding & Nutrition												
a. Individual	341.3	8.7	141.4	3.6	81.0	2.1	15.1	0.4	48.8	1.2	55.0	1.4
b. Group Meetings	40.0	1.0	8.4	0.2	23.4	0.6	3.4	0.1	2.5	0.1	2.3	0.0
c. Mass Media	36.9	1.0	9.8	0.3	16.5	0.4	5.5	0.2	1.5	0.0	3.6	0.1
d. Other	18.2	0.5	6.5	0.3	8.8	0.2	1.3	0.0	0.0	0.0	1.6	0.0
Total	436.4	11.1	166.1	4.4	129.7	3.3	25.3	0.6	52.8	1.3	62.5	1.5
6. Beef Pests												
a. Individual	113.2	2.9	22.6	0.6	17.6	0.4	9.0	0.2	26.0	0.7	38.0	1.0
b. Group Meetings	18.2	0.5	1.8	0.0	2.6	0.1	0.4	0.0	6.8	0.2	6.4	0.2
c. Mass Media	14.1	0.4	3.0	0.1	2.8	0.1	3.4	0.1	0.6	0.0	4.3	0.1
d. Other	5.3	0.1	2.1	0.1	0.8	0.0	0.5	0.0	0.0	0.0	1.9	0.0
Total	150.6	3.9	29.5	0.8	23.8	0.6	13.3	0.3	33.4	0.9	50.6	1.3
7. All Other Beef Subjects												
a. Individual	1125.3	28.7	271.9	6.9	280.9	7.1	136.9	3.5	154.5	4.0	281.1	7.2
b. Group Meetings	799.7	20.4	193.5	4.9	179.8	4.6	94.4	2.4	160.6	4.1	171.4	4.4
c. Mass Media	140.7	3.6	25.0	0.6	35.4	0.9	22.5	0.6	10.8	0.3	47.0	1.2
d. Other	240.2	6.1	53.1	1.4	57.6	1.5	54.9	1.4	19.1	0.4	55.5	1.4
Total	2305.9	58.8	543.5	13.8	553.7	14.1	308.7	7.9	345.0	8.8	555.5	14.2
Grand Total	3918.5	100.0	1013.7	26.0	977.8	24.9	495.2	12.7	574.2	14.6	857.6	21.8

*Totals are smaller than those indicated in Table III, page 22, since zero and blank subject entries were deleted.

were then compared in Tables XII and XIII, to determine whether any changes had occurred between FY 1976 and FY 1978. Again, data were analyzed by districts and according to the seven beef subject categories used throughout the study.

Methods Compared by Number of Agent Days

Table XII presents a comparison of shifts in numbers of agent days devoted to beef subjects using selected Extension methods according to the five districts and the State. Regarding changes in total days spent using different teaching methods on beef subjects for the five districts between FY 1976 and FY 1978, days ranged from a high increase of 28.5 days for Mass Media spent on Subject Three to a low decrease of 147.1 days, for Group Meetings devoted to Subject Seven.

When individual districts and all methods are compared, it may be noted that shifts in days devoted to the various beef subjects ranged from an increase of 21.0 days in Mass Media spent on Subject Three, District I, to a decrease of 81.7 days in Individual Methods on Subject Seven, District III.

Comparing the separate teaching method classification used, Individual Method showed changes ranging from a decrease of 81.7 days in District III on Subject Seven to an increase of 8.2 days in District IV on Subject Three. Group Meetings changes ranged from a decrease of 58.7 days in District II on Subject Seven to an increase of 12.6 days in District II on Subject Five. Mass Media changes ranged from a decrease of 1.20 days in District II on Subject One to an increase of 21 days in District One on Subject Three. Other Methods made changes ranging

TABLE XII

SHIFTS IN NUMBER OF AGENT DAYS EXPENDED ON SELECTED BEEF SUBJECTS USING EXTENSION
TEACHING METHODS BY ALL DISTRICT STAFFS, FY 1976 AND FY 1978

TEMIS Beef Subjects & Teaching Methods	Extension Supervisory Districts					
	State	I	II	III	IV	V
	Number of Agent Days Expended					
1. Beef Mgmt. & Plan.						
a. Individual	-129.4	-33.0	-81.4	- 1.4	- 8.9	- 4.7
b. Group Meetings	- 11.3	- 1.2	-26.0	9.8	- 4.0	10.1
c. Mass Media	- 10.1	3.9	-12.0	- 1.5	- 1.4	0.9
d. Other	0.3	2.9	- 4.2	- 2.3	- 3.4	7.3
Total	-150.5	-27.4	-123.6	4.6	-17.7	13.6
Total Days 1976	595.5	163.3	215.4	77.0	51.7	88.1
Total Days 1978	445.0	135.9	91.8	81.6	34.0	101.7
2. Beef Performance Testing						
a. Individual	-96.0	-30.7	-37.9	-11.3	-2.0	-15.9
b. Group Meetings	2.4	- 3.0	1.7	2.0	1.6	0.1
c. Mass Media	1.6	- 0.4	- 0.2	4.2	-1.0	- 1.0
d. Other	- 2.6	1.3	- 3.7	0.7	-1.2	0.3
Total	-95.6	-32.8	-40.1	- 4.4	-2.6	-16.5
Total Days 1976	420.9	91.1	170.7	43.9	40.9	75.1
Total Days 1978	325.3	58.3	130.6	39.5	38.3	58.6
3. Beef Diseases						
a. Individual	- 4.3	2.6	0.8	- 3.0	8.2	-12.9
b. Group Meetings	- 4.3	- 1.5	0.1	- 0.4	-3.4	0.9
c. Mass Media	28.5	21.0	4.0	2.1	0.7	0.7
d. Other	10.2	6.0	2.9	- 1.8	0.0	3.1
Total	30.1	28.1	7.8	- 3.1	5.5	- 8.2
Total Days 1976	186.1	36.5	38.6	23.1	62.2	24.7
Total Days 1978	216.2	64.6	46.4	20.0	67.7	17.5

TABLE XII (continued)

TEMIS Beef Subjects & Teaching Methods	Extension Supervisory Districts					
	State	I	II	III	IV	V
4. Beef Facilities & Equipment	Number of Agent Days Expended					
a. Individual	-12.5	- 2.2	- 8.4	0.6	- 2.5	0.0
b. Group Meetings	- 4.5	- 3.2	- 0.9	0.4	0.0	- 0.8
c. Mass Media	- 0.5	0.7	0.3	- 3.5	- 0.3	2.3
d. Other	- 2.5	- 1.8	- 0.4	- 0.3	0.0	0.0
Total	-20.0	- 6.5	- 9.4	- 2.8	- 2.8	1.5
Total Days 1976	59.1	22.3	11.2	9.6	5.8	10.2
Total Days 1978	39.1	15.8	1.8	6.8	3.0	11.7
5. Beef Feeding & Nutrition						
a. Individual	-36.3	- 0.5	- 2.5	-28.3	- 6.6	1.6
b. Group Meetings	0.1	- 7.0	12.6	2.0	- 0.9	- 6.6
c. Mass Media	4.1	1.3	3.1	- 2.0	0.6	1.1
d. Other	3.0	6.2	1.0	- 4.6	- 0.3	0.7
Total	-29.1	0.0	14.2	-32.9	- 7.2	- 3.2
Total Days 1976	465.8	166.1	115.5	58.2	60.0	65.7
Total Days 1978	436.4	166.1	129.7	25.3	52.8	62.5
6. Beef Pests						
a. Individual	-30.7	- 3.5	- 3.9	-20.1	- 3.3	0.1
b. Group Meetings	-12.9	- 7.7	- 0.4	- 7.1	- 2.0	4.3
c. Mass Media	-10.2	- 1.5	- 3.1	- 3.9	- 2.2	0.5
d. Other	0.0	1.0	- 0.5	- 1.6	0.0	1.1
Total	-53.8	-11.7	- 7.9	-32.7	- 7.5	6.0
Total Days 1976	204.4	41.2	31.7	46.0	40.7	44.6
Total Days 1978	150.6	29.5	23.8	13.3	33.4	50.6

TABLE XII (continued)

