To the Graduate Council:

I am submitting herewith a thesis written by Abdullah Idris Bin Tengku entitled "Amounts of Tennessee Extension Staff Time Planned and Expended and Contacts Made with Wheat Producers, Fiscal Years 1975 and 1977 and Possible Implications for 1972 Statewide Extension Wheat Production Practice Checklist Survey and Educational Program." I recommend that it be accepted in partial fulfillment of the requirements for the degree of Master of Science, with a major in Agricultural Extension.

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AMOUNTS OF TENNESSEE EXTENSION STAFF TIME PLANNED AND EXPENDED AND CONTACTS MADE WITH WHEAT PRODUCERS, FISCAL YEARS 1975 AND 1977 AND POSSIBLE IMPLICATIONS FOR 1972 STATEWIDE EXTENSION WHEAT PRODUCTION PRACTICE CHECKLIST SURVEY AND EDUCATIONAL PROGRAM

A Thesis

Presented for the

Master of Science

Degree

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ABSTRACT

Information from the 1972 and 1977 Tennessee Wheat Production Practice Checklist Surveys was studied together with data from the Tennessee Extension Management Information System, TEMIS (i.e., agent days planned and expended and clientele contacts made) for Fiscal Years 1975 and 1977 to determine whether there were possible implications for the survey and Extension's educational program.

The classification of wheat survey practices and TEMIS primary subjects was assumed to be acceptable for this study. Data were considered for five selected District I counties. Use of various teaching methods also was studied.

From the 1972 and 1977 Tennessee Wheat Production Surveys, it was found that the average yield in bushels of wheat per acre were 38.8 and 42.6, respectively. Significantly higher percents of those producing yields of over 42.6 bushels per acre from the 1977 survey, on the average, used a larger number of the ten recommended practices.

Recommended practices were grouped under Primary TEMIS Subject One, "Wheat (Small Grain) Disease;" Subject Two, "Wheat (Small Grain) Nutrition;" Subject Three, "Wheat (Small Grain) Weeds;" Subject Four, "Wheat (Small Grain) Insects;" Subject Five, "Wheat (Small Grain) Management and Planning;" and Subject Six, "Wheat (Small Grain) Production." Two of the subjects, Subjects One and Two, were below the concern level and the other four subjects were all above the concern level of 60%. Thus, of the six subjects mentioned above, Subjects One

and Two were the weaker of the six, based on 1972 data, suggesting the need to emphasize them more in Extension's wheat (small grain) educational program as priority areas.

There was an increase in total agent days planned and expended on wheat (small grain) subjects between FY 1975 and FY 1977. An increase was also noted in total contacts made by agents with wheat (small grain) producers between FY 1975 and 1977.

Of Extension methods studied, shifts in numbers and percents of agent time devoted to wheat (small grain) Extension work varied from county to county but were greatest for Individual Methods of Instruction, increases were also occurring for Group and Mass Methods.

It was not clear whether agents had considered priority wheat (small grain) areas identified via the 1972 survey when planning for the period 1974-78, it was implied that the district-wide survey of wheat (small grain) producers did not appreciably influence Extension programs during the period. Recommendations for further study were made.

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CHAPTER I

INTRODUCTION

A. STUDY BACKGROUND

One of the project areas that has been continuously emphasized by the Tennessee Agricultural Extension Service is Agricultural Production and Natural Resources. Since many farmers in the state, especially in the west, grow wheat (small grain) for either grain and/or feed, this work area also receives educational priority. In 1977, there were 280,000 acres of wheat (small grain) harvested with an average yield of 36 bushels per acre (7:13).* Three study counties were in top 10 in production of wheat in 1978: Obion, Gibson and Crockett (10:1).

The intent of Extension work with wheat (small grain) producers is like that in other areas: to diffuse research verified facts and encourage adoption of the same (8:55). This has to involve agent time in planning and teaching, and affects contacts made related to, among other wheat (small grain) subject areas, treatment of seed with fungicide, planting of Hessian fly susceptible varieties only during the recommended dates, using soil test recommendations, controlling weeds and insects, and controlling pests in stored grain. Extension's teaching methods traditionally include individual, group and mass media where appropriate.

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

Prior to the present study, no effort had been made to use data available from statewide Extension wheat (small grain) surveys and the Tennessee Management Information System. It was felt that comparison of facts available for different years should provide planners with some basis for educational program planning and evaluation.

B. PURPOSE OF THE STUDY

The major purpose of this study, then, was to determine the possible implications of the 1975 and 1977 Tennessee Extension Management Information System (TEMIS) data for the 1972 Statewide Wheat (Small Grain) Practice Checklist Survey and Extension's educational program.

Specific study objectives included the following:

1. To study selected Wheat (Small Grain) Practice Checklist Survey and Tennessee Extension Management Information System (TEMIS) data together in a meaningful, prioritized way.

2. To study shifts in time planned and expended in FY 1975 and 1977 by Tennessee agents doing wheat (small grain) educational work in five selected Extension Supervisory District I counties in order to try to measure the impact of the 1972 statewide Wheat (Small Grain) Practice Checklist Survey based on changes reflected in the 1977 Survey.

3. To study shifts in contacts made in FY 1975 and FY 1977 by Tennessee agents doing wheat (small grain) educational work in the five selected Extension Supervisory District I counties and to try to measure any shift brought about by the 1972 Wheat (Small Grain) Practice Checklist Survey based on changes reflected in the 1977 Survey.

4. To study Extension methods used in FY 1975 and FY 1977 and shifts in methods used and consider the relative effectiveness of the methods.

C. DEFINITION OF TERMS

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

Wheat (Small Grain) Producers. This refers to individuals making all or part of their farming incomes from the production of wheat (small grain).

Individual Contacts. Individual contact refers to farm and home visits by an agent, personal letters, telephone calls, and other on-site visits to discuss wheat (small grain) 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 Extension Reporting, Planning, Evaluation, and Not Applicable items from TEMIS.

Tennessee Wheat (Small Grain) Practice Checklist Survey (TWPCS). Refers to the 1972 and 1977 wheat (small grain) surveys used for the 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 (9:1a).

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

All Other Wheat (Small Grain) Subjects. This refers to wheat (small grain) subjects listed in FY 1975 and FY 1977 TEMIS Handbooks that were not related to the six priority (i.e., Wheat, Small Grain, Disease; Wheat, Small Grain, Nutrition; Wheat, Small Grain, Weeds; Wheat, Small Grain, Insects; Wheat, Small Grain, Management and Planning; Wheat, Small Grain, Production) wheat (small grain) subjects used in relation to recommended wheat (small grain) practices (e.g., Wheat, Small Grain, Structure Housing Facilities).

D. LIMITATIONS

The present study was conceived in such a way that data for all 21 counties in Tennessee Extension Supervisory District I were expected. After the study got underway, it became apparent that data for the 1972 survey of wheat (small grain) producers were limited to producers in only five counties. Further, the 1977 survey was found to be limited to only 13 counties in the district. Therefore, the TEMIS data included were limited to those from the original five counties surveyed in 1972.

Also, data for the entire five-year period, FY 1974-78, were needed from TEMIS, but unavailable. Thus, agents in counties may have planned and spent more or less time on practice-related wheat (small grain) subjects at other times not studied.

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 TENNESSEE EXTENSION MANAGEMENT INFORMATION SYSTEM (TEMIS) AND AGRICULTURAL CROP PRACTICE CHECKLIST SURVEY DATA

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

The 1977 study (1) by Allen was conducted in the soybean work area. It 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 by Allen between weak (i.e., below concern level of 60%) soybean subject areas identified, and time planned and spent by agents. Need for data from additional years was cited.

The Trail study (11) on corn was similar to the earlier Allen study. It was related to TEMIS data and had to do with the influence of the 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, FYs 1972 and 1975. Trail also found little relation between weaker corn subjects identified, and time

planned and expended by agents. Trail concluded that agents paid little attention to the 1970 survey findings as they formulated educational work in corn production for FYs 1972 and 1975. He, too, lacked data to properly assess all time planned and spent by agents (i.e., FYs 1973, 1974, and 1976 were not available).

B. STUDIES RELATING TO TEMIS RESEARCH

A study (3) was made by Cary in 1975 concerning the problem of determining 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 are stated 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.

The Henderson study (5) in 1975 concerned the description and evaluation of the Tennessee Extension Management Information System (TEMIS). Data for this study were collected by personal interviews with 28 selected Extension Leaders from across the state. The major findings of the study are stated as follows: (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 purpose of evaluating and less useful for planning and reporting; (3) the majority of Extension Leaders also felt 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; and (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.

Gault made a study (4) in 1976 concerned with determining the reliability of data received from TEMIS, particularly weekly activity reports. Data for this study were collected 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 a moderate level of coding consistency; (4) 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 inservice training meetings.

Since the present study is the first of its kind relating wheat (small grain) survey to TEMIS data on time planned, expended, and contacts made by Extension District I counties and teaching methods; no other relevant studies were found.

CHAPTER III

METHODS AND PROCEDURES

The primary sources of information for this study were the 1972 and 1977 Tennessee Wheat (Small Grain) Production Surveys (see Appendix A), and TEMIS data for FY 1975 and FY 1977. The 1972 and 1977 statewide Wheat (Small Grain) Production Surveys summarized practices of Tennessee wheat (small grain) producers in regard to their use of the 10 recommended wheat (small grain) production practices. The information received from these surveys allowed the Extension Agent to group wheat (small grain) producers according to their need for educational assistance related to production. It allowed Extension personnel to determine the subject areas most in need of improvement. In 1972, a total of 142 adult wheat (small grain) producers was randomly surveyed in the five selected Extension Supervisory District I counties, including 30 growers each from Crockett, Fayette, Haywood and Obion Counties, and 22 growers from Gibson County. As for 1977, a total of 100 adult wheat (small grain) producers was randomly surveyed, basically 20 growers per county in the five selected Extension District I counties, namely: Crockett, Fayette, Gibson, Haywood and Obion. Similar surveys were done in other counties not selected because of incomplete data.

Data from TEMIS computer printouts of agent days planned, expended, and contacts made, and teaching methods used for wheat (small grain) subjects were collected and arranged in order of wheat (small grain) production priorities in descending order, that is from least

used (e.g., weakest) practice to most used (e.g., strongest) practice, for each of the five selected Extension Supervisory District I Counties and for the district total.

Each of the 10 recommended wheat (small grain) production practices was classified under one of six major TEMIS wheat (small grain) subjects, namely: Wheat (Small Grain) Disease, Wheat (Small Grain) Nutrition, Wheat (Small Grain) Weeds, Wheat (Small Grain) Insects, Wheat (Small Grain) Management and Planning, and Wheat (Small Grain) Production. 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 1972 survey under each subject to those used most that year.

It was decided that any practice whose use was 60% and below would be considered as needing improvement. This was selected arbitrarily as the concern level in this study based on established Tennessee Extension practice (6:38). Data from 1972 and 1977 surveys were compared to note changes in percents of producers using the various practices.

All data from TEMIS were arranged in order of subject priority for the wheat (small grain) producers by counties and for District I. These were numbers and percents of agent days planned and expended, contacts made, and teaching methods used.

Calculations of increases or decreases in actual numbers of agent days planned and allocated to wheat (small grain) subjects were made by substracting FY 1977 from those for FY 1975. These resulting figures represent absolute changes from 1975 and 1977.

Likewise, increases or decreases in relative percents of time planned and spent on the subjects studied were made by substracting FY 1977 percents from those for FY 1975. These figures, therefore, represent relative shifts in percents of time and are not comparable with data showing actual changes in numbers of agent days planned and/or expended.

A. ASSUMPTIONS

As indicated earlier, TEMIS data for this study were somewhat different between the two collection dates, FY 1975 and FY 1977, since the overall subject of "Wheat" used in the former year became "Small Grain" in the latter. Discussions with Plant and Soil Science and Administrative staff members suggest that the subjects, as fits Tennessee, were comparable for the years indicated. This assumption is made.

Also, TEMIS data for the entire period FY 1974-78 were requested to give a total picture of agent days devoted and contacts made for the various practice-related subjects using selected teaching methods. A change in TEMIS procedures from Version 2 to Version 3 for retrieval, personnel changes, and the cost of retrieval resulted in availability of only two years of data, namely FY 1975 and FY 1977. It is assumed that additional data would have presented the same trends and picture.

CHAPTER IV

FINDINGS OF THE STUDY

The findings of this study will be presented below as they relate to the following in five Tennessee Extension Supervisory District I Counties (i.e., Crockett, Fayette, Gibson, Haywood and Obion) and the total: (1) educational needs of wheat (small grain) producers; (2) shifts in agent days planned and expended doing wheat (small grain) educational work between Fiscal Years (FY) 1975 and 1977; (3) shifts in contacts made by agents with wheat (small grain) producers between FY 1975 and FY 1977; (4) shifts in agent days devoted to wheat (small grain) using various teaching methods; and (5) shifts in contacts by agents with wheat (small grain) producers using various teaching methods.

A. EDUCATIONAL NEEDS OF WHEAT (SMALL GRAIN) PRODUCERS

Information gathered from the 1972 and 1977 Statewide Tennessee Wheat Practice Checklist Surveys revealed the following:

1. In 1972 and 1977, the average yield in bushels of wheat (small grain) per acre were 38.8 and 42.6 bushels respectively for the five counties studied (i.e., Crockett, Fayette, Gibson, Haywood and Obion). The average yield varied from 31.5 to 46.1 bushels per acre in 1972, and ranged from 35 to 51 bushels per acre in 1977.

2. A preliminary study by Carter (2) indicated that the numbers of 10 Extension recommended practices used by 403 producers surveyed in 1977 in 20 counties for wheat (small grain) production were positively

associated with yields—the higher the production, the higher the number of practices used ($P < 0.0001$).

3. Carter also found that higher wheat (small grain) yields were more positively correlated with the applying of lime and fertilizer according to soil test, controlling of weeds, planting of recommended varieties, controlling pests in stored grain and treating seed with fungicides.

4. Besides finding that higher yields were closely associated with an increase in the number of recommended practices used, Carter also found that yields were related to the number of contacts that wheat (small grain) producers had made with Extension.

Comparison by Subjects

Reference to Table 1 shows that the grand totals for average practice use for five District I counties in all subjects were: 72.6% in 1972 and 68.4% in 1977. Thus a slight nonconsequential decrease (-) of 4.2% was noted for the period 1972-1977. Two of the six subjects had total averages far below the concern level of 60%.

Subject 1, Wheat (Small Grain) Disease, had the lowest percentage of use at 28.9% in 1972 and 34% in 1977; an improvement (+) of 5.1%. Subject I was related to Practice 1A, Treated Seed with Fungicides. Subject 2, Wheat (Small Grain) Nutrition also fell far below the concern level in percentage of use at 37% in 1972 and 31% in 1977; a loss (-) of 6%. Subject 2 refers to Practice 2A, Used Soil Test.

Subject 3, Wheat (Small Grain) Weeds, had a slight increase (+) in practice use of 3.5%, from 71.5% in 1972 to 75% in 1977. Subject 3 was related to Practice 3A, Controlled Weeds.

Table 1

Recommended Wheat (Small Grain) Production Practices Arranged in Descending Order of Educational Priority Held as Determined by the 1972 and 1977 Tennessee State Extension Survey in Five District I Counties According to Percents of Interviewees Using Practices in the Counties and Totals Showing FY 1975 and FY 1977 TEMIS Primary Subject Relations

TEMIS 1975 and 1977 Primary Wheat (Small Grain) Subject and Related Recommended Practices	Total for Five District I Counties			Crockett			Fayette			Gibson			Haywood			Obion		
	1972 (142)	1977 (100)	Diff. (+or-)	1972 (30)	1977 (20)	Diff. (+or-)	1972 (30)	1977 (20)	Diff. (+or-)	1972 (22)	1977 (20)	Diff. (+or-)	1972 (30)	1977 (20)	Diff. (+or-)	1972 (30)	1977 (20)	Diff. (+or-)
1. Wheat (Small Grain) Disease																		
a. Treated seed with fungicides	28.9	34.0	+5.1	30	10	-20.0	47	25	-22.0	14	15	+1.0	50	20	-30.0	3.3	100	+96.7
Subtotal average	28.9	34.0	+5.1	30	10	-20.0	47	25	-22.0	14	15	+1.0	50	20	-30.0	3.3	100	+96.7
2. Wheat (Small Grain) Nutrition	37.0	31.0	-6.0	23	20	-3.0	24	25	+1.0	14	15	+1.0	47	35	-12.0	77	60	-17.0
Subtotal average	37.0	31.0	-6.0	23	20	-3.0	24	25	+1.0	14	15	+1.0	47	35	-12.0	77	60	-17.0
3. Wheat (Small Grain) Weeds	71.5	75.0	+3.5	40	75	+35.0	*	60	--	86	100	+14.0	60	50	-10.0	100	90	-10.0
Subtotal average	71.5	75.0	+3.5	40	75	+35.0		60		86	100	+14.0	60	50	-10.0	100	90	-10.0
4. Wheat (Small Grain) Insects																		
a. Controlled insects	60.6	75.0	+14.4	43	85	+42.0	10	70	+60.0	96	100	+4.0	57	25	-32.0	97	95	-2.0
b. Controlled pests in stored grain	72.4	75.0	+2.6	100	100	--	3	70	+67.0	96	100	+4.0	63	25	-38.0	100	80	-20.0
c. Pet Hessian fly susceptible variety 10/15-11/1	81.5	69.0	-12.5	*	75	--	73	35	-38.0	90	90	--	*	45	--	*	100	--
d. Pet Hessian fly resistant variety 10/1-11/1	90.4	83.0	-7.4	93	95	+2.0	76	65	-11.0	100	90	-10.0	83	70	-13.0	100	95	-5.0
Subtotal average	76.2	75.5	-9.73	78.67	88.75	+10.08	40.05	60.0	+19.5	95.5	95	-0.5	67.67	41.25	-26.42	99.0	92.5	-6.5
5. Wheat (Small Grain) Management and Planning																		
a. Harvested at Proper Stage	91.2	91.0	-0.2	99	100	+1.0	70	95	+25.0	100	95	-5.0	87	65	-22.0	100	100	--
Subtotal average	91.2	91.0	-0.2	99.0	100	+1.0	70	95	+25.0	100	95	-5.0	87	65	-22.0	100	100	--
6. Wheat (Small Grain) Production																		
a. Planted recommended bushels/acre	95.2	55.0	-40.2	83	50	-33.0	100	45	-55.0	100	35	-65.0	93	85	-8.0	100	60	-40
b. Planted recommended variety	97.4	96.0	-1.4	100	95	-5.0	100	100	--	100	95	-5.0	87	90	+3.0	100	100	--
Subtotal average	96.3	75.5	-20.8	91.5	72.5	-19.0	100	72.5	-27.5	100	65.0	-35.0	90.0	87.5	-2.5	100	80	-20.0
Total average	72.6	68.4	-4.2	67.9	70.5	+2.6	55.9	59	+3.1	79.6	73.5	-6.1	69.7	51.0	-18.7	86.4	88	+1.6

*DNA = Data not available.

The largest consequential loss (-) of 20.8% was noted on Subject 6, Wheat (Small Grain) Production. The subtotal average practice uses for Subject 6 were 96.3% in 1972 and 75.5% in 1977. Subject 6 was related to two practices; Practice 6A, Planted Recommended Bushels per Acre, and Practice 6B, Planted Recommended Variety. Practice 6A, Planted Recommended Bushels per Acre, represented the largest single decrease (-) in practice use of 40.2% from 95.2% in 1972 to 55% in 1977; thus falling below the concern level of 60% for that year. A very slight decrease (-) of 1.4 also was noted on Practice 6B, Planted Recommended Variety, from 97.4% in 1972 to 96% in 1977.

Subject 4, Wheat (Small Grain) Insects, showed a small decrease (-) in subtotal average practice use of 0.73%; from 76.2% in 1972 to 75.5% in 1977. Subject 4 refers to these four practices: Practice 4A, Controlled Insects; Practice 4B, Controlled Pests in Stored Grain; Practice 4C, Planted Hessian Fly Susceptible Variety from 10/15-11/1; and Practice 4D, Planted Hessian Fly Resistant Variety from 10/1-11/1. Practice 4A, Controlled Insects, scored the highest improvement in practice use, an increase (+) of 14.4%, from 60.6% in 1972 to 75% in 1977. Practice 4B, Controlled Pests in Stored Grain, also showed an improvement (+) of 2.6%; a slight increase (+) in total average practice use from 72.4% to 75%. A consequential loss (-) of practice use was noted on Practice 4C, Planted Hessian Fly Susceptible Variety from 10/15-11/1; a decrease (-) of 12.5% from 81.5% in 1972 to 69% in 1977. A loss (-) in total average practice use was also noted on Practice 4D, Planted Hessian Fly Resistant Variety from 10/1-11/1, which showed a decrease (-) in used of 7.4%, from 90.4% in 1972 to 83% in 1977.

A small decrease (-) in practice use of 0.2% was indicated on Subject 5, Wheat (Small Grain) Management and Planning. Subject 5 refers to Practice 5A, Harvested at Proper Stage, which shows a minor change in practice use from 91.2% to 91% in 1972 and 1977, respectively.

Reference to Table 1 also permits comparison of wheat (small grain) producers in the five selected Extension Supervisory District I counties according to changes in subjects and practice use between 1972 and 1977.

Total average differences for the six practice-related TEMIS subjects ranged from (-) 18.7% in Haywood County to (+) 3.1% in Fayette County. Crockett and Obion Counties also had small total average improvements (+) of 2.6 and (+) 1.6%, respectively; whereas Gibson County had a decrease (-) in the total average practice use of 6.1%.

Subject 1, Wheat (Small Grain) Disease, which refers to a single practice, Practice 1A, Treated Seed with Fungicides, had a total average improvement (+) for all five counties of 5.1%. This practice ranged from a loss (-) of 30% of producers using it in Haywood County to a highest increase (+) of 96.7 in Obion County. Gibson County had (+) 1% increase in use of this practice, whereas Crockett and Fayette had losses of (-) 20 and (-) 22%, respectively. Except for Obion County producers in 1977, all the counties fell far below the concern level in practice use of this subject. It was the weakest practice related subject studied.

Subject 2, Wheat (Small Grain) Nutrition, which refers to Practice 2A, Used Soil Test, had a five county average loss (-) of 6% in practice use. This practice use ranged from a loss (-) of 17% in Obion

County to a gain of (+) 1% each in Fayette and Gibson Counties. Crockett and Haywood Counties had losses (-) of 3 and 12%, respectively, in the practice use on this subject. It is interesting to note that all counties, except Obion in 1972, fell far below the concern level using this practice. It was the second weakest practice-related subject studied.

Subject 3, Wheat (Small Grain) Weeds, which refers to Practice 3A, Controlled Weeds, had a total average five county improvement (+) of 3.5%. This practice ranged in practice use change from losses (-) of 10% each in Haywood and Obion Counties to a gain (+) of 35% in Crockett County. Crockett was below the concern level in 1972. Gibson County also had an increase (+) of 14% in use of the practice. Fayette in 1977, whose survey data were unavailable for 1972, and Haywood in both 1972 and 1977 fell at or below the concern level in the use of this practice. Overall, it was not considered a weak practice-related subject either year.

Subject 4, Wheat (Small Grain) Insects, which consists of four practices, namely: Practice 4A, Controlled Insects; Practice 4B, Controlled Pests in Stored Grain; Practice 4C, Planted Hessian Fly Susceptible Variety from 10/15-11/1; and Practice 4D, Planted Hessian Fly Resistant Variety from 10/1-11/1, had a very slight loss (-) of 0.73% in the five county total average of practice use. Considering Subject 4 as one bundle of practices, only Fayette (i.e., in 1972 and 1977) and Haywood (i.e., in 1977) Counties fell at or below the concern level of practice use at either time studied.