TEMIS Beef Subjects & Teaching Methods	Extension Supervisory Districts					
	State	I	II	III	IV	V
7. All Other Beef Subjects	Number of Agent Days Expended					
a. Individual	- 97.0	4.9	-13.5	-81.7	- 8.0	1.3
b. Group Meetings	-147.1	-29.6	-58.7	-16.7	- 0.5	-41.6
c. Mass Media	26.6	6.1	- 0.1	2.9	- 0.7	18.4
d. Other	- 23.6	9.6	-19.4	- 1.2	- 6.2	- 6.4
Total	-241.1	- 9.0	-91.7	-96.7	-15.4	-28.3
Total Days 1976	2547.0	552.5	645.4	405.4	360.4	583.3
Total Days 1978	2305.9	543.5	553.7	308.7	345.0	555.0

TABLE XIII

RELATIVE PERCENTAGE SHIFTS OF AGENT DAYS ON SELECTED BEEF SUBJECTS
USING EXTENSION TEACHING METHODS BY ALL DISTRICT
STAFFS, FY 1976 AND FY 1978

TEMS Beef Subjects & Teaching Methods	Extension Supervisory Districts				
	I	II	III	IV	V
	State	Percentage of Agent Days Expanded			
1. Beef Mgmt. & Plan.					
a. Individual	-1.9	-0.4	0.1	-0.1	0.1
b. Group Meetings	0.0	0.0	0.2	0.0	0.3
c. Mass Media	-0.1	0.1	0.0	0.0	0.1
d. Other	0.2	-0.1	0.1	-0.1	0.2
Total	-1.8	-0.2	0.4	-0.2	0.7
2. Beef Performance Testing					
a. Individual	-1.3	-0.5	-0.2	0.0	-0.2
b. Group Meetings	0.2	0.0	0.1	0.0	0.0
c. Mass Media	0.0	-0.1	0.2	0.0	-0.1
d. Other	0.0	0.1	0.0	0.0	0.0
Total	-1.1	-0.5	0.1	0.0	-0.3
3. Beef Diseases					
a. Individual	0.4	0.1	0.0	0.4	-0.3
b. Group Meetings	0.0	0.0	0.0	-0.1	0.1
c. Mass Media	0.8	0.6	0.1	0.0	0.0
d. Other	0.2	0.1	-0.1	0.0	0.1
Total	1.4	0.8	0.0	0.3	-0.1
4. Beef Facilities & Equipment					
a. Individual	-0.1	0.0	0.1	0.0	0.0
b. Group Meetings	-0.1	0.0	0.0	0.0	0.0
c. Mass Media	0.0	0.0	-0.1	0.0	0.1
d. Other	0.0	0.0	0.0	0.0	0.0
Total	-0.2	-0.1	0.0	0.0	0.1
5. Beef Feeding & Nutrition					
a. Individual	0.3	0.5	-0.6	0.0	0.2
b. Group Meetings	0.1	-0.2	0.1	0.0	-0.2
c. Mass Media	0.3	0.1	0.0	0.0	0.1
d. Other	0.2	0.0	-0.1	0.0	0.0
Total	0.9	-0.7	-0.6	0.0	0.1
6. Beef Pests					
a. Individual	-0.4	0.0	-0.4	0.0	0.1
b. Group Meetings	-0.2	-0.2	0.0	0.0	0.2
c. Mass Media	-0.2	0.0	-0.1	-0.1	0.0
d. Other	0.0	0.0	-0.1	0.0	0.0
Total	-0.8	-0.1	-0.8	-0.1	0.3
7. All Other Beef Subjects					
a. Individual	1.3	0.9	-1.4	0.4	0.9
b. Group Meetings	-0.8	-0.1	-0.1	0.5	-0.4
c. Mass Media	1.1	0.2	0.2	0.0	0.6
d. Other	0.1	0.4	0.1	-0.2	0.0
Total	1.7	1.4	-1.2	0.7	1.1

from a decrease of 19.4 days in District II on Subject Seven to an increase of 9.6 days in District I on Subject Seven.

Since subjects are arranged in descending order of importance based on their weakness of use in 1972, it is interesting to note that actual days spent on weaker subjects increased in District III, or decreased less, than was generally true for other districts. Somewhat the reverse was noted for Districts I and II, especially on Subjects One and Two.

E. METHODS COMPARED BY PERCENTAGES OF AGENT DAYS

Information in Table XIII permits comparison of shifts in relative percents of agent days on beef subjects using certain Extension methods in five districts and the State. Change in percents of days devoted between FY 1976 and FY 1978 ranged from an increase of 1.3 percent in days spent using Individual Methods on Subject Seven to a decrease of 1.9 percent using Individual Methods Subject One.

Subjects Three, Five, and Seven had net relative increases of 1.4, 0.9, and 1.7 percents, respectively, which may have been due to increases in percents devoted mostly to Individual Methods and Mass Media, and a very slight loss in Group Meetings. The other subjects had decreases of 1.8, 1.1, 0.2, and 0.8 percents in net relative percents of agent days on Subjects One, Two, Four, and Six, respectively.

When districts are compared, it is seen that shifts in relative percentages of days devoted ranged from increases of 0.9 percent in

Individual Methods on Subject Seven in Districts I and V to a decrease of 0.6 percent, also in Individual Methods, on Subject One in District II. Most changes were relatively small. Thus, none of the relative present shifts in time denoted to beef subjects were consequential.

F. METHODS COMPARED BY NUMBER OF CONTACTS MADE

Table XIV and XV present the numbers and percents of contacts made on selected beef subjects using various Extension teaching methods in five Extension Supervisory districts for FY 1976 and FY 1978, respectively. Table XVI and XVII present comparisons for shifts in actual numbers and relative percents of contacts made using selected extension methods according to the five districts and the State.

As shown in Table XVI regarding changes in number of contacts made using different teaching methods on beef subjects in the five district (i.e. State) totals between FY 1976 and FY 1978, contacts ranged from a high increase of 11,903 contacts by means of Mass Media reported on Subject Seven to a low decrease of 13,165 contacts, on Group Meetings also for Subject Seven.

When individual districts are compared, it may be noted that shifts in contacts ranged from a decrease of 8,812 contacts in District II on Subject Seven, Group Meetings to an increase of 7,478 contacts in District V on Subject Seven, Mass Media Methods.

Comparing the teaching methods used, Individual Methods had changes ranging from a decrease of 2,473 contacts in District II on Subject One to an increase of 5,065 contacts in District II on Subject

TABLE XIV

NUMBERS AND PERCENTAGE OF CONTACTS MADE ON SELECTED BEEF SUBJECTS USING VARIOUS EXTENSION TEACHING METHODS BY ALL THE DISTRICT STAFFS AND TOTALS, FY 1976

TEMIS Beef Subjects and Teaching Methods	Extension Supervisory Districts											
	State		I		II		III		IV		V	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
Contacts Made												
1. Beef Mgmt. & Plan.												
a. Individual	6,594	4.0	1,000	0.6	3,923	2.5	542	0.3	353	0.2	776	0.4
b. Group Meetings	5,294	3.2	1,034	0.6	2,396	1.4	409	0.3	472	0.3	983	0.6
c. Mass Media	12,522	7.5	5,273	3.2	3,861	2.2	977	0.6	474	0.3	1,937	1.2
d. Other	105	0.1	3	0.0	61	0.1	33	0.0	8	0.0	0	0.0
Total*	24,515	14.8	7,310	4.4	10,241	6.2	1,961	1.2	1,307	0.8	3,696	2.2
2. Beef Performance Testing												
a. Individual	3,204	1.9	531	0.3	858	0.5	348	0.2	608	0.3	859	0.5
b. Group Meetings	1,620	1.0	217	0.2	1,216	0.7	6	0.0	79	0.0	102	0.1
c. Mass Media	586	0.4	0	0.0	70	0.0	0	0.0	0	0.0	516	0.3
d. Other	121	0.0	4	0.0	69	0.0	33	0.0	7	0.0	8	0.0
Total	5,531	3.3	752	0.5	2,213	1.3	387	0.2	694	0.4	1,485	0.9
3. Beef Diseases												
a. Individual	2,721	1.6	160	0.1	1,191	0.7	146	0.1	815	0.5	409	0.2
b. Group Meetings	943	0.7	224	0.2	224	0.2	326	0.2	76	0.0	93	0.1
c. Mass Media	3,354	2.0	1,225	0.7	1,163	0.7	0	0.0	0	0.0	966	0.6
d. Other	52	0.0	0	0.0	50	0.0	2	0.0	0	0.0	0	0.0
Total	7,070	4.3	1,609	1.0	2,628	1.6	474	0.3	891	0.5	1,468	0.9
4. Beef Facilities & Equipment												
a. Individual	290	0.2	110	0.1	57	0.1	37	0.0	25	0.0	61	0.0
b. Group Meetings	97	0.0	32	0.0	60	0.0	0	0.0	0	0.0	5	0.0
c. Mass Media	358	0.2	0	0.0	0	0.0	158	0.1	200	0.1	0	0.0
d. Other	7	0.0	7	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Total	752	0.4	149	0.1	117	0.1	195	0.1	225	0.1	66	0.0