The use of Practice 4A had a total average five county improvement (+) of 14.4%, that ranged from a loss (-) of 32% in Haywood County to a consequential gain (+) of 60% in Fayette County. Crockett and Gibson Counties also showed gains (+) in use of Practice 4A, the former an increase (+) of 42% and the latter an increase (+) of 4%, respectively. A decrease (-) in use of Practice 4A of 2% occurred in Obion County. Only producers in Haywood County fell below the concern level in both 1972 and 1977.

Practice 4B had a small total five county average improvement (+) of 2.6%, which ranged from a loss (-) of 38% in Haywood County to a large gain (+) of 67% in Fayette County. Crockett County scored a perfect 100% on both years to give neither a gain (+) nor a loss (-) in using Practice 4B; whereas Gibson County had a gain (+) of 4% and Obion County a loss (-) of 20%. Only in Fayette County did Practice 4B fall below the concern level in 1972 and in Haywood County in 1977.

The use of Practice 4C had a total average five county loss (-) of 12.5% which ranged from a loss (-) of 38% in Fayette County to 0% in Gibson County. Data were not available for 1972 in Crockett, Haywood and Obion Counties on Practice 4C for comparison with practice use for 1977. In Fayette and Haywood Counties, use of Practice 4C fell far below the concern level in 1977.

Practice 4D had a total five county average use decrease (-) of 7.4% that ranged from a loss (-) of 13% in Haywood County to a slight gain (+) of 2% in Crockett County. Fayette, Gibson and Obion Counties had losses of 11, 10 and 5%, respectively on Practice 4D. None of the counties fell below the concern level on Practice 4D.

Subject 5, Wheat (Small Grain) Management and Planning, refers to Practice 5A, Harvested at Proper Stage. It had a slight loss (-) in total five county average use of 0.2%. The use of this practice ranged from a loss (-) of 22% in Haywood County to a considerable gain (+) of 25% in Fayette County. An increase (+) of 1% and a decrease (-) of 5% were noted on Practice 5A in Crockett and Gibson Counties, respectively, whereas there was no change in the use of this practice in Obion County. No county using Practice 5A fell below the concern level.

Subject 6, Wheat (Small Grain) Production, consisting of two practices: Practice 6A, Planted Recommended Bushels per Acre; and Practice 6B, Planted Recommended Variety, had a large decrease (-) of 20.8% in the total five county average of practice use by producer. None of the counties had their subtotal average use of Subject 6 fall below the concern level. A large total five county average decrease (-) of 40.2% was noted in the use of Practice 6A. All the counties had relatively large decreases (-) in use of the practice: Gibson (-) 65%; Fayette (-) 55%; Obion (-) 40%; Crockett (-) 33%; and Haywood (-) 8%. All counties other than Haywood County fell at or below the concern level in 1977. This is now a weak practice.

Practice 6B had a slight loss (-) of 1.4% in the total five county average use, which ranged from a loss (-) of 5% each in Crockett and Gibson to a gain (+) of 3% in Haywood. Two counties, Fayette and Obion, had a perfect score of 100% each in both 1972 and 1977. None of the counties using Practice 6B fell below the concern level.

With respect to weak practices, then, Practice 1A and 2A were considered weak (i.e., deserving of educational program emphasis) in all

the counties in both 1972 and 1977. In 1977, Practice 4C was weak in Fayette and Haywood Counties. Also, except for Haywood, Practice 6A was weak in the rest of the counties in 1977.

Greater overall program emphasis was shown to be needed in Fayette and Haywood Counties in 1977. Also, especially Subjects 1 and 2 appeared to be very weak in all the counties both years. Thus, continual program emphasis should have been called for during the period 1972 and 1977 for all District I counties studied.

B. SHIFTS IN AGENT WHEAT (SMALL GRAIN) TIME PLANNED COMPARING FY 1975 AND FY 1977

Table 2 and 3 present the numbers and percents of agent days planned for FY 1975 and FY 1977 respectively. The increases and/or decreases between the numbers and percents of agent days planned for FY 1975 and FY 1977 are shown in Table 4 and 5. TEMIS Primary Subjects are arranged in descending order of 1972 educational priority. The rankings are as follows: Subject 1, Wheat (Small Grain) Disease; Subject 2, Wheat (Small Grain) Nutrition; Subject 3, Wheat (Small Grain) Weeds; Subject 4, Wheat (Small Grain) Insects; Subject 5, Wheat (Small Grain) Management and Planning; Subject 6, Wheat (Small Grain) Production; and Subject 7, All Other Wheat (Small Grain) Areas. The TEMIS data are presented for the five selected Extension Supervisory District I counties and the total.

Comparison by Numbers of Agent Days

As seen in Table 4, there was a net increase (+) of 20 agent days planned from FY 1975 to FY 1977. Total agent days planned in 1975 were

Table 2

Numbers and Percents of Agent Days Planned in FY 1975 in Five Selected District I Counties and Totals by Wheat (Small Grain) Subjects Arranged in Order of Priority Educational Need

Priority Subject (Ranked)	Five County Total Agent Days		Extension Supervisory District I Counties									
			Crockett Agent Days		Fayette Agent Days		Gibson Agent Days		Haywood Agent Days		Obion Agent Days	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
1. Wheat Disease	3	9.7	3	9.7	0	--	0	--	0	--	0	--
2. Wheat Nutrition	1	3.2	0	--	0	--	0	--	1	3.2	0	--
3. Wheat Weeds	1	3.2	0	--	0	--	0	--	1	3.2	0	--
4. Wheat Insects	10	32.3	3	9.7	0	--	0	--	2	6.5	5	16.1
5. Wheat Management and Planning	1	3.2	0	--	0	--	0	--	1	3.2	0	--
6. Wheat Production	9	29.1	3	9.7	0	--	0	--	0	--	6	19.4
7. All Other Wheat Areas	6	19.3	2	6.4	0	--	0	--	4	12.9	0	--
Total*	31	100.0	11	35.5	0	--	0	--	9	29.0	11	35.5

*A total of 65 days was planned in FY 1975 for all 21 counties in District I.

Table 3

Numbers and Percents of Agent Days Planned in FY 1977 in Five Selected District I Counties and Totals by Wheat (Small Grain) Subjects Arranged in Order of Priority Educational Need

Priority Subject (Ranked)	Five County Total Agent Days		Extension Supervisory District I Counties									
			Crockett Agent Days		Fayette Agent Days		Gibson Agent Days		Haywood Agent Days		Obion Agent Days	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
1. Wheat Disease	1	1.96	1	1.96	0	--	0	--	0	--	0	--
2. Wheat Nutrition	11	21.57	6	11.76	0	--	0	--	1	1.96	4	7.84
3. Wheat Weeds	1	1.96	0	--	0	--	0	--	1	1.96	0	--
4. Wheat Insects	11	21.57	2	3.92	0	--	2	3.92	2	3.92	5	9.80
5. Wheat Management and Planning	1	1.96	0	--	0	--	0	--	1	1.96	0	--
6. Wheat Production	2	3.92	2	3.92	0	--	0	--	0	--	0	--
7. All Other Wheat Areas	24	47.06	4	7.84	0	--	10	19.61	4	7.84	6	11.76
Total*	51	100.0	15	29.41	0	--	12	23.53	9	17.65	15	29.41

*A Total of 142 days was planned in FY 1977 for all 21 counties in District I.

Table 4

Number Increases or Decreases (Actual Shifts) Comparing Extension Agent Days Planned in Each Five Extension District I Counties from Fiscal Year 1975 to Fiscal Year 1977 by Wheat (Small Grain) Subjects Arranged in Order of Priority Need

Priority Subject (Ranked)	Five County Total	Extension Supervisory District I Counties				
		Crockett	Fayette	Gibson	Haywood	Obion
		Change in Number of Agent Days 1975-1977				
1. Wheat (Small Grain) Disease	-2	-2	0	0	0	0
2. Wheat (Small Grain) Nutrition	10	6	0	0	0	4
3. Wheat (Small Grain) Weeds	0	0	0	0	0	0
4. Wheat (Small Grain) Insects	1	-1	0	2	0	0
5. Wheat (Small Grain) Management and Planning	0	0	0	0	0	0
6. Wheat (Small Grain) Production	-7	-1	0	0	0	-6
7. All Other Wheat (Small Grain) Areas	18	2	0	10	0	6
Total	20	4	0	12	0	4
Total Agent Days, 1975	31	11	0	0	9	11
Total Agent Days, 1977	51	15	0	12	9	15

Table 5

Percent Increases and Decreases (Relative Shifts) Comparing Extension Agent Days Planned in Each Five Extension District I Counties from Fiscal Year 1975 to Fiscal Year 1977 by Wheat (Small Grain) Subjects Arranged in Order of Priority Need

Priority Subject (Ranked)	Five County Total	Extension Supervisory District I Counties				
		Crockett	Fayette	Gibson	Haywood	Obion
		Change in Percent of Agent Days, 1975-1977				
1. Wheat (Small Grain) Disease	-7.74	-7.74	0	0	0	0
2. Wheat (Small Grain) Nutrition	18.37	11.76	0	0	-1.24	7.84
3. Wheat (Small Grain) Weeds	-1.24	0	0	0	-1.24	0
4. Wheat (Small Grain) Insects	-10.73	-5.78	0	3.93	-2.58	-6.30
5. Wheat (Small Grain) Management and Planning	-1.24	0	0	0	-1.24	0
6. Wheat (Small Grain) Production	-25.18	-5.78	0	0	0	-19.4
7. All Other Wheat (Small Grain) Areas	27.76	1.44	0	19.63	-5.06	11.76
Total	0	-6.10	0	23.56	-11.36	-6.10

31, while total agent days planned in 1977 increased to 51. It is important to note that there was no time planned on all the subjects in Fayette and Gibson Counties for FY 1975, and also no plan was made in Fayette County for FY 1977 time on wheat (small grain) work. Both the weakest and strongest subjects, Subjects 1 and 6 respectively, showed decreases (-) in agent days planned, two days fewer for the former and seven for the latter. Increases (+) were shown for Subject 4, one day, and Subject 7, 18 days; while no net changes were observed for Subjects 3 and 5. The number of days planned by all counties ranged from zero in Fayette County to an increase (+) of 12 days in Gibson County.

Subject 1, Wheat (Small Grain) Disease, had a net decrease (-) of two days planned. Except for Crockett County which had two days decrease in time planned, no other counties had any time planned on this subject for either FY 1975 or FY 1977.

Subject 2, Wheat (Small Grain) Nutrition, had a net increase (+) of 10 days planned. The range was from zero days in Fayette, Gibson and Haywood to a relatively large increase (+) of six days planned in Crockett County.

Subject 3, Wheat (Small Grain) Weeds, had neither net increase nor decrease in agent days planned. Only one county, Haywood, had any time planned (i.e., one day) on this subject for either FY 1975 or FY 1977.

Subject 4, Wheat (Small Grain) Insects, had a small increase (+) of one day planned. It ranged from a small decrease (-) of one day in Crockett County to an increase (+) of two days in Gibson County. Haywood

and Obion Counties showed no change on the number of days planned on the subject.

Subject 5, Wheat (Small Grain) Management and Planning, also showed no actual shifts in the numbers of agent days planned. Only Haywood County had agent days planned (i.e., one day) on Subject 5 for either FYs 1975 or 1977, and none for the rest of the counties either year.

Subject 6, Wheat (Small Grain) Production, registered the largest decrease (-) of seven days planned. It had decreases (-) of one and six days in Crockett and Obion Counties, respectively. No time plan was made in the other counties.

Subject 7, All Other Wheat (Small Grain) Areas, had the largest increase (+) of 18 days planned, the counties ranging from an increase (+) of two days in Crockett County to the largest increase (+) of 10 days in Gibson County. Items under this heading were not practice-related in either year.