TABLE XIV (continued)

TEMIS Beef Subjects and Teaching Methods	State		Extension Supervisory Districts									
	No.	%	I No.	%	II No.	%	III No.	%	IV No.	%	V No.	%
Contacts Made												
5. Beef Feeding & Nutrition												
a. Individual	3,664	2.2	1,157	0.7	1,043	0.6	287	0.2	508	0.2	669	0.5
b. Group Meetings	2,659	1.6	1,554	0.9	589	0.4	92	0.1	150	0.1	274	0.1
c. Mass Media	7,422	4.5	1,341	0.8	4,723	2.9	764	0.4	300	0.2	294	0.2
d. Other	81	0.0	0	0.0	72	0.0	5	0.0	0	0.0	4	0.0
Total	13,826	8.3	4,052	2.4	6,427	3.9	1,148	0.7	958	0.5	1,241	0.8
6. Beef Pests												
a. Individual	1,725	1.2	250	0.2	269	0.2	341	0.3	240	0.1	645	0.4
b. Group Meetings	1,072	0.5	346	0.2	53	0.0	254	0.1	343	0.2	66	0.0
c. Mass Media	6,016	3.6	1,075	0.6	2,440	1.5	1,315	0.8	652	0.4	534	0.3
d. Other	7	0.0	7	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Total	8,820	5.3	1,678	1.0	2,742	1.7	1,910	1.2	1,245	0.7	1,245	0.7
7. All Other Beef Subjects												
a. Individual	17,013	10.2	3,123	1.9	3,886	2.3	3,798	2.3	1,984	1.2	4,222	2.5
b. Group Meetings	54,940	33.1	12,359	7.8	20,292	12.2	3,728	2.2	11,568	7.0	6,493	3.9
c. Mass Media	27,199	16.4	6,594	4.0	11,582	7.0	3,509	2.1	1,873	1.1	3,641	2.2
d. Other	6,304	3.9	1,218	0.7	1,308	0.8	813	0.5	284	0.2	2,681	1.7
Total	105,456	63.6	23,794	14.4	37,068	22.3	11,848	7.1	15,709	9.5	17,037	10.3
Grand Total	165,970	100.0	39,344	23.7	72,469	37.0	17,923	10.8	21,029	12.7	26,238	15.8

*Totals are smaller than those indicated in Table VI, page 26, since zero and blank subject entries were deleted.

TABLE XV

NUMBERS AND PERCENTAGE OF CONTACTS MADE ON SELECTED BEEF SUBJECTS USING VARIOUS EXTENSION TEACHING METHODS BY ALL THE DISTRICT STAFFS AND TOTALS, FY 1978

TEMIS Beef Subjects and Teaching Methods	State No.	State %	Extension Supervisory Districts									
			I		II		III		IV		V	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
Contacts Made												
1. Beef Mgmt. & Plan.												
a. Individual	4,012	2.5	792	0.5	1,450	0.9	591	0.4	199	0.1	980	0.6
b. Group Meetings	4,741	2.9	1,343	0.8	1,086	0.7	551	0.3	131	0.1	1,630	1.0
c. Mass Media	9,911	6.2	4,386	2.7	1,645	1.0	1,229	0.8	0	0.0	2,651	1.7
d. Other	228	0.1	134	0.1	34	0.0	23	0.0	0	0.0	37	0.0
Total*	18,892	11.7	6,655	4.1	4,215	2.6	2,394	1.5	330	0.2	5,298	3.3
2. Beef Performance Testing												
a. Individual	1,978	1.2	367	0.2	858	0.5	168	0.1	232	0.2	353	0.2
b. Group Meetings	1,124	0.8	98	0.1	747	0.5	88	0.0	103	0.1	88	0.1
c. Mass Media	1,565	1.0	33	0.0	1,521	1.0	0	0.0	0	0.0	11	0.0
d. Other	41	0.0	14	0.0	2	0.0	20	0.0	4	0.0	1	0.0
Total	4,708	3.0	512	0.3	3,128	2.0	276	0.1	339	0.3	453	0.3
3. Beef Diseases												
a. Individual	2,966	1.9	341	0.2	618	0.4	217	0.2	1,689	1.0	101	0.1
b. Group Meetings	782	0.5	275	0.2	314	0.2	39	0.0	0	0.0	154	0.1
c. Mass Media	9,340	5.8	1,680	1.1	4,145	2.5	681	0.4	700	0.5	2,134	1.3
d. Other	1,293	0.8	1,077	0.7	9	0.0	23	0.0	0	0.0	184	0.1
Total	14,381	8.9	3,373	2.1	5,086	3.1	960	0.6	2,389	1.5	2,573	1.6
4. Beef Facilities & Equipment												
a. Individual	345	0.3	77	0.1	6	0.0	77	0.1	16	0.0	169	0.1
b. Group Meetings	10	0.0	7	0.0	0	0.0	3	0.0	0	0.0	0	0.0
c. Mass Media	467	0.2	5	0.0	0	0.0	60	(0.03)	0	0.0	402	0.2
d. Other	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Total	822	0.5	89	0.1	6	0.0	140	0.1	16	0.0	571	0.3

TABLE XV (continued)

TEMIS Beef Subjects and Teaching Methods	Extension Supervisory Districts											
	State		I		II		III		IV		V	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
Contacts Made												
5. Beef Feeding & Nutrition												
a. Individual	3,073	2.0	1,242	0.8	845	0.5	144	0.1	297	0.2	545	0.4
b. Group Meetings	2,516	1.6	1,583	1.0	555	0.4	114	0.1	47	0.0	212	0.1
c. Mass Media	6,965	4.3	883	0.5	4,461	2.8	349	0.2	0	0.0	1,272	0.8
d. Other	87	0.0	31	0.0	38	0.0	8	0.0	0	0.0	10	0.0
Total	12,641	7.9	3,744	2.3	5,899	3.7	615	0.4	344	0.2	2,039	1.3
6. Beef Pests												
a. Individual	1,175	0.7	191	0.1	144	0.1	82	0.1	241	0.1	517	0.3
b. Group Meetings	470	0.2	181	0.1	25	0.0	2	0.0	77	(0.048)	185	0.1
c. Mass Media	792	0.5	2	0.0	290	0.2	386	0.2	0	0.0	114	0.1
d. Other	11	0.0	7	0.0	1	0.0	0	0.0	0	0.0	3	0.0
Total	2,448	1.4	381	0.2	460	0.3	470	0.3	318	0.1	819	0.5
7. All Other Beef Subjects												
a. Individual	22,015	13.6	4,585	2.9	8,951	5.4	1,876	1.2	1,412	0.9	5,191	3.2
b. Group Meetings	41,776	25.9	9,384	5.8	11,480	7.1	3,241	2.0	6,368	4.0	11,303	7.0
c. Mass Media	39,102	24.3	4,137	2.6	13,413	8.4	8,895	5.5	1,538	0.9	11,119	6.9
d. Other	4,563	2.8	528	0.3	2,039	1.3	547	0.3	323	0.2	1,126	0.7
Total	107,456	66.6	18,634	11.6	35,883	22.2	14,559	9.0	9,641	6.0	28,739	17.8
Grand Total	161,348	100.0	33,388	20.7	54,677	33.9	19,414	12.0	13,377	8.3	40,492	25.1

*Totals are smaller than those indicated in Table VII, page 27, since zero and blank subject entries were deleted.

TABLE XVI

ACTUAL SHIFTS IN NUMBERS OF CONTACTS MADE ON SELECTED BEEF SUBJECTS USING EXTENSION
TEACHING METHODS BY ALL DISTRICT STAFFS, FY 1976 AND FY 1978

TEMIS Beef Subjects & Teaching Methods	State	Extension Supervisory Districts				
		I	II	III	IV	V
		Shifts in Number of Contacts Made				
1. Beef Mgmt. & Plan.						
a. Individual	- 2,582	- 208	- 2,473	49	- 154	204
b. Group Meetings	- 553	309	- 1,310	142	- 341	647
c. Mass Media	- 2,611	- 887	- 2,216	252	- 474	714
d. Other	123	131	- 27	- 10	- 8	37
Total	- 5,623	- 655	- 6,026	433	- 977	1,602
Total Contacts 1976	24,515	7,310	10,241	1,961	1,307	3,696
Total Contacts 1978	18,892	6,655	4,215	2,394	330	5,298
2. Beef Performance Testing						
a. Individual	- 1,226	- 164	0	- 180	- 376	- 506
b. Group Meetings	- 496	- 119	- 469	82	24	- 14
c. Mass Media	979	33	1,451	0	0	- 505
d. Other	- 80	10	- 67	- 13	- 3	- 7
Total	- 823	- 240	915	- 111	- 355	- 1,032
Total Contacts 1976	5,531	752	2,213	387	694	1,485
Total Contacts 1978	4,708	512	3,128	276	339	453
3. Beef Diseases						
a. Individual	245	181	- 573	71	874	- 308
b. Group Meetings	- 161	51	90	- 287	- 76	61
c. Mass Media	5,986	455	2,982	681	700	1,168
d. Other	1,241	1,077	- 41	21	0	184
Total	7,311	1,764	2,458	486	1,498	1,105
Total Contacts 1976	7,070	1,609	2,628	474	891	1,468
Total Contacts 1978	14,381	3,373	5,086	960	2,389	2,573

TABLE XVI (continued)

TEMIS Beef Subjects & Teaching Methods	Extension Supervisory Districts						
	State	I	II	III	IV	V	
4. Beef Facilities & Equipment		Shifts in Number of Contacts Made					
a. Individual	55	- 33	- 51	40	- 9	108	
b. Group Meetings	- 87	- 25	- 60	3	0	- 5	
c. Mass Media	109	5	0	- 98	- 200	402	
d. Other	- 7	- 7	0	0	0	0	
Total	70	- 60	- 111	- 55	- 209	505	
Total Contacts 1976	752	149	117	195	225	66	
Total Contacts 1978	822	89	6	140	16	571	
5. Beef Feeding and Nutrition							
a. Individual	- 591	85	- 198	- 143	- 211	- 124	
b. Group Meetings	- 143	34	- 34	22	- 103	- 62	
c. Mass Media	- 457	- 458	- 262	- 415	- 300	978	
d. Other	6	31	- 34	3	0	6	
Total	-1,185	- 308	- 528	- 533	- 614	798	
Total Contacts 1976	13,826	4,052	6,427	1,148	958	1,241	
Total Contacts 1978	12,641	3,744	5,899	615	344	2,039	
6. Beef Pests							
a. Individual	- 550	- 59	- 105	- 259	1	- 128	
b. Group Meetings	- 602	- 165	- 28	- 252	- 276	119	
c. Mass Media	-5,224	-1,073	-2,150	- 929	- 652	- 420	
d. Other	4	0	1	0	0	3	
Total	-6,372	-1,297	-2,282	-1,440	- 927	- 426	
Total Contacts 1976	8,820	1,678	2,742	1,910	1,245	1,245	
Total Contacts 1978	2,448	381	460	470	318	819	

TABLE XVI (continued)

TEMIS Beef Subjects & Teaching Methods	State	Extension Supervisory Districts				
		I	II	III	IV	V
7. All Other Beef Subjects		Shifts in Number of Contacts Made				
a. Individual	5,002	1,462	5,065	-1,922	- 572	969
b. Group Meetings	-13,164	-3,475	-8,812	- 487	-5,200	4,810
c. Mass Media	11,903	-2,457	1,831	5,386	- 335	7,478
d. Other	- 1,741	- 690	731	- 266	39	- 1,555
Total	2,000	-5,160	-1,185	2,711	-6,068	11,702
Total Contacts 1976	105,456	23,794	37,068	11,848	15,709	17,037
Total Contacts 1978	107,456	18,634	35,883	14,559	9,641	28,738

TABLE XVII

RELATIVE PERCENTAGE SHIFTS IN CONTACTS MADE ON SELECTED SUBJECTS USING EXTENSION
TEACHING METHODS BY ALL DISTRICT STAFFS, FY 1976 AND FY 1978

TEMIS Beef Subjects and Teaching Methods	State	Extension Supervisory Districts				
		I	II	III	IV	V
		Relative Percentage Change				
1. Beef Mgmt. & Plan.						
a. Individual	-1.5	-0.1	-1.6	0.1	-0.1	0.2
b. Group Meetings	-0.3	0.2	-0.7	0.0	-0.2	0.4
c. Mass Media	-1.3	-0.5	-1.2	0.2	-0.3	0.5
d. Other	0.0	0.1	-0.1	0.0	0.0	0.0
Total	-3.1	-0.3	-3.6	0.3	-0.6	1.1
2. Beef Performance Testing						
a. Individual	-0.8	-0.1	0.0	-0.1	-0.3	-0.3
b. Group Meetings	-0.2	-0.1	-0.2	0.0	0.1	0.0
c. Mass Media	0.6	0.0	0.9	0.0	0.0	-0.3
d. Other	-0.0	0.0	0.0	0.0	0.0	0.0
Total	-0.4	-0.2	0.7	-0.2	-0.2	-0.6
3. Beef Diseases						
a. Individual	0.3	0.1	-0.3	0.1	0.5	-0.1
b. Group Meetings	-0.2	0.0	0.0	-0.2	0.0	0.0
c. Mass Media	3.7	0.3	1.8	0.4	0.5	0.7
d. Other	0.8	0.7	0.0	0.0	0.0	0.1
Total	4.6	1.1	1.5	0.3	1.0	0.7

TABLE XVII (continued)

TEMIS Beef Subjects and Teaching Methods	Extension Supervisory Districts						
	State	I	II	III	IV	V	
4. Beef Facilities & Equipment			Relative Percentage Change				
a. Individual	0.1	0.0	-0.1	0.1	0.0	0.1	
b. Group Meetings	-0.1	0.0	0.0	0.0	0.0	0.0	
c. Mass Media	0.0	0.0	0.0	-0.1	-0.1	0.2	
d. Other	0.0	0.0	0.0	0.0	0.0	0.0	
Total	0.0	0.0	-0.1	0.0	-0.2	0.3	
5. Beef Feeding & Nutrition							
a. Individual	-0.2	0.1	-0.1	-0.1	0.0	-0.1	
b. Group Meetings	0.0	0.1	0.0	0.0	-0.1	0.0	
c. Mass Media	-0.2	-0.3	-0.1	-0.2	-0.2	0.6	
d. Other	0.0	0.0	0.0	0.0	0.0	0.0	
Total	-0.4	-0.1	-0.2	-0.3	-0.3	0.5	
6. Beef Pests							
a. Individual	-0.3	-0.1	-0.1	-0.2	0.0	-0.1	
b. Group Meetings	-0.4	-0.1	0.0	-0.1	-0.2	0.1	
c. Mass Media	-3.1	-0.6	-1.3	-0.6	-0.4	-0.2	
d. Other	0.0	0.0	0.0	0.0	0.0	0.0	
Total	-3.8	-0.8	-1.4	-0.9	-0.5	-0.2	
7. All Other Beef Subjects							
a. Individual	3.4	1.0	3.1	-1.1	-0.3	0.7	
b. Group Meetings	-7.2	-2.0	-5.1	-0.2	-3.0	3.1	
c. Mass Media	7.9	-1.4	1.4	3.4	-0.2	4.7	
d. Other	-1.0	-0.4	0.5	-0.2	0.0	-1.0	
Total	3.1	-2.8	-0.1	1.9	-3.5	7.5	

Seven. Group Meetings had changes ranging from a decrease of 8,812 contacts in District II on Subject Seven to an increase of 4,810 contacts in District V on Subject Seven. Mass Media experienced change ranging from a decrease of 2,457 contacts in District I on Subject Seven to an increase of 7,478 contacts in District V on Subject Seven. Other Methods had changes ranging from a decrease of 1,555 contacts in District V on Subject Seven to an increase of 1,077 contacts in District I on Subject Three.