Comparison by Percents

Table 5 presents information regarding changes in relative percents of agent days planned according to the Wheat (Small Grain) Priority Subjects for the five counties in District I and its total between FY 1975 and FY 1977. The percents of agent time planned by subjects ranged from a decrease (-) of 25.18% for Subject 6, Wheat (Small Grain) Production, to an increase (+) of 27.76% for Subject 7, All Other Wheat (Small Grain) Areas. Crockett and Obion Counties showed total decreases (-) of 6.10% each in percent of time planned; while Haywood County had a decrease (-) of 11.36%. A total increase (+) of

23.56% in agent days planned was noted in Gibson County. There was no time planned in Fayette County of any wheat (small grain) subject in either FY 1975 or FY 1977.

Subject 1, Wheat (Small Grain) Disease, had a net relative decrease (-) of 7.74%. Except for Crockett County, no other counties had time planned on the subject.

Subject 2, Wheat (Small Grain) Nutrition, had a net increase (+) of 18.37%, county figures ranging from a negative (-) 1.24% in time planned in Haywood County, to a positive (+) 11.76% in Crockett County. Fayette and Gibson Counties had no time plan on the subject for either FYs 1975 or 1977.

Subject 3, Wheat (Small Grain) Weeds, had a net relative decrease (-) of 1.24%, of which only Haywood County had any time planned on the subject.

Subject 4, Wheat (Small Grain) Insects, had a net relative decrease (-) of 10.73%, county figures ranging from a negative (-) 6.30% in Obion County, to a positive (+) 3.93% in Gibson County.

Subject 5, Wheat (Small Grain) Management and Planning, had a net relative decrease (-) of 1.24%, of which only Haywood County had its time planned on the subject.

Subject 6, Wheat (Small Grain) Production, had a net relative decrease (-) of 25.18%. County figures were only available for Crockett and Obion Counties which showed negative (-) decreases of 5.78 and 19.4%, respectively.

Subject 7, All Other Wheat (Small Grain) Areas, had a net relative increase (+) of 27.76%, county figures ranging from a negative (-) 5.06%

in Haywood County, to a positive (+) 19.63% in Gibson County. Again, this subject was not practice-related either year studied.

C. SHIFTS IN AGENT WHEAT (SMALL GRAIN) TIME EXPENDED COMPARING FYS 1975 AND 1977

Tables 6 and 7 present the numbers and percents of agent days expended for FY 1975 and 1977, respectively. The increase and/or decreases between the numbers and percents of agent days expended for FY 1975 and FY 1977 are shown in Tables 8 and 9. TEMIS Primary Subjects are also arranged in descending order of 1972 educational priority.

Comparison by Agent Days

Table 8 shows increases and/or decreases between the numbers of agent days actually expended in FY 1975 and FY 1977. There was a net increase (+) of 9.01 days expended from 1975 to 1977. Total agent days expended in 1975 were 44.1, while total agent days expended in 1977 increased to 53.11. Agent days expended by subjects ranged from a decrease (-) of 2.12 days expended for Subject 3, Wheat (Small Grain) Weeds, to an increase (+) of 10.24 for Subject 2, Wheat (Small Grain) Nutrition. The total number of days expended for all five counties shows a range from an increase (+) of 0.65 days in Gibson County, to an increase (+) of 5.00 days expended in Obion County.

Subject 1, Wheat (Small Grain) Disease, had a net increase (+) of 1.12 agent days expended from 1975 to 1977. There were slight decreases (-) in two counties: Crockett (-0.75) and Fayette (-0.38). An increase (+) of 2.25 days expended was noted in Gibson County. Haywood and Obion

Table 6

Numbers and Percents of Agent Days Expended in FY 1975 in Five Selected District I Counties and Totals by Wheat (Small Grain) Subjects Arranged in Order of Priority Educational Need

Priority Subject (Ranked)	Five County Total Agent Days		Extension Supervisory District I Counties									
			Crockett Agent Days		Fayette Agent Days		Gibson Agent Days		Haywood Agent Days		Obion Agent Days	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
1. Wheat Disease	1.13	2.56	0.75	1.70	0.38	0.86	0	--	0	--	0	--
2. Wheat Nutrition	3.12	7.07	0.25	0.57	0	--	0.62	1.40	2.25	5.10	0	--
3. Wheat Weeds	7.88	17.87	0.38	0.86	0.12	0.27	4.13	9.37	2.25	5.10	1.00	2.27
4. Wheat Insects	7.87	17.85	1.00	2.27	0	--	1.37	3.11	1.25	2.83	4.25	9.64
5. Wheat Management and Planning	1.5	3.40	0	--	0	--	0	--	1.50	3.40	0	--
6. Wheat Production	17.1	38.78	0.87	1.97	0	--	4.11	9.32	0.50	1.13	11.62	26.35
7. All Other Wheat Areas	5.5	12.47	0	--	0	--	0.62	1.40	4.63	10.51	0.25	0.57
Total*	44.1	100	3.25	7.37	0.50	1.13	10.85	24.60	12.38	28.07	17.12	38.82

*A Total of 135.98 days was expended in FY 1975 for all 21 counties in District I.

Table 7

Numbers and Percents of Agent Days Expended in FY 1977 in Five Selected District I Counties and Totals by Wheat (Small Grain) Subjects Arranged in Order of Priority Educational Need

Priority Subject (Ranked)	Five County Total Agent Days		Extension Supervisory District I Counties									
			Crockett Agent Days		Fayette Agent Days		Gibson Agent Days		Haywood Agent Days		Obion Agent Days	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
I. Wheat Disease	2.25	4.24	0	--	0	--	2.25	4.24	0	--	0	--
2. Wheat Nutrition	13.36	25.16	1.62	3.05	0.37	0.70	0	--	4.50	8.47	6.87	12.94
3. Wheat Weeds	5.76	10.85	0	--	0	--	0.63	1.19	4.75	8.94	0.38	0.72
4. Wheat Insects	7.49	14.10	0	--	1.00	--	3.38	6.36	1.12	2.11	1.99	3.75
5. Wheat Management and Planning	0.50	0.94	0	--	0	--	0	--	0.50	0.94	0	--
6. Wheat Production	20.24	38.11	1.50	2.82	0.87	1.64	4.99	9.40	0	--	12.88	24.25
7. All Other Wheat Areas	3.51	6.61	0.88	1.66	0	--	0.25	0.47	2.38	4.48	0	--
Total*	53.11	100	4.00	7.53	2.24	4.22	11.50	21.65	13.25	24.95	22.12	41.65

*A total of 117.69 days was expended in FY 1977 for all 21 counties in District I.

Table 8

Number of Increases and Decreases (Actual Shifts) Comparing Tennessee Extension Agent Days Expended in Five Selected District I Counties from Fiscal Year 1975 to Fiscal Year 1977 by Wheat (Small Grain) Subjects Arranged in Order of Priority Need

Priority Subject (Ranked)	Five County Total	Extension Supervisory District I Counties				
		Crockett	Fayette	Gibson	Haywood	Obion
		Number of Agent Days				
1. Wheat (Small Grain) Disease	1.12	-0.75	-0.38	2.25	0	0
2. Wheat (Samll Grain) Nutrition	10.24	1.37	0.37	-0.62	2.25	6.87
3. Wheat (Small Grain) Weeds	-2.12	-0.38	-0.12	-3.50	2.50	-0.62
4. Wheat (Small Grain) Insects	-0.38	-1.00	1.00	2.01	-0.13	-2.26
5. Wheat (Small Grain) Management and Planning	-1.00	0	0	0	-1.00	0
6. Wheat (Small Grain) Production	3.14	0.63	0.87	0.88	-0.50	1.26
7. All Other Wheat (Small Grain) Areas	-1.99	0.88	0	-0.37	-2.25	-0.25
Total	9.01	0.75	1.74	0.65	0.87	5.00
Total Agent Days, 1975	44.1	3.25	0.50	10.85	12.38	17.12
Total Agent Days, 1977	53.11	4.00	2.24	11.50	13.25	22.12

Table 9

Percent Increases and Decreases (Relative Shifts) Comparing Extension Agent Days Expended in Each Five Extension District I Counties from Fiscal Year 1975 to Fiscal Year 1977 by Wheat (Small Grain) Subjects Arranged in Order of Priority Need

Priority Subject (Ranked)	Five County Total	Extension Supervisory District I Counties				
		Crockett	Fayette	Gibson	Haywood	Obion
		Change in Percent of Agent Days				
1. Wheat (Small Grain) Disease	1.68	-1.70	-0.86	4.24	0	0
2. Wheat (Small Grain) Nutrition	18.09	2.48	0.70	-1.40	3.37	12.94
3. Wheat (Small Grain) Weeds	-7.02	-0.86	-0.27	-8.18	3.84	-1.55
4. Wheat (Small Grain) Insects	-3.75	-2.27	1.88	3.25	-0.72	-5.89
5. Wheat (Small Grain) Management and Planning	-2.46	0	0	0	-2.46	0
6. Wheat (Small Grain) Production	-0.67	0.85	1.64	0.08	-1.14	-2.10
7. All Other Wheat (Small Grain) Areas	-5.87	1.66	0	-0.93	-6.03	-0.57
Total	0	0.16	3.09	-2.94	-3.14	2.83

Counties had no agent days expended on the subject for either FY 1975 or FY 1977.

Subject 2, Wheat (Small Grain) Nutrition, had a net increase (+) of 10.24 agent days expended from 1975 to 1977. Only Gibson County had an agent days expended decrease (-) of 0.62 agent days. Increases (+) of 0.37, 1.37, 2.25 and 6.87 agent days were noted in Fayette, Crockett, Haywood and Obion Counties, respectively.

Subject 3, Wheat (Small Grain) Weeds, registered a net decrease (-) of 2.12 agent days expended from 1975 to 1977. Except for Haywood County which had an increase (+) of 2.50 agent days, decreases (-) of 0.12, 0.38, 0.62 and 3.50 were noted in Fayette, Crockett, Obion and Gibson Counties, respectively.

Subject 4, Wheat (Small Grain) Insects, had a net decrease (-) of 0.38 agent days expended. There were decreases (-) in three counties: Crockett (-1.00), Haywood (-0.13) and Obion (-2.26). Fayette County increased (+) 1.00 agent days; and Gibson increased (+) 2.01 agent days expended from 1975 to 1977.

Subject 5, Wheat (Small Grain) Management and Planning, had a decrease (-) of 1.00 agent days expended which was only recorded in Haywood County. Other counties showed no agent days expended on this subject for either FY 1975 or FY 1977.

Subject 6, Wheat (Small Grain) Production, had a net increase (+) of 3.14 agent days expended from 1975 to 1977. Only Haywood County showed a decrease (-) of 0.50 in agent days. Increases (+) of 0.63, 0.87, 0.88 and 1.26 were noted in Crockett, Fayette, Gibson and Obion Counties, respectively.

Subject 7, All Other Wheat (Small Grain) Areas, had a net decrease (-) of 1.99 agent days expended from 1975 to 1977. There were decreases (-) in three counties: Gibson (-0.37), Haywood (-2.25) and Obion (-0.25). An increase (+) of 0.88 agent days expended was noted in Crockett County. No agent days were expended in Fayette County on this subject for either FY 1975 or FY 1977.

Comparisons by Percents

Table 9 presents the changes in relative percents of agent time expended according to the Wheat (Small Grain) Priority Subjects for the five counties and their total between FY 1975 and FY 1977. Subjects ranged from a decrease (-) of 7.02% agent days expended for Subject 3, Wheat (Small Grain) Weeds, to an increase (+) of 18.09% agent days expended for Subject 2, Wheat (Small Grain) Nutrition.

Subject 1, Wheat (Small Grain) Disease, had a net relative increase (+) in agent days of 1.68%. Crockett and Fayette Counties had decreases (-) of 1.70 and 0.86% in agent days expended. Gibson County had an increase (+) of 4.24%. No time was expended on the subject in Haywood and Obion Counties for either FY 1975 or FY 1977.