G. METHODS COMPARED BY PERCENTAGES OF CONTACTS MADE

Perusal of information in Table XVII permits comparison of shifts in relative percentages of contacts made by agents on beef subjects using certain Extension methods according to the five districts and the State. Changes in percentages of contacts for the five districts (i.e. State) total between FY 1976 and FY 1978 ranged from an increase of 7.9 percent of contacts using Mass Media on Subject Seven to a decrease of 7.2 percent contacts using Group Meetings on Subject Seven.

When districts are compared, it is found that shifts in percentages of contacts ranged from an increase of 4.7 percent in Mass Media on Subject Seven in District V to a decrease of 5.1 percent in Group Meetings on Subject Seven in District II.

CHAPTER V

SUMMARY, IMPLICATIONS, AND RECOMMENDATIONS

Program determination and program evaluation are important and necessary processes for Extension personnel to use in order to help county residents identify and satisfy their needs and reach their personal, group and community goals. By relating Tennessee Extension Management Information System (TEMIS) data concerning agent time expended, and contacts made via selected teaching methods to beef practice checklist survey data, it was felt that Extension beef educational programs might be evaluated and better planned in the future in terms of the priority needs of the State's beef producers. The major purpose of this study was to determine possible implications of available 1976 and 1978 TEMIS data for the 1972 Statewide Beef Practice Checklist Survey (SBPCS) and for Extension's related educational program.

Specific study objectives included the following; (1) to study BPCS and TEMIS data together in a meaningful, prioritized way; (2) to study shifts in time reportedly expended in FY 1976 and FY 1978 by Tennessee Agents doing beef educational work in five Extension Supervisory Districts for which data were available in order to try to measure the impact of the 1972 SBPCS based on changes reflected in the 1977 survey; (3) to study shifts in contacts made in FY 1976 and 1978 by Tennessee agents doing beef educational work in the five Extension districts and to try to measure any shifts brought about by the 1972 SBPCS based on changes reflected in the 1977 Survey; and

(4) to study Extension methods used in FY 1976 and FY 1978 and note shifts in methods used and consider the relative effectiveness of the methods used in teaching beef producers.

Information from the SBPCS conducted in 1972 and 1977 comparing beef producers in the five districts of Tennessee regarding their use of certain recommended beef practices was used as the basis for identifying the priority educational needs of the producers. Information collected from TEMIS computer printouts included agent days expended, contacts made, and teaching methods used in terms of days expended and contacts made according to counties.

A "concern level" of 60 percent was set up for subject prioritized sot this study. Beef subjects and related practices having 60 percent or less in average Statewide grower use were considered to be "of program concern" or "weak."

A. SUMMARY OF FINDINGS

It was noted in the study that dollar values of cattle marketed in Tennessee increased from \$251 million in 1972 to \$273 million in 1977 (12:40). The numbers of the twelve Extension related recommended practices used by beef producers surveyed in 1977 were found to be positively associated with the numbers of contacts they reported having with Extension. The higher the number of practices used the greater the number of Extension contacts reported. Similar relations were expected with yield, but yield data were found unreliable (2).

Relation of BPCS and TEMIS Data

The 12 recommended practices were classified under six TEMIS subject headings to permit relating BPCS and TEMIS information. They were ordered from least used (i.e., weakest) to most used (i.e., strongest). It was assumed that data from the two sources could be mixed and related. Two of the six TEMIS subjects were found to be far below the concern level of 60 percent for both the 1972 and the 1977 BPCS in the State totals. The two were Beef Management and Planning, and Beef Performance Testing which had percentages of use of 8 percent and 16 percent, respectively, in 1972, and eight percent and 27 percent, respectively, in 1977. The other TEMIS subjects below the concern level in 1972 were: Beef Diseases by 44 percent; and Beef Facilities and Equipment by 59 percent. In 1977, use of those related to Beef Feeding and Nutrition was 59 percent. The other TEMIS subjects above the concern level in 1972 were: Beef Feeding and Nutrition was 63 percent, and use of those related to Beef Pests was 63 percent. In 1977, use of the practice related to Beef Facilities and Equipment was 66 percent; use of the two practices related to Beef Pests was 79 percent.

The grand total average practice use for all subjects in 1972 was 43.2 percent; and in 1977 was 49.8 percent, a small increase of 6.6 percent during the five-year period for the five district total. When the grand total average on all twelve practices for each district was considered, it was found that all the districts fell below the concern level for both years. When individual practice related subjects were studied regarding their percentage use in each of the counties: Beef Management and Planning was found to fall below the concern level

in both 1972 and 1977; Beef Performance Testing was found to fall below the concern level in both 1972 and 1977; Beef Diseases was found to fall below the concern level in both 1972 and 1977; Beef Facilities and Equipment other than in Districts III and V in 1972, was found to be above the concern level; Beef Feeding and Nutrition other than in District V in 1972 and Districts II and III in 1977, was found to be above the concern level. Beef Pests, other than in Districts III and IV in 1972, was found to be above the concern level.

Comparison of Shifts in Agent Time Expended by Districts

There was a net decrease of 768.8 agent days expended from FY 1976 and FY 1978. One subject, Beef Diseases showed an increase in agent days expended of 22.0. All other subjects showed decreases in agent days expended ranging from 453.8 days on all other beef subjects, to 4.9 on Beef Facilities and Equipment. All districts showed overall decreases in agent days expended ranging from a decrease of 249.2 days in District II to a decrease of 41.2 agent days in District V. Increase in agent days expended according to subjects occurred in District I, on Beef Diseases; District II on Beef Diseases and Beef Facilities and Equipment; District III on Beef Management and Planning and Beef Diseases; District IV on Beef Diseases; and District V on Beef Management and Planning, Beef Facilities and Equipment, and Beef Pests.

Relative percents of agent days expended ranged from a decrease of 1.4 percent on Subject Beef Management and Planning to an increase of 1.1 percent in agent days expended on Subject Beef Diseases. Districts

I, IV and V showed increases on the total for all subjects. Districts II and III decreased on the total for all subjects.

Comparison of Shifts in Contacts by Districts

Total contacts among all audiences showed a net decrease of 4,116 beef producer contacts from FY 1976 and FY 1978. Three subjects, Beef Diseases, Beef Facilities and Equipment and All Other Beef Subjects showed increases in contacts of 7,306, 157 and 2,957 contacts, respectively. All other subjects showed decreases in contacts of 6,204 on Beef Management and Planning, 6,174 on Beef Pests, 1,207 on Beef Performance Testing, and 951 on Beef Feeding and Nutrition. Overall decreases in total contacts for the districts were District IV, 10,293 contacts; District II, 7,624 contacts; District I, 6,697 contacts. The only increases were in Districts II and V with 1,971 and 18,427 contacts, respectively. Increases in contacts made according to subjects occurred in District I on Beef Diseases; District II on Beef Performance Testing, Beef Diseases and Beef Facilities and Equipment; and District V on Beef Management and Planning, Beef Diseases and All Other Beef Subjects; District IV on Beef Diseases; and District V on all Subjects except Beef Performance Testing and Beef Pests.

Percent of contacts by subject ranged from a relative decrease of 3.3 percent on Beef Pests to a relative increase of 4.0 percent on Beef Diseases. District I showed increases on Beef Diseases; District II increased on Subjects Beef Performance and Beef Diseases; District III increased on Beef Management and Planning, Beef Diseases and All Other Beef Subjects; District IV increased on Beef Diseases; and District V

increased on all Subjects except Beef Performance Testing and Beef Pests. The only consequential change was an increase of 9.1 percent on All Other Beef Subjects in District V.

Comparisons of Shifts in Agent Time Expended by Methods

Changes in days spent using different teaching methods on beef subjects for the five district total between FY 1976 and FY 1978 ranged from a high increase of 28.5 days of work using Mass Media recorded on Beef Diseases to a low decrease of 147.1 days on agent work using Group Meetings recorded for All Other Beef Subjects.

When districts were compared, it was noted that shifts in days devoted ranged from an increase of 21.0 days for Mass Media on Beef Diseases, District I, to a decrease of 81.7 days in Individual Methods on All Other Beef Subjects, District III.