Subject 2, Wheat (Small Grain) Nutrition, had a net relative increase (+) of 18.09% agent days expended. This was a consequential increase. Excepting for Gibson County, which had a decrease (-) of 1.40%, other counties had increases of 2.48, 0.70, 3.37 and 12.94% in Crockett, Fayette, Haywood and Obion, respectively. Obion's increase was consequentially higher than for other counties.

Subject 3, Wheat (Small Grain) Weeds, had a net relative decrease (-) of 7.02% agent days expended. Crockett County decreased (-) 0.86%

in agent days, Fayette County decreased (-) 0.27% in agent days; Gibson County decreased (-) 8.18% in agent days; and Obion County decreased (-) 1.55% in agent days expended. Only Haywood County had an increase (+) of 3.84% in agent days expended. Gibson County had a consequentially greater loss than Haywood County.

Subject 4, Wheat (Small Grain) Insects, had a net relative decrease (-) in agent days expended of 3.75%. Crockett County decreased (-) 2.27% in agent days; Haywood County decreased (-) 0.72% in agent days; and Obion County decreased (-) 5.89% in agent days expended. Fayette County increased (+) 1.88%, and Gibson County increased (+) 3.25% in agent days expended on Subject 4.

Subject 5, Wheat (Small Grain) Management and Planning, had a net relative decrease (-) of 2.46% in agent days expended. Only Haywood County showed a decrease (-) of 2.46% in agent days, and no other counties had any days expended on this subject for either FY 1975 or FY 1977.

Subject 6, Wheat (Small Grain) Production, had a relative decrease (-) in agent days expended of 0.67%. Haywood and Obion Counties had decreases (-) of 1.14 and 2.10%, respectively, in agent days expended. Crockett County increased (+) 0.85% in agent days, Fayette increased (+) 1.64% in agent days; and Gibson increased (+) 0.08% in agent days expended.

Subject 7, All Other Wheat (Small Grain) Areas, had a net relative decrease (-) in agent days expended of 5.87%. Gibson County decreased (-) 0.93% in agent days; Haywood County decreased (-) 6.03% in agent days; and Obion County decreased (-) 0.57% in agent days expended.

Crockett County increased (+) 1.66% in agent days. Fayette County had no agent days expended on this subject in either FY 1975 or FY 1977.

Regarding total relative changes by counties, agents in Crockett, (+) 0.16; Fayette, (+) 3.09; and Obion (+) 2.83%; increased. Gibson, (-) 2.94%, and Haywood, (-) 3.14%, decreased slightly.

D. SHIFTS IN AGENT WHEAT (SMALL GRAIN) CONTACTS MADE COMPARING FY 1975 AND FY 1977

Tables 10 and 11 present the numbers and percents of agent contacts made for FY 1975 and FY 1977, respectively. The increases and/or decreases between the numbers and percents of agent contacts made for FY 1975 and FY 1977 are shown in Tables 12 and 13. TEMIS Primary Subjects are also arranged in descending order of 1972 educational priority.

Comparison by Numbers of Contacts Made

Table 12 shows the actual numbers of increases and/or decreases between agent contacts made for FY 1975 and FY 1977 by Wheat (Small Grain) Priority Subjects and the five counties studied and its total.

Total contacts among all the five counties showed a net increase (+) of 174 contacts from FY 1975 to FY 1977. Total contacts increased (+) from 365 in 1975 to 539 in 1977. Subject 7, All Other Wheat (Small Grain) Areas, showed a decrease (-) of 18 contacts. Subject 2, Wheat (Small Grain) Nutrition, showed a substantial increase (+) of 97 contacts. Haywood County had a decrease (-) of six contacts; while Obion County had a substantial increase (+) of 151 contacts.

Subject 1, Wheat (Small Grain) Disease, had a very small net increase (+) of two contacts overall. Crockett and Fayette Counties had

Table 10

Numbers and Percents of Contacts Made in FY 1975 in Five Selected District I Counties and Totals by Wheat (Small Grain) Subjects Arranged in Order of Priority Educational Need

Priority Subject (Ranked)	Five County Total Contacts		Extension Supervisory District I Counties									
			Crockett Contacts		Fayette Contacts		Gibson Contacts		Haywood Contacts		Obion Contacts	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
1. Wheat Disease	8	2.19	4	1.10	4	1.10	0	--	0	--	0	--
2. Wheat Nutrition	29	7.95	1	0.27	0	--	7	1.92	21	5.75	0	--
3. Wheat Weeds	76	20.82	3	0.82	1	0.27	32	8.77	34	9.32	6	1.64
4. Wheat Insects	65	17.81	8	2.19	0	--	11	3.01	12	3.29	34	9.32
5. Wheat Management and Planning	16	4.38	0	--	0	--	0	--	16	4.38	0	--
6. Wheat Production	125	34.25	4	1.10	0	--	31	8.49	4	1.10	86	23.56
7. All Other Wheat Areas	46	12.60	0	--	0	--	2	0.55	41	11.23	3	0.82
Total*	365	100	20	5.48	5	1.37	83	22.74	128	35.07	129	35.34

*A total of 1,277 contacts were made in FY 1975 for all 21 counties in District I.

Table 11

Numbers and Percents of Contacts Made in Five Selected District I Counties and Totals by Wheat (Small Grain) Subjects in FY 1977 Arranged in Order of Priority Educational Need

Priority Subject (Ranked)	Five County Total Contacts		Extension Supervisory District I Counties									
			Crockett Contacts		Fayette Contacts		Gibson Contacts		Haywood Contacts		Obion Contacts	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
1. Wheat Disease	10	1.86	0	--	0	--	10	1.86	0	--	0	--
2. Wheat Nutrition	126	23.38	13	2.41	5	0.93	0	--	36	6.68	72	13.36
3. Wheat Weeds	75	13.91	0	--	0	--	22	4.08	49	9.09	4	0.74
4. Wheat Insects	85	15.77.	0	--	8	1.48	28	5.19	10	1.86	39	7.24
5. Wheat Management and Planning	4	0.74	4	0.74	0	--	0	--	0	--	0	--
6. Wheat Production	211	39.15	13	2.41	9	1.67	24	4.45	0	--	165	30.61
7. All Other Wheat Areas	28	5.19	0	--	0	--	1	0.19	27	5.01	0	--
Total*	539	100	30	5.57	22	4.08	85	15.77	122	22.63	280	51.95

*A total of 1,137 contacts were made in FY 1977 for all 21 counties in District I.

Table 12

Number of Increases and Decreases (Actual Shifts) Comparing Tennessee Extension Agent Contacts Made in Five Selected District I Counties from Fiscal Year 1975 to Fiscal Year 1977 by Wheat (Small Grain) Subjects Arranged in Order of Priority Need

Priority Subject (Ranked)	Five County Total	Extension Supervisory District I Counties				
		Crockett	Fayette	Gibson	Haywood	Obion
		Number of Contacts				
1. Wheat (Small Grain) Disease	2	-4	-4	10	0	0
2. Wheat (Small Grain) Nutrition	97	12	5	-7	15	72
3. Wheat (Small Grain) Weeds	-1	-3	-1	-10	15	-2
4. Wheat (Small Grain) Insects	20	-8	8	17	-2	5
5. Wheat (Small Grain) Management and Planning	-12	4	0	0	-16	0
6. Wheat (Small Grain) Production	86	9	9	-7	-4	79
7. All Other Wheat (Small Grain) Areas	-18	0	0	-1	-14	-3
Total	174	10	17	2	-6	151
Total Agent Contacts, 1975	365	20	5	83	128	129
Total Agent Contacts, 1977	539	30	22	85	122	280

Table 13

Percent Increases and Decreases (Relative Shifts) Comparing Tennessee Extension Agent Contacts Made in Five Selected District I Counties from Fiscal Year 1975 to Fiscal Year 1977 by Wheat (Small Grain) Subjects Arranged in Order of Priority Need

Priority Subject (Ranked)	Five County Total	Extension Supervisory District I Counties				
		Crockett	Fayette	Gibson	Haywood	Obion
		Change on Percent of Contacts				
1. Wheat (Small Grain) Disease	-0.33	-1.10	-1.10	1.86	0	0
2. Wheat (Small Grain) Nutrition	15.43	2.14	0.93	-1.92	0.93	13.36
3. Wheat (Small Grain) Weeds	-6.91	-0.82	-0.27	-4.69	-0.23	-0.90
4. Wheat (Small Grain) Insects	-2.04	-2.19	1.48	2.18	-1.43	-2.08
5. Wheat (Small Grain) Management and Planning	-3.64	0.74	0	0	-4.38	0
6. Wheat (Small Grain) Production	4.90	1.31	1.67	-4.04	-1.10	7.05
7. All Other Wheat (Small Grain) Areas	-7.41	0	0	-0.36	-6.22	-0.82
Total	0	0.08	2.71	-6.97	-12.43	16.61

decreases (-) of four contacts each. Gibson County increased (+) 10 contacts. No contact was made in Haywood and Obion Counties on the subject for either FY 1975 or 1977.

Subject 2, Wheat (Small Grain) Nutrition, had the largest net increase (+) of 97 contacts. Only Gibson County had a decrease (-) of seven contacts. Crockett County had an increase (+) of 12 contacts, Fayette County an increase (+) of five contacts, Haywood County an increase (+) of 15 contacts, and Obion County an increase (+) of 72 contacts.

Subject 3, Wheat (Small Grain) Weeds, had a very small net decrease (-) of one contact. Crockett County decreased (-) three contacts, Fayette County decreased (-) one contact, Gibson County decreased (-) 10 contacts, and Obion County decreased (-) two contacts. Only Haywood County had increase (+) in contacts of 15.

Subject 4, Wheat (Small Grain) Insects, had a net increase (+) in contacts of 20. Crockett and Haywood Counties showed decreases (-) in contacts of eight and two, respectively. Fayette had an increase (+) of eight contacts, Gibson an increase (+) of 17 contacts, and Obion County an increase (+) of five contacts.

Subject 5, Wheat (Small Grain) Management and Planning, had a net relative decrease (-) of 12 contacts. Haywood County showed a decrease (-) of 16 contacts, while Crockett County an increase (+) of four contacts. Fayette, Gibson, and Obion Counties had no contact on the subject for either FY 1975 or FY 1977.

Subject 6, Wheat (Small Grain) Production, had a net increase (+) of 86 contacts. Gibson and Haywood Counties showed decreases (-) of

seven and four contacts, respectively. Crockett and Fayette Counties had increases (+) of nine contacts each. Obion County registered the largest increase (+) in contacts of 79.

Subject 7, All Other Wheat (Small Grain) Areas, had a net decrease (-) in contacts of 18. Gibson decreased (-) one contact, Haywood decreased (-) 14 contacts, and Obion decreased (-) three contacts. Crockett and Fayette Counties showed no contacts made on the subject for either FY 1975 or FY 1977.

Comparison by Percents of Contacts Made

Table 13 presents information regarding changes in relative percents of agent contacts made according to the Wheat (Small Grain) Priority Subjects for the five counties and its total between FY 1975 and FY 1977. Percents for subject contacts ranged from a relative net decrease (-) of 7.41% for All Other Wheat (Small Grain) Areas to a relative net increase (+) of 15.43% for Wheat (Small Grain) Nutrition.

Subject 1, Wheat (Small Grain) Disease, had a very small relative net decrease (-) of 0.33%. Crockett and Fayette Counties had decreases of 1.1% each. Gibson County an increase (+) of 1.86% in contacts made. Haywood and Obion Counties showed no contacts made on the subject for either FY 1975 or FY 1977.

Subject 2, Wheat (Small Grain) Nutrition had the largest relative net increase (+) of 15.43% in contacts made. Only Gibson County showed a decrease (-) of 1.92%. Fayette and Haywood Counties had increases (+) of 0.93% each, Crockett an increase (+) of 2.14%, and Obion County a consequential increase (+) of 13.36% in contacts made. Obion's increase was the largest for any county.

Subject 3, Wheat (Small Grain) Weeds, had a relative net decrease (-) of 6.91%. All the counties showed decreases (-) in contacts made: Haywood (-) 0.23%; Fayette (-) 0.27%; Crockett (-) 0.82%; Obion (-) 0.90%; and Gibson (-) 4.69%.

Subject 4, Wheat (Small Grain) Insects, had a relative net decrease (-) of 2.04%. Haywood County decreased (-) 1.43%, Obion County decreased (-) 2.08%, and Crockett County decreased (-) 2.19% in contacts made. Fayette and Gibson Counties had increases (+) of 1.48 and 2.18% in contacts made.

Subject 5, Wheat (Small Grain) Management and Planning, had a relative net decrease (-) of 3.64% in contacts made. Haywood County had a decrease (-) of 4.38%, while Crockett County had a small increase (+) of 0.74%. Fayette, Gibson, and Obion Counties had no contacts made on the subject for either FY 1975 or FY 1977.

Subject 6, Wheat (Small Grain) Production, had a relative net increase (+) of 4.90% in contacts made. Haywood and Gibson Counties showed decreases (-) of 1.10 and 4.04% respectively. Crockett County increased (+) 1.31%, Fayette County increased (+) 1.67%, and Obion County a consequential increase (+) of 7.05% from Gibson County in contacts made.

Subject 7, All Other Wheat (Small Grain) Areas, had a relative net decrease (-) of 7.41%. Gibson County had a decrease (-) of 0.36%, Obion County a decrease (-) of 0.82%, and Haywood County a decrease (-) of 6.22%. Crockett and Fayette Counties showed no contacts made on the subject for either FY 1975 or FY 1977.

Regarding total relative changes by counties, Crockett had a small increase (+) of 0.08%, Fayette an increase (+) of 2.71%, and Obion a consequential increase (+) of 16.61% from all the other counties. Gibson and Haywood Counties had decreases (-) of 6.97 and 12.43%, respectively, in contacts made.

E. SHIFTS IN AGENT TIME DEVOTED TO WHEAT (SMALL GRAIN) SUBJECTS USING VARIOUS TEACHING METHODS

Tables 14 and 15 present the numbers and percents of agent days expended on wheat (small grain) subjects using the four commonly used groups of Extension methods for FY 1975 and FY 1977. The uses of these methods were then compared in Tables 16 and 17, to determine whether any changes had occurred between FY 1975 and FY 1977. Again, data were analyzed by counties and according to the seven wheat (small grain) subject categories used throughout the study.

Methods Compared by Number of Agent Days

Table 16 presents a comparison of shifts in numbers of agent days devoted to wheat (small grain) subjects using selected Extension methods according to the five counties and totals. Regarding changes in days spent using different teaching methods on wheat (small grain) subjects for the five county total between FY 1975 and FY 1977, days ranged from a high increase (+) of 9.87 days for Individual Methods spent on Subject 2 to a low decrease (-) of 3.62 days, also on Individual Methods devoted to Subject 3.

Other total changes of any size included increases (+) of 1.63 and 1.51 days on Individual and Mass Media Methods, respectively, for

Table 14

Numbers and Percents of Agent Days Expended on Selected Wheat (Small Grain) Subjects Using Various Extension Teaching Methods by Five District I County Staffs and Totals, FY 1975

TEMIS Wheat (Small Grain) Subject and Teaching Methods	Five County Total		Extension Supervisory District I Counties									
			Crockett		Fayette		Gibson		Haywood		Obion	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
							Agent Days Expended					
1. Wheat (Small Grain) Disease												
a. Individual	1.13	2.56	0.75	1.70	0.38	0.86	0	--	0	--	0	--
b. Group Meetings	0	--	0	--	0	--	0	--	0	--	0	--
c. Mass Media	0	--	0	--	0	--	0	--	0	--	0	--
d. Other	0	--	0	--	0	--	0	--	0	--	0	--
Total	1.13	2.56	0.75	1.70	0.38	0.86	0	--	0	--	0	--
2. Wheat (Small Grain) Nutrition												
a. Individual	3.00	6.80	0.25	0.57	0	--	0.50	1.13	2.25	5.10	0	--
b. Group Meetings	0	--	0	--	0	--	0	--	0	--	0	--
c. Mass Media	0.12	0.27	0	--	0	--	0.12	0.27	0	--	0	--
d. Other	0	--	0	--	0	--	0	--	0	--	0	--
Total	3.12	7.07	0.25	0.57	0	--	0.62	1.40	2.25	5.10	0	--
3. Wheat (Small Grain) Weeds												
a. Individual	7.00	15.87	0.38	0.86	0.12	0.27	3.75	8.50	1.75	3.97	1.00	2.27
b. Group Meetings	0.50	1.13	0	--	0	--	0	--	0.50	1.13	0	--
c. Mass Media	0.38	0.86	0	--	0	--	0.38	0.86	0	--	0	--
d. Other	0	--	0	--	0	--	0	--	0	--	0	--
Total	7.88	17.87	0.38	0.86	0.12	0.27	4.13	9.37	2.25	5.10	1.00	2.27

Table 14 (continued)

TEMIS Wheat (Small Grain) Subject and Teaching Methods	Five County Total		Extension Supervisory District I Counties									
			Crockett		Fayette		Gibson		Haywood		Obion	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
4. Wheat (Small Grain) Insects												
a. Individual	7.87	17.85	1.00	2.27	0	--	1.37	3.11	1.25	2.83	4.25	9.64
b. Group Meetings	0	--	0	--	0	--	0	--	0	--	0	--
c. Mass Media	0	--	0	--	0	--	0	--	0	--	0	--
d. Other	0	--	0	--	0	--	0	--	0	--	0	--
Total	7.87	17.85	1.00	2.27	0	--	1.37	3.11	1.25	2.83	4.25	9.64
5. Wheat (Small Grain) Management and Planning												
a. Individual	1.50	3.40	0	--	0	--	0	--	1.50	3.40	0	--
b. Group Meetings	0	--	0	--	0	--	0	--	0	--	0	--
c. Mass Media	0	--	0	--	0	--	0	--	0	--	0	--
d. Other	0	--	0	--	0	--	0	--	0	--	0	--
Total	1.50	3.40	0	--	0	--	0	--	1.50	3.40	0	--
6. Wheat (Small Grain) Production												
a. Individual	16.49	37.39	0.62	1.41	0	--	3.87	8.78	0.50	1.13	11.50	26.08
b. Group Meetings	0	--	0	--	0	--	0	--	0	--	0	--
c. Mass Media	0.61	1.38	0.25	0.57	0	--	0.24	0.54	0	--	0.12	0.27
d. Other	0	--	0	--	0	--	0	--	0	--	0	--
Total	17.10	38.77	0.87	1.98	0	--	4.11	9.32	0.50	1.13	11.62	26.35
7. All Other Wheat (Small Grain) Areas												
a. Individual	5.13	11.63	0	--	0	--	0.25	0.57	4.63	10.50	0.25	0.57
b. Group Meetings	0	--	0	--	0	--	0	--	0	--	0	--
c. Mass Media	0.37	0.84	0	--	0	--	0.37	0.84	0	--	0	--
d. Other	0	--	0	--	0	--	0	--	0	--	0	--
Total	5.5	12.47	0	--	0	--	0.62	1.41	4.63	10.50	0.25	0.57

Table 15

Numbers and Percents of Agent Days Expended on Selected Wheat (Small Grain) Subjects Using Various Extension Teaching Methods by Five District I County Staff and Totals, FY 1977

TEMIS Wheat (Small Grain) Subject and Teaching Methods	Five County Total		Extension Supervisory District I Counties									
			Crockett		Fayette		Gibson		Haywood		Obion	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
			Agent Days Expended									
1. Wheat (Small Grain) Disease												
a. Individual	1.25	2.35	0	--	0	--	1.25	2.35	0	--	0	--
b. Group Meetings	0.88	1.66	0	--	0	--	0.88	1.66	0	--	0	--
c. Mass Media	0	--	0	--	0	--	0	--	0	--	0	--
d. Other	0.12	0.23	0	--	0	--	0.12	0.23	0	--	0	--
Total	2.25	4.24	0	--	0	--	2.25	4.24	0	--	0	--
2. Wheat (Small Grain) Nutrition												
a. Individual	12.87	24.23	1.62	3.05	0.12	0.23	0	--	4.50	8.47	6.63	12.48
b. Group Meetings	0.25	0.47	0	--	0.25	0.47	0	--	0	--	0	--
c. Mass Media	0.24	0.45	0	--	0	--	0	--	0	--	0.24	0.45
d. Other	0	--	0	--	0	--	0	--	0	--	0	--
Total	13.36	25.16	1.62	3.05	0.37	0.70	0	--	4.50	8.47	6.87	12.94
3. Wheat (Small Grain) Weeds												
a. Individual	3.38	6.36	0	--	0	--	0.25	0.47	2.75	5.18	0.38	0.72
b. Group Meetings	1.38	2.60	0	--	0	--	0.38	0.72	1.00	1.88	0	--
c. Mass Media	0	--	0	--	0	--	0	--	0	--	0	--
d. Other	0	--	0	--	0	--	0	--	0	--	0	--
Total	4.76	8.96	0	--	0	--	0.63	1.19	3.75	7.06	0.38	0.72

Table 15 (continued)

TEMIS Wheat (Small Grain) Subject and Teaching Methods	Five County Total		Extension Supervisory District I Counties									
			Crockett		Fayette		Gibson		Haywood		Obion	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
4. Wheat (Small Grain) Insects												
a. Individual	7.25	13.65	0	--	1.00	1.88	2.28	6.36	1.12	2.11	1.75	3.30
b. Group Meetings	0	--	0	--	0	--	0	--	0	--	0	--
c. Mass Media	0.24	0.45	0	--	0	--	0	--	0	--	0.24	0.45
d. Other	0	--	0	--	0	--	0	--	0	--	0	--
Total	7.49	14.10	0	--	1.00	1.88	3.38	6.36	1.12	2.11	1.99	3.75
5. Wheat (Small Grain) Management and Planning												
a. Individual	0.88	1.66	0.88	1.66	0	--	0	--	0	--	0	--
b. Group Meetings	0	--	0	--	0	--	0	--	0	--	0	--
c. Mass Media	0.50	0.94	0	--	0	--	0	--	0.50	0.94	0	--
d. Other	0	--	0	--	0	--	0	--	0	--	0	--
Total	1.38	2.60	0.88	1.66	0	--	0	--	0.50	0.94	0	--
6. Wheat (Small Grain) Production												
a. Individual	18.12	34.12	1.50	2.82	0.87	1.64	3.75	7.06	0	--	12.00	22.59
b. Group Meetings	0	--	0	--	0	--	0	--	0	--	0	--
c. Mass Media	2.12	3.99	0	--	0	--	1.24	2.33	0	--	0.88	1.66
d. Other	0	--	0	--	0	--	0	--	0	--	0	--
Total	20.24	38.11	1.50	2.82	0.87	1.64	4.99	9.40	0	--	12.88	24.25
7. All Other Wheat (Small Grain) Areas												
a. Individual	2.63	4.95	0	--	0	--	0.25	0.47	2.38	4.48	0	--
b. Group Meetings	1.00	1.88	0	--	0	--	0	--	1.00	1.88	0	--
c. Mass Media	0	--	0	--	0	--	0	--	0	--	0	--
d. Other	0	--	0	--	0	--	0	--	0	--	0	--
Total	3.63	6.83	0	--	0	--	0.25	0.47	3.38	6.36	0	--

Table 16

Shifts in Numbers of Agents Days Expended on Selected Wheat (Small Grain) Subjects Using Extension Teaching Methods by Five District I County Staffs, FY 1975 and FY 1977