Relative changes in percents of days devoted between FY 1976 and FY 1978 for the five districts ranged from an increase of 1.3 percent in days spent using Individual Methods on All Other Beef Subjects to a decrease of 1.9 using Individual Methods on Beef Management and Planning.

When districts were compared, it was found that relative shifts in percent of days devoted ranged from an increase of 0.9 percent in Individual Methods on All Other Beef Subjects in District I and V to a decrease of 1.6 percent also in Individual Methods on Beef Management and Planning in District II.

Comparison in Shifts in Contacts by Methods

Changes in numbers of contacts made on beef subjects according to methods in the five districts between FY 1976 and FY 1978 ranged from a high increase of 11,903 contacts by means of Mass Media made on All Other Beef Subjects to a low decrease of 13,164 contacts, on Group Meetings on All Other Beef Subjects.

When districts were compared, it was noted that shifts in contacts ranged from a decrease of 8,812 contacts through Group Meetings on All Other Beef Subjects, District II, to an increase of 5,386 contacts through Mass Media on All Other Beef Subjects, District III.

Changes in relative percents of contacts for the districts between FY 1976 and FY 1978 ranged from a consequential increase of 7.9 percent in contacts using Mass Media on All Other Beef Subjects to a decrease of 7.2 percent of Group Meetings on All Other Beef Subjects.

When districts were compared, it was found that shifts in percents of contacts ranged from a consequential increase of 4.7 percent in Mass Media on All Other Beef Subjects in District V to a decrease of 5.1 percent in Group Meetings on All Other Beef Subjects in District II.

B. IMPLICATIONS

Beef Management and Planning, Beef Performance Testing and Beef Diseases were identified as those of the greatest educational need in beef production in the five districts by reason of their relatively low (i.e., below the concern level of 60 percent practice usage) practice usage in all the districts studied.

Since for Beef Management and Planning and Beef Performance, time expended and contacts made showed decreases, it is implied that either the Statewide survey of beef producers did not appreciably influence Extension programs during the period or that other factors were more influential (e.g., BPCS and TEMIS data had not permitted proper relation as practices were assigned to subjects). The same reasoning might not be true for Beef Diseases, which had increased in time expended and contacts made. For Beef Diseases, then, it can be implied that the 1972 and 1977 surveys did have some influence on Extension work in the beef area. However, overall percents of producers using practices did slightly decrease during the period.

Since Individual Methods determined the relative shifts in agent days expended and tended to do so for contacts made on beef subjects, especially on Beef Management and Planning and Beef Performance Testing, it is implied that beef production problems faced by agents may have been of such nature that Individual Methods was the main teaching method required and that Mass Media and Group Meetings were emphasized where appropriate.

C. RECOMMENDATIONS

1. Definite efforts should be made to more closely relate beef subjects and beef production practices in order to facilitate comparative analysis.
2. Encourage agents through appropriate training to plan on the basis of SBPCS findings.

3. A study should be made to determine which methods demonstrate the greatest dividends in terms of yield increases and practice change.

4. TEMIS data for the five-year periods preceding and following the benchmark practice checklist survey should be made available for any future study of this kind to compare "before" and "after" survey benchmark allocations of staff time.





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APPENDIX



THE AGRICULTURAL EXTENSION SERVICE
THE UNIVERSITY OF TENNESSEE
KNOXVILLE, TENNESSEE

1977 Tennessee Beef Cow-Calf Producer Survey
(For Cow Herds of 15 or More in Size)

Name of Respondent _____ Address _____

¹
(1) Card Number

County _____ Date _____

(2) (3) (4)

Tenure Status (1 = Owner, 2 = Other)

(7)

A. General Information

(8) 1. What is the major agricultural enterprise?
(1 = Livestock; 2 = Row Crops; 3 = Dairy;
4 = Fruits and/or Vegetables; 5 = Other)

(9) 2. What is the major livestock enterprise?
(1 = Beef; 2 = Swine; 3 = Sheep; 4 = Horses;
5 = Other)

(10) (11) 3. Actual number of years beef cattle have been
an enterprise on respondent's farm?

(12) 4. Is respondent a full-time farmer? (1 = No;
2 = Yes)

(13) 5. What is respondent's major source of income?
(1 = Farm, 2 = Non-farm)

(14) (15) 6. What is approximate age of respondent?

(16) (17) (18) (19) 7. Actual number females of breeding age in herd
last year? (9999 = Does not apply, DNA)

(20) (21) 8. Actual number bulls used last year? (99 = DNA)

(22) (23) (24) (25) 9. Actual number calves raised to weaning last
year? (9999 = DNA)

(26) (27) (28) (29) 10. Actual number acres pasture used by beef cattle
last year?

GUIDE SHEET - 1977 TENNESSEE

BEEF CATTLE SURVEY

Note: For the purposes of this survey, a beef producer is defined as one who had 15 or more beef females (12-15 months of age or older) in his herd last year.

4. A full-time farmer would be one who works less than 100 full days annually off the farm.
5. Employment accounting for over 50% of income.
7. Females having been exposed to herd bulls and expected to calve January 1 through December 31 last year.
10. Include acres used for pasture and production of hay for beef cattle.

Practice

1. Bulls on Tennessee Beef Cattle Improvement Program or other recognized Performance Testing Programs.
2. Minimum Requirements - Adj. 205-Day Wt. - Non Creep - 460 lbs.
Creep - 510 lbs.
and 365 day wt. of 850 lbs.
3. (Self explanatory)
4. Recommended - Commercial Herds - Breeding Season - April 1 through July 1; Ext. Pub. 544, p. 6, 7, 8; Ext. Pub. 720, p. 7.
- 5 and 6. Tennessee Beef Cow-Calf Handbook, SR 1000, SR 3002; Ext. Pub. 544, p. 7.
- 15 and 16. Ext. Pub. 544, p. 13.
21. Tennessee Beef Cow-Calf Handbook, SR 3001, SR 3002; Ext. Pub. 544, p. 5, 13.
23. Ext. Pub. 165.
35. "Guidelines For Backgrounding".
- 40 and 41. Ext. Pub. 165.

27. What is the biggest problem respondent has in beef production and marketing? _____

28. Would respondent be interested in attending Extension meetings planned to discuss:

_____ a. Breeding (Please specify interest) _____

_____ b. Feeding (Please specify interest) _____

_____ c. Management (Please specify interest) _____

_____ d. Other (Please specify) _____



	YES	NO
8. An identification system was used for each breeding female in the herd. Comment: _____		
9. First-calf heifers were checked at least two to three times daily during the calving system. Comment: _____		
10. Older cows were checked at least once a day during the calving season. Comment: _____		
11. Arrangements were made to have competent help available in case of calving difficulties. Comment: _____		
12. A system was used to provide permanent identification for all calves. Comment: _____		
13. Recommended castration and dehorning practices were followed. Comment: _____		
14. The beef herd had access to a recommended mineral mixture. Comment: _____		
15. A rotational grazing program was followed. Comment: _____		
16. The cow herd was kept on permanent pasture sod through the fall and early winter in order to reduce winter feed costs. Comment: _____		
17. Replacement heifers were fed separately from the rest of the breeding herd during the winter. Comment: _____		
18. Thin cows and cows that had recently calved were fed more or better quality feed than others. Comment: _____		
19. Bred cows were fed supplemental protein when receiving low quality roughages such as hulls, straw and poor quality grass hay. Comment: _____		
20. External parasite control practices were followed for flies and lice. Comment: _____		
21. Recommended grub control practices were followed. Comment: _____		
22. Recommended grub control practices were followed. Comment: _____		
23. All brood cows and replacements were vaccinated for leptospirosis. Comment: _____		
24. Calves were vaccinated for blackleg and malignant edema. Comment: _____		
25. Adequate working pens, lots and restraining equipment were available. Comment: _____		
26. Sought the advice of professionals last year regarding beef and/or marketing. Comment: _____		

THE AGRICULTURAL EXTENSION SERVICE, UNIVERSITY OF TENNESSEE
Knoxville, Tennessee

1972 TENNESSEE BEEF CATTLE PRODUCTION SURVEY

- Name of Respondent _____ Address _____
- County _____ Date _____ Number _____ Tenure Status _____
1. How many females of breeding age were in the herd last year? _____
 2. How many females were bred to calve last year? _____
 3. How many bulls were used during the breeding season? _____
 4. How many calves were raised to weaning age in the herd last year? _____
 5. What is the major livestock enterprise? _____
 6. Is respondent a full-time farmer? _____
 7. What is respondents main source of income? _____. Other sources? _____
 8. Approximate age of decision maker? _____.

RECOMMENDED PRACTICE USED LAST YEAR	YES	NO
1. Used one or more performance tested bulls Comment: _____		
2. These bull(s) met minimum requirements of the breeders' performance tested bull sale. Comment: _____		
3. Beef herd was enrolled in TBIP. Comment: _____		
4. Separate pastures were available for bull(s) during off-breeding season (mid-July through March). Comment: _____		
5. Replacement heifers were at least 15 months of age and had attained a minimum weight of 650 pounds when bred. Comment: _____		
6. All cows were pregnancy checked following breeding season. Comment: _____		
7. The beef herd was checked at least twice a day during the breeding season. Comment: _____		

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23. (a) More veterinarians across the state feel that Leptospirosis is becoming a problem. Do you know any cattlemen in the neighborhood who vaccinated their herds last year for this disease?
24. (a) Have you heard of any cattlemen having difficulty with Blackleg or Malignant Edema?
(b) What kind of vaccination program do you think we should recommend in the county?
(c) Has this program given you adequate protection?
25. (a) What type of penning and restraining equipment do you think is most adaptable to a man with a beef cow operation similar to yours?
(b) How would you like to improve your present facilities?
26. (a) Did you consult anyone last year regarding the health of your herd? If so, who?
(b) Did you consult anyone last year regarding breeding problems? If so, who?
(c) Did you consult anyone last year regarding feeding problems? If so, who?
(d) Did you consult anyone last year regarding management problems? If so, who?
(e) Did you consult anyone last year regarding marketing problems? If so, who?
(f) Did you consult anyone last year regarding other problems? If so, who?

11. (a) Who looked after the breeding herd during the calving season?
(b) Have you (or your available help) had to deliver calves from cows having calving difficulties?
12. (a) Do you believe it pays to use a permanent identification program for the calves?
(b) Did you use a system like this last year?
13. (a) Which system--the knife or the clamps--did you follow in castrating your male calves?
(b) (If the herd is horned) which system did you use in dehorning your calves?
(c) How old do you think a calf should be for effective and safe dehorning?
14. (a) Did you feed a mineral mixture to your herd?
(b) How did you insure that this mixture was readily available to your beef herd?
(c) What was the mineral mixture?
15. (a) Do you believe it pays to provide fresh pasture areas for the breeding herd?
(b) Did you follow this system?
16. (a) After you wean your calves, where did you pasture cows during the fall?
(b) Do you believe in late fall and winter grazing on permanent pasture sods?
(c) When did you first start your winter feeding program?
17. (a) How important do you think it is to give special care and feeding to replacement heifers?
(b) Were you able to follow a program of separate feeding for replacement heifers?
18. (a) Do you think it is practical under your condition to winter feed your cow herd separately on the basis of thin cows, cows that have calved, and bred cows?
(b) Were you in position to feed the thinner cows and cows with calves separately from the rest of the herd?
19. (a) What would you say was the average quality of hay fed to your cow herd?
(b) Some men feed supplemental protein to their herd when the roughage quality is poor. Would you follow this practice?
(c) When have you fed supplemental protein to your cow herd?
20. (a) Have flies and lice been a problem?
(b) What program of control did you use for controlling lice and flies?
21. (a) Do you believe the average cattleman should try to follow a grub control program?
(b) How effective was your grub control program?
22. (a) I understand some cattlemen in the area treat their cattle religiously each year for worms. Did you treat your cattle for worms?
(b) Which treatment do you think is most effective?



LEAD QUESTIONS TO BE USED IN THE
1972 TENNESSEE BEEF CATTLE PRODUCTION SURVEY

(Questions are related to corresponding practice number)

The following questions are to be used as a guide to better determine the production practices used by the respondent:

1. (a) Do you feel the performance testing requirements for bulls are too high or too low?
(b) If you had your choice, would you purchase a performance tested bull?
(c) Where did you buy your last bull(s)?
2. (a) Are you acquainted with the present minimum requirements of the Breeders Performance Tested Bull Sale?
(b) Did you feel that these were realistic minimum standards in purchasing your bull(s)?
3. (a) Have you ever felt like your herd should be enrolled in the TBCIP?
4. (a) Where did you keep your bull(s) during the off-breeding season (Mid-July through March)?
(b) What was your feeding program during this period?
5. (a) How old were your replacement heifers when they were bred?
(b) How much would you say they weighed at the start of the breeding season?
6. (a) What is your feeling about the accuracy of pregnancy checking?
(b) If the service of a trained person was available for pregnancy checking, would you have used this program?
7. (a) How many mature breeding females in your herd failed to drop a calf last year?
(b) Did you ever experience difficulty in getting your cows settled during breeding season?
(c) What suggestions would you offer a new man in the business on checking the herd during this critical period?
8. (a) Do you feel that the average commercial beef cow-calf operator should have a permanent identification for each cow?
(b) Did you find that your identification program was adequate under your conditions?
9. (a) As you know, the most critical time in the life of a calf is the first 36 hours. What was your system of saving calves from first-calf heifers?
(b) How many times a day do you feel first-calf heifers should be checked during the calving season?
10. (a) As you know, the most critical time in the life of a calf is the first 36 hours. What was your system of saving calves from older cows?
(b) How many times a day do you feel older cows should be checked during the calving season?

10. Same as Question 9.
11. Same as Question 9.
12. Recommended - commercial and purebred herds - permanent identification of cows and calves - regardless of whether on T.B.C.I.P. Pub. 542, p. 5.
13. See Ext. Pub. 330, p. 30-34; Pub. 544, p. 4, 5, 6.
14. Recommended - Good commercial mineral mixture or either 2 parts steamed bone meal or dicalcium phosphate and 1 part of salt (keep other salt available). Ext. Pub. 330, p. 28; Pub. 544, p. 13.
15. Recommended - Rotational grazing of the herd to different pastures during pasture season. See Ext. Pub. 330, p. 12, 13, 14; Pub. 544, p. 9.
16. Permanent pasture sods - allowed to develop heavy growth - pastured in Fall and Winter. Pub. 330, p. 11, 26, 27; and Pub. 544, p. 13 & 14.
17. Pub. 330, p. 281
18. Same as Question 17.
19. Ext. Pub. 330, p. 28 & 29; Pub. 544, p. 13.
20. SP-165, "Pest Control for Beef Livestock."
21. SP-165
22. Ext. Pub. 610.
23. See Ext. Pub. 330, p. 44.
24. See Ext. Pub. 330, p. 43.
25. Reference Ext. Agr. Eng. Dept.
Expansible Corral, Ext. 7241-7, Basic Unit; Ext. 7241-8, Second Unit; Ext. 7241-9, Third Unit; Ext. 4241-10, Fourth Unit; Corral Detail Ext. 7241-11.
26. Professionals Include; County Extension Staff; Extension A.H. Specialists, Local Veterinarians, Artificial Breeding Technicians, Ag. Teachers, etc.

Number of contacts respondent had with County Extension Agents during previous 12 months (record actual number). (TO THE EXTENSION AGENT: The purpose of the following questions is to provide information needed to help identify methods and approaches of greatest use to county personnel.)