TEMIS Wheat (Small Grain) Subject and Teaching Methods	Five County Total	Extension Supervisory District I Counties				
		Crockett	Fayette	Gibson	Haywood	Obion
		Number of Agent Days Expended				
1. Wheat (Small Grain) Disease						
a. Individual	0.12	-0.75	-0.38	1.25	0	0
b. Group Meetings	0.88	0	0	0.88	0	0
c. Mass Media	0	0	0	0	0	0
d. Other	0.12	0	0	0.12	0	0
Total	1.12	-0.75	-0.38	2.25	0	0
Total Days 1975	1.13	0.75	0.38	0	0	0
Total Days 1977	2.25	0	0	2.25	0	0
2. Wheat (Small Grain) Nutrition						
a. Individual	9.87	1.37	0.12	-0.50	2.25	6.63
b. Group Meetings	0.25	0	0.25	0	0	0
c. Mass Media	0.12	0	0	-0.12	0	0.24
d. Other	0	0	0	0	0	0
Total	10.24	1.37	0.37	-0.62	2.25	6.87
Total Days 1975	3.12	0.25	0	0.62	2.25	0
Total Days 1977	13.36	1.62	0.37	0	4.50	6.87
3. Wheat (Small Grain) Weeds						
a. Individual	-3.62	-0.38	-0.12	-3.50	1.00	-0.62
b. Group Meetings	0.88	0	0	0.38	0.50	0
c. Mass Media	-0.38	0	0	-0.38	0	0
d. Other	0	0	0	0	0	0
Total	-3.12	-0.38	-0.12	-3.50	1.50	-0.62
Total Days 1975	7.88	0.38	0.12	4.13	2.25	1.00
Total Days 1977	4.76	0	0	0.63	3.75	0.38

Table 16 (continued)

TEMIS Wheat (Small Grain) Subject and Teaching Methods	Five County Total	Extension Supervisory District I Counties				
		Crockett	Fayette	Gibson	Haywood	Obion
		Number of Agent Days Expended				
4. Wheat (Small Grain) Insects						
a. Individual	-0.62	-1.00	1.00	2.01	-0.13	-2.50
b. Group Meetings	0	0	0	0	0	0
c. Mass Media	0.24	0	0	0	0	0.24
d. Other	0	0	0	0	0	0
Total	-0.38	-1.00	1.00	2.01	-0.13	-2.26
Total Days 1975	7.87	1.00	0	1.37	1.25	4.25
Total Days 1977	7.49	0	1.00	3.38	1.12	1.99
5. Wheat (Small Grain) Management and Planning						
a. Individual	-0.62	0.88	0	0	-1.50	0
b. Group Meetings	0	0	0	0	0	0
c. Mass Media	0.50	0	0	0	0.50	0
d. Other	0	0	0	0	0	0
Total	-0.12	0.88	0	0	-1.00	0
Total Days 1975	1.50	0	0	0	1.50	0
Total Days 1977	1.38	0.88	0	0	0.50	0
6. Wheat (Small Grain) Production						
a. Individual	1.63	0.88	0.87	-0.12	-0.50	0.50
b. Group Meetings	0	0	0	0	0	0
c. Mass Media	1.51	-0.25	0	1.00	0	0
d. Other	0	0	0	0	0	0
Total	3.14	0.63	0.87	0.88	-0.50	1.26
Total Days 1975	17.10	0.87	0	4.11	0.50	11.62
Total Days 1977	20.24	1.50	0.87	4.99	0	12.88

Table 16 (continued)

TEMIS Wheat (Small Grain) Subject and Teaching Methods	Five County Total	Extension Supervisory District I Counties				
		Crockett	Fayette	Gibson	Haywood	Obion
		Number of Agent Days Expended				
7. All Other Wheat (Small Grain Areas)						
a. Individual	-2.50	0	0	0	-2.25	-0.25
b. Group Meetings	1.00	0	0	0	1.00	0
c. Mass Media	-0.37	0	0	-0.37	0	0
d. Other	0	0	0	0	0	0
Total	-1.87	0	0	-0.37	-1.25	-0.25
Total Days 1975	5.50	0	0	0.62	4.63	0.25
Total Days 1977	3.63	0	0	0.25	3.38	0

Table 17

Relative Percent Shifts of Agent Days Expended on Selected Wheat (Small Grain) Subjects Using Extension Teaching Methods by Five District I County Staff, FY 1975 and FY 1977

TEMIS Wheat (Small Grain) Subject and Teaching Methods	Five County Total	Extension Supervisory District I Counties				
		Crockett	Fayette	Gibson	Haywood	Obion
		Percent of Agent Days Expended				
1. Wheat (Small Grain) Disease						
a. Individual	-0.21	-1.70	-0.86	2.35	0	0
b. Group Meetings	1.66	0	0	1.66	0	0
c. Mass Media	0	0	0	0	0	0
d. Other	0.23	0	0	0.23	0	0
Total	1.68	-1.70	-0.86	4.24	0	0
2. Wheat (Small Grain) Nutrition						
a. Individual	17.43	2.48	0.23	-1.13	3.37	12.48
b. Group Meetings	0.47	0	0.47	0	0	0
c. Mass Media	0.18	0	0	-0.27	0	0.45
d. Other	0	0	0	0	0	0
Total	18.09	2.48	0.70	-1.40	3.37	12.93
3. Wheat (Small Grain) Weeds						
a. Individual	-9.51	-0.86	-0.27	-8.03	1.21	-1.55
b. Group Meetings	1.47	0	0	0.72	0.75	0
c. Mass Media	-0.86	0	0	-0.86	0	0
d. Other	0	0	0	0	0	0
Total	-8.91	-0.86	-0.27	-8.17	1.96	-1.55
4. Wheat (Small Grain) Insects						
a. Individual	-4.20	-2.27	1.88	3.25	-0.72	-6.34
b. Group Meeting	0	0	0	0	0	0
c. Mass Media	0.45	0	0	0	0	0.45
d. Other	0	0	0	0	0	0
Total	-3.75	-2.27	1.88	3.25	-0.72	-5.89

Table 17 (continued)

TEMIS Wheat (Small Grain) Subject and Teaching Methods	Five County Total	Extension Supervisory District I Counties				
		Crockett	Fayette	Gibson	Haywood	Obion
		Percent of Agent Days Expended				
5. Wheat (Small Grain) Management and Planning						
a. Individual	-1.74	1.66	0	0	-3.4	0
b. Group Meetings	0	0	0	0	0	0
c. Mass Media	0.94	0	0	0	0.94	0
d. Other	0	0	0	0	0	0
Total	-0.80	1.66	0	0	-2.46	0
6. Wheat (Small Grain) Production						
a. Individual	-3.27	1.41	1.64	-1.72	-1.13	-3.49
b. Group Meetings	0	0	0	0	0	0
c. Mass Media	2.61	-0.57	0	1.79	0	1.39
d. Other	0	0	0	0	0	0
Total	-0.66	0.84	1.64	0.07	-1.13	-2.10
7. All Other Wheat (Small Grain) Areas						
a. Individual	-6.68	0	0	-0.10	-6.02	-0.57
b. Group Meetings	1.88	0	0	0	1.88	0
c. Mass Media	-0.84	0	0	-0.84	0	0
d. Other	0	0	0	0	0	0
Total	-5.64	0	0	-0.94	-4.14	-0.57

Subject 6. A decrease (-) of 2.50 days on Individual Methods was noted on Subject 7. Other changes were relatively small.

Except for Subject 1 in 1977, Other Methods (e.g., Planning, Preparation, Reporting, Nonapplicable) as an Extension teaching method had not been used by agents doing wheat (small grain) work in the counties studied for either FY 1975 or FY 1977.

When individual counties are compared, it may be noted that shifts in days devoted ranged from an increase (+) of 6.63 days in Individual Methods on Subject 2, Obion County to a decrease (-) of 3.50 days, also in Individual Methods on Subject 3, Gibson County. Other positive (+) changes included 2.25 days in Individual Methods on Subject 2 in Haywood County, 2.01 and 1.25 in Individual Methods on Subject 4 and Subject 1, respectively, all in Gibson County, 1.00 each in Individual Methods on Subject 3 in Haywood County and Subject 4 in Fayette County.

Other negative (-) changes included 2.50 days fewer, Individual Methods, Subject 4, Obion County; 2.25 days fewer, Individual Methods Subject 7, Haywood County; 1.50 days fewer, Individual Methods, Subject 5, Haywood County, and 1.00 fewer days devoted, Individual Methods, Subject 4, Crockett County.

In brief summary, it appears that any relatively large changes in days devoted between FY 1975 and FY 1977 occurred in Individual Methods, Obion and Haywood Counties showing largest increases on a weaker subject, Subject 2; Gibson and Obion counties showing decreases on the stronger subjects, Subjects 3 and 4. Some emphasis on the weaker subjects was noted in all of the counties studied, especially the increase in agent

days devoted on Subject 1 in Gibson County. In general, the stronger subjects showed very slight changes in all the counties studied.

F. METHODS COMPARED BY PERCENTS OF AGENT DAYS

Information in Table 17 permits comparison of shifts in percents of agent days spent on wheat (small grain) subjects using certain Extension methods in selected five District I counties and its total. Changes in percents of days devoted between FY 1975 and FY 1977 ranged from an increase (+) of 17.43% in days spent using Individual Methods on Subject 2 to a decrease (-) of 9.51% using the same method of teaching on Subject 3. The only other subject, Subject 1, had a net relative increase (+) of 1.68% which was due to increases (+) in percents devoted to Group Meetings and Other Methods, and a very slight loss in Individual Methods. The other subjects had decreases (-) in net relative percents of agent days primarily due to the loss of agent days devoted in Individual Methods.

When counties were compared, it was found that shifts in percents of days devoted ranged from an increase (+) of 12.48% in Individual Methods on Subject 2 in Obion County to a decrease (-) of 8.03% also in Individual Methods on Subject 3 in Gibson County. Other positive (+) shifts included 3.37% in Individual Methods on Subject 2, Haywood County; 3.25% in Individual Methods on Subject 4, Gibson County, 2.48% in Individual Methods on Subject 2, Crockett County, 2.35% in Individual Methods on Subject 1, Gibson County; 1.88% in Individual Methods on Subject 4, Fayette County; 1.88% in Group Methods on Subject 7, Haywood County; and 1.79% in Mass Methods on Subject 6, Gibson County.

Other negative (-) changes included all in Individual Methods; 6.34% on Subject 4, Obion County; 6.02% on Subject 7, Haywood County; 3.49% on Subject 6, Obion County; 2.27% on Subject 4, Crockett County; 1.72% on Subject 6, Gibson County; 1.70% on Subject 1, Crockett County; and 1.55% on Subject 3, Obion County.

In brief summary, overall slight increases were noted on relative percents of time devoted to weaker subjects, Subjects 1 and 2, especially Subject 1 in Gibson County, Subject 2 in Crockett, Fayette, Haywood and Obion Counties. Some shifts were made from Individual to Group and Mass Methods on these weaker subjects notably on Subject 1 in Gibson County and on Subject 2 in Obion County. On stronger subjects changes were also noted from Individual Methods to either Group or Mass Methods. Mass Methods were more emphasized on Subject 6 in Gibson and Obion Counties, whereas Group Methods were emphasized on Subject 7 in Haywood County. Variations were noted from county to county for other subjects.

G. METHODS COMPARED BY NUMBER OF CONTACTS MADE

Tables 18 and 19 present the numbers and percents of contact made on selected wheat (small grain) subjects using various Extension teaching methods in five District I counties for FY 1975 and FY 1977, respectively. Tables 20 and 21 present comparison of shifts in actual numbers and relative percents of contacts made using selected Extension methods according to the five counties studied and their total.