- (34) (35) 48. Number of Extension meetings of all kinds attended? (Record actual number)
- (36) 49. Number of Extension meetings where beef production discussed? (Record actual number)
- (37) (38) 50. Number of visits to County Extension Office? (Record actual number)
- (39) (40) 51. Number of telephone calls to County Extension Office? (Record actual number)
- (41) (42) 52. Number of farm visits received by respondent from all County Extension Agents? (Record actual number)

- (14) (15) (16)
38. What percentage of calves were steers?
(Record actual percent - 999 = Does not apply)
- (17)
39. What grade of calves were backgrounded?
(Select one: 1 = Prime and choice, 2 = Good, 3 = Oddlot or mismanaged calves, 9 = Does not apply)
- (18)
40. Which parasite treatments were used? (Select one: 1 = Lice and grubs, 2 = Internal parasites, 3 = Lice, grubs and internal parasites, 4 = None, 9 = Does not apply)
- (19)
41. Which fly control program was followed?
(Select one: 1 = None, 2 = Backrubbers, and/or oilers, 3 = Dustbags, 4 = Oral larvacides, 5 = Combinations of above, 9 = Does not apply)
- (20)
42. Which of the following animal health practices was used? (Select one: 1 = Vaccinated for blackleg, malignant edema and hemorrhagic septicemia, 2 = Vaccinated for IBR, BVD and PI3, 3 = Injected with Vitamins A, D and E, 4 = 1 and 2 above, 5 = All of above, 9 = Does not apply)
- (21)
43. Which growth stimulant was used? (Select one: 1 = None, 2 = DES, 3 = Ralgro, 4 = Synovex, 5 = MGA, 9 = Does not apply)
- What percentage of backgrounded cattle were marketed through:
- (22) (23) (24)
44. Local actions? (Record actual percent - 999 = Does not apply)
- (25) (26) (27)
45. Organized yearling sales? (Record actual percent - 999 = Does not apply)
- (28) (29) (30)
46. Order buyers? (Record actual percent - 999 = Does not apply)
- (31) (32) (33)
47. Directly to feedlots? (Record actual percent - 999 = Does not apply)



(58) 26. Were adequate working facilities available?
(1 = No, 2 = Yes, 9 = Does not apply)

(59) 27. How many times were cows wormed last year?
(Record actual - 9 = Does not apply)

What percentage of calves were sold through:

(60) (61) (62) 28. Weekly auctions? (Record actual percent -
999 = Does not apply)

(63) (64) (65) 29. Organized feeder sales? (Record actual per-
cent - 999 = Does not apply)

(66) (67) (68) 30. Local traders? (Record actual percent -
999 = Does not apply)

(69) (70) (71) 31. Direct to backgrounder or feeder? (Record
actual percent - 999 = Does not apply)

(72) (73) (74) 32. Retained as replacements or for backgrounding?
(Record actual percent - 999 = Does not apply)

Backgrounding

(75) 33. Were calves backgrounded on this farm? (1 =
No, 2 = Yes)

(76) (77) (78) 34. How many calves were backgrounded? (Record
actual number: 999 = Does not apply)

(79) 35. Which system of backgrounding was used?
(1 = Fescue pasture, 2 = Corn silage, 3 =
Small grain, 4 = Combinations of above, 9 =
Does not apply)

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Card Number

(8) (9) (10) 36. What percentage of calves being backgrounded
were homereared? (Record actual percent -
999 = Does not apply)

(11) (12) (13) 37. How were calves purchased? (1 = Self, 2 =
Order buyer, 3 = Other, 999 = Does not apply)

- (46) 14. Where growth stimulants used? (1 = No, 2 = Yes, 9 = Does not apply)
- (47) 15. Were cattle allowed free access to a recommended mineral mixture? (1 = No, 2 = Yes, 9 = Does not apply)
- (48) 16. Were cows provided magnesium oxide to aid in preventing grass tetany? (1 = No, 2 = Yes, 9 = Does not apply)
- (49) 17. What is major grass species used in pastures (Select one): 1 = Fescue, 2 = Orchardgrass, 3 = Bluegrass, 4 = Bermudagrass, 5 = Other, 9 = Does not apply
- (50) 18. What is major forage used to winter cow herd? (Select one): 1 = Corn silage, 2 = Grass silage, 3 = Hay, 4 = Other, 9 = Does not apply
- (51) 19. Was some fescue stockpiled for use as late fall or early winter grazing? (1 = No, 2 = Yes, 9 = Does not apply)
- (52) 20. Which crop residues were used in order to reduce winter feed costs? (1 = None, 2 = Corn, 3 = Soybeans, 4 = Both corn and soybeans, 5 = Milo, 6 = Straw, 9 = Does not apply)
- (53) 21. Were replacement heifers, thin cows, and cows that had recently calved fed more and better quality feed than others? (1 = No, 2 = Yes, 9 = Does not apply)
- (54) 22. Were bred cows fed supplemental protein when low quality roughages such as hulls, straw, crop residues and poor quality hay were fed? (1 = No, 2 = Yes, 9 = Does not apply)
- (55) 23. Which fly control program was followed? (Select one): 1 = None, 2 = Backrubbers and/or oilers, 3 = Dustbags, 4 = Oral larvacides, 5 = Combinations of above methods, 9 = Does not apply
- (56) 24. Were recommended grub and lice control practices followed? (1 = No, 2 = Yes, 9 = Does not apply)
- (57) 25. Were brood cows and replacements vaccinated for leptospirosis? (1 = No, 2 = Yes, 9 = Does not apply)

B. Recommended Practices

- (30) 1. Was one or more Performance Tested bulls used? (1 = No, 2 = Yes, 9 = Does not apply)
- (31) 2. Do bulls being used meet minimum requirements of the Breeder Performance Tested Bull Sale: (1 = No, 2 = Yes, 9 = Does not apply)
- (32) 3. Was herd enrolled in TBCIP or breed performance testing program? (1 = No, 2 = Yes, 9 = Does not apply)
- (33) 4. What is length of breeding season? Record number of months. (9 = Does not apply)
- (34) (35) 5. At what age were replacement heifers bred? Record number of months. (99 = Does not apply)
- (36) (37) (38) 6. At what weight were replacement heifers bred? (Record actual weight - 999 = Does not apply)
- (39) 7. How many times per day were cows checked during breeding season? (Record actual number - 9 = Does not apply)
- (40) 8. Were cows pregnancy checked following the breeding season? (1 = No, 2 = Yes, 9 = Does not apply)
- (41) 9. What type of system was used to provide permanent identification of cattle? (Select one: 1 = Ear Tag, 2 = Neck Chain, 3 = Fire Brand, 4 = Freeze Brand, 5 = None, 9 = Does not apply)
- (42) 10. How many times per day were cows checked during the calving season? (Record actual number - 9 = Does not apply)
- (43) 11. How many times per day were first calf heifers checked during the calving season? (Record actual number - 9 = Does not apply)
- (44) 12. At what age were calves castrated and dehorned? (Record age in months - 9 = Does not apply)
- (45) 13. Were calves vaccinated for blackleg and malignant edema? (1 = No, 2 = Yes, 9 = Does not apply)

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GUIDE SHEET - 1972 TENNESSEE

BEEF CATTLE SURVEY

Note: For the purposes of this survey a beef producer is defined as one who had 15 or more beef females of breeding age (12-15 months of age or older) in his herd last year.

- 1 & 2. Females having been exposed to herd bulls and expected to calve January 1 through December 31 last year.
3. Bull power used - Pub. 330, p.26; Pub. 544, p. 6.
4. Live calves raised last year from total females in question 2. Give credit for late-dropped healthy calves not yet weaned by end of last year.
5. Enterprise accounting for most income.
6. Works less than 100 full days annually off the farm.
7. Also, does wife work?
8. Estimated by agent.

Practice

1. Bulls on Tennessee Beef Cattle Improvement Program or other recognized Performance Testing Programs.
2. Minimum Requirements - Pre-Weaning - No Creep - 1.85 lbs./da. AADG
With Creep - 2.00 lbs./da. AADG
- 3.
4. Recommended - Commercial Herds - Breeding Season - April 1 through July 1
Give credit to July 15.
Ext. Pub. 330, p. 22; Pub. 544, p. 6 and p. 9.
5. See Pub. 330, p. 22; Pub. 544, p. 8.
6. Recommended at least 60 days after close of breeding - preferred 100-120 days.
Ext. Pub. 330, p. 10 and 23; Pub. 544, p. 12.
- 7.
8. Pub. 587, p. 10; Pub. 542, p. 6.
9. Pub. 330, p. 29; Pub. 544, p. 3.

VITA

Fatin Fathel Ismael was born in Mosul, Iraq on July 1, 1955. She was graduated from the University of Sulaimanyah in June 1978, with the Bachelor of Science degree in Animal Husbandry.

She came to the United States with her husband Adeeb Kharoofa in July 1978. She is the mother of two children: a son, Yazn, two and a half years old, and a daughter Marwa, one year old.

She entered graduate school at The University of Tennessee, Knoxville in the field of Agricultural Extension and completed her work in December 1981.