As shown in Table 20, regarding changes in numbers of contacts made using different teaching methods on wheat (small grain) subjects in the five county total between FY 1975 and FY 1977, contacts ranged from

Table 18

Numbers and Percents of Contacts Made on Selected Wheat (Small Grain) Subjects Using Various Extension Teaching Methods by Five District I County Staffs and Totals, FY 1975

Extension Wheat (Small Grain) Subjects and Teaching Methods	Five County Total		Extension Supervisory District I County									
			Crockett		Fayette		Gibson		Haywood		Obion	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
1. Wheat (Small Grain) Disease												
a. Individual	8	2.19	4	1.10	4	1.10	0	--	0	--	0	--
b. Group Meetings	0	--	0	--	0	--	0	--	0	--	0	--
c. Mass Media	0	--	0	--	0	--	0	--	0	--	0	--
d. Other	0	--	0	--	0	--	0	--	0	--	0	--
Total	8	2.19	4	1.10	4	1.10	0	--	0	--	0	--
2. Wheat (Small Grain) Nutrition												
a. Individual	29	7.95	1	0.27	0	--	7	1.92	21	5.75	0	--
b. Group Meetings	0	--	0	--	0	--	0	--	0	--	0	--
c. Mass Media	0	--	0	--	0	--	0	--	0	--	0	--
d. Other	0	--	0	--	0	--	0	--	0	--	0	--
Total	29	7.95	1	0.27	0	--	7	1.92	21	5.75	0	--
3. Wheat (Small Grain) Weeds												
a. Individual	61	16.71	3	0.82	1	0.27	32	8.77	19	5.21	6	1.64
b. Group Meetings	15	4.11	0	--	0	--	0	--	15	4.11	0	--
c. Mass Media	0	--	0	--	0	--	0	--	0	--	0	--
d. Other	0	--	0	--	0	--	0	--	0	--	0	--
Total	76	20.82	3	0.82	1	0.27	32	8.77	34	9.32	6	1.64

Table 18 (continued)

Extension Wheat (Small Grain) Subjects and Teaching Methods	Five County Total		Extension Supervisory District I County									
			Crockett		Fayette		Gibson		Haywood		Obion	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
4. Wheat (Small Grain) Insects												
a. Individual	65	17.81	8	2.19	0	--	11	3.01	12	3.29	34	9.32
b. Group Meetings	0	--	0	--	0	--	0	--	0	--	0	--
c. Mass Media	0	--	0	--	0	--	0	--	0	--	0	--
d. Other	0	--	0	--	0	--	0	--	0	--	0	--
Total	65	17.81	8	2.19	0	--	11	3.01	12	3.29	34	9.32
5. Wheat (Small Grain) Management and Planning												
a. Individual	16	4.38	0	--	0	--	0	--	16	4.38	0	--
b. Group Meetings	0	--	0	--	0	--	0	--	0	--	0	--
c. Mass Media	0	--	0	--	0	--	0	--	0	--	0	--
d. Other	0	--	0	--	0	--	0	--	0	--	0	--
Total	16	4.38	0	--	0	--	0	--	16	4.38	0	--
6. Wheat (Small Grain) Production												
a. Individual	125	34.25	4	1.10	0	--	31	8.49	4	1.10	86	23.56
b. Group Meetings	0	--	0	--	0	--	0	--	0	--	0	--
c. Mass Media	0	--	0	--	0	--	0	--	0	--	0	--
d. Other	0	--	0	--	0	--	0	--	0	--	0	--
Total	125	34.25	4	1.10	0	--	31	8.49	4	1.10	86	23.56
7. All Other Wheat (Small Grain) Areas												
a. Individual	46	12.60	0	--	0	--	2	0.55	41	11.23	3	0.82
b. Group Meetings	0	--	0	--	0	--	0	--	0	--	0	--
c. Mass Media	0	--	0	--	0	--	0	--	0	--	0	--
d. Other	0	--	0	--	0	--	0	--	0	--	0	--
Total	46	12.60	0	--	0	--	2	0.55	41	11.23	3	0.82

Table 19

Numbers and Percents of Contacts Made on Selected Wheat (Small Grain) Subjects Using Various Extension Teaching Methods by Five District I County Staffs and Totals, FY 1977

Extension Wheat (Small Grain) Subjects and Teaching Methods	Five County Total		Extension Supervisory District I County									
			Crockett		Fayette		Gibson		Haywood		Obion	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
1. Wheat (Small Grain) Disease												
a. Individual	6	1.11	0	--	0	--	6	1.11	0	--	0	--
b. Group Meetings	4	0.75	0	--	0	--	4	0.75	0	--	0	--
c. Mass Media	0	--	0	--	0	--	0	--	0	--	0	--
d. Other	0	--	0	--	0	--	0	--	0	--	0	--
Total	10	1.86	0	--	0	--	10	1.86	0	--	0	--
2. Wheat (Small Grain) Nutrition												
a. Individual	117	21.71	13	2.41	4	0.75	0	--	36	6.68	64	11.87
b. Group Meetings	1	0.19	0	--	1	0.19	0	--	0	--	0	--
c. Mass Media	8	1.48	0	--	0	--	0	--	0	--	8	1.48
d. Other	0	--	-	--	0	--	0	--	0	--	0	--
Total	126	23.38	13	2.41	5	0.93	0	--	36	6.68	72	13.36
3. Wheat (Small Grain) Weeds												
a. Individual	25	4.64	0	--	0	--	2	0.37	19	3.53	4	0.74
b. Group Meetings	50	9.27	0	--	0	--	20	3.71	30	5.56	0	--
c. Mass Media	0	--	0	--	0	--	0	--	0	--	0	--
d. Other	0	--	0	--	0	--	0	--	0	--	0	--
Total	75	13.91	0	--	0	--	22	4.08	49	9.09	4	0.74

Table 19 (continued)

Extension Wheat (Small Grain) Subjects and Teaching Methods	Five County Total		Extension Supervisory District I County									
			Crockett		Fayette		Gibson		Haywood		Obion	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
4. Wheat (Small Grain) Insects												
a. Individual	75	13.91	0	--	8	1.48	28	5.19	8	1.48	31	5.75
b. Group Meetings	2	0.37	0	--	0	--	0	--	2	0.37	0	--
c. Mass Media	8	1.48	0	--	0	--	0	--	0	--	8	1.48
d. Other	0	--	0	--	0	--	0	--	0	--	0	--
Total	85	15.77	0	--	8	1.48	28	5.19	10	1.86	39	7.24
5. Wheat (Small Grain) Management and Planning												
a. Individual	4	0.74	4	0.74	0	--	0	--	0	--	0	--
b. Group Meetings	0	--	0	--	0	--	0	--	0	--	0	--
c. Mass Media	0	--	0	--	0	--	0	--	0	--	0	--
d. Other	0	--	0	--	0	--	0	--	0	--	0	--
Total	4	0.74	4	0.74	0	--	0	--	0	--	0	--
6. Wheat (Small Grain) Production												
a. Individual	183	33.95	13	2.41	9	1.67	24	4.45	0	--	137	25.42
b. Group Meetings	0	--	0	--	0	--	0	--	0	--	0	--
c. Mass Media	28	5.19	0	--	0	--	0	--	0	--	28	5.19
d. Other	0	--	0	--	0	--	0	--	0	--	0	--
Total	211	39.15	13	2.41	9	1.67	24	4.45	0	--	165	30.61
7. All Other Wheat (Small Grain) Areas												
a. Individual	28	5.19	0	--	0	--	1	0.19	27	5.01	0	--
b. Group Meetings	0	--	0	--	0	--	0	--	0	--	0	--
c. Mass Media	0	--	0	--	0	--	0	--	0	--	0	--
d. Other	0	--	0	--	0	--	0	--	0	--	0	--
Total	28	5.19	0	--	0	--	1	0.19	27	5.01	0	--

Table 20

Actual Shifts in Numbers of Contacts Made on Selected Wheat (Small Grain) Subjects Using Extension Teaching Methods by Five District I County Staffs, FY 1975 and FY 1977

TEMIS Wheat (Small Grain) Subject and Teaching Methods	Five County Total	Extension Supervisory District I Counties				
		Crockett	Fayette	Gibson	Haywood	Obion
1. Wheat (Small Grain) Disease						
a. Individual	-2	-4	-4	6	0	0
b. Group Meetings	4	0	0	4	0	0
c. Mass Media	0	0	0	0	0	0
d. Other	0	0	0	0	0	0
Total	2	-4	-4	10	0	0
Total Days 1975	8	4	4	0	0	0
Total Days 1977	10	0	0	10	0	0
2. Wheat (Small Grain) Nutrition						
a. Individual	88	12	4	-7	15	64
b. Group Meetings	1	0	1	0	0	0
c. Mass Media	8	0	0	0	0	8
d. Other	0	0	0	0	0	0
Total	97	12	5	-7	15	64
Total Days 1975	29	1	0	7	21	0
Total Days 1977	126	13	5	0	36	72
3. Wheat (Small Grain) Weeds						
a. Individual	-36	-3	-1	-30	0	-2
b. Group Meetings	35	0	0	20	15	0
c. Mass Media	0	0	0	0	0	0
d. Other	0	0	0	0	0	0
Total	-1	-3	-1	-10	15	-2
Total Days 1975	76	3	1	32	34	6
Total Days 1977	75	0	0	22	49	4

Table 20 (continued)

TEMIS Wheat (Small Grain) Subject and Teaching Methods	Five County Total	Extension Supervisory District I Counties				
		Crockett	Fayette	Gibson	Haywood	Obion
4. Wheat (Small Grain) Insects						
a. Individual	10	-8	8	17	-4	-3
b. Group Meetings	2	0	0	0	2	0
c. Mass Media	8	0	0	0	0	8
d. Other	0	0	0	0	0	0
Total	20	-8	8	17	-2	5
Total Days 1975	65	8	0	11	12	34
Total Days 1977	85	0	8	28	10	39
5. Wheat (Small Grain) Management and Planning						
a. Individual	-12	4	0	0	0	-16
b. Group Meetings	0	0	0	0	0	0
c. Mass Media	0	0	0	0	0	0
d. Other	0	0	0	0	0	0
Total	-12	4	0	0	0	-16
Total Days 1975	16	0	0	0	0	16
Total Days 1977	4	4	0	0	0	0
6. Wheat (Small Grain) Production						
a. Individual	58	9	9	-7	-4	51
b. Group Meetings	0	0	0	0	0	0
c. Mass Media	28	0	0	0	0	28
d. Other	0	0	0	0	0	0
Total	86	9	9	-7	-4	79
Total Days 1975	125	4	0	31	4	86
Total Days 1977	211	13	9	24	0	165

Table 20 (continued)

TEMIS Wheat (Small Grain) Subject and Teaching Methods	Five County Total	Extension Supervisory District I Counties				
		Crockett	Fayette	Gibson	Haywood	Obion
7. All Other Wheat (Small Grain) Areas						
a. Individual	-18	0	0	-1	-14	-3
b. Group Meetings	0	0	0	0	0	0
c. Mass Media	0	0	0	0	0	0
d. Other	0	0	0	0	0	0
Total	-18	0	0	-1	-14	-3
Total Days 1975	46	0	0	2	41	3
Total Days 1977	28	0	0	1	27	0

Table 21

Relative Percent Shifts in Contacts Made on Selected Wheat (Small Grain) Subjects Using Extension Teaching Methods by Five District I County Staffs and Total, FY 1975 and FY 1977

TEMIS Wheat (Small Grain) Subject and Teaching Methods	Five County Total	Extension Supervisory District I Counties				
		Crockett	Fayette	Gibson	Haywood	Obion
		Percent of Contacts				
1. Wheat (Small Grain) Disease						
a. Individual	-1.08	-1.10	-1.10	1.11	0	0
b. Group Meetings	0	0	0	0	0	0
c. Mass Media	0	0	0	0	0	0
d. Other	0	0	0	0	0	0
Total	-1.08	-1.10	-1.10	1.11	0	0
2. Wheat (Small Grain) Nutrition						
a. Individual	13.76	2.14	0.75	-1.92	0.93	11.87
b. Group Meetings	0.19	0	0.19	0	0	0
c. Mass Media	1.48	0	0	0	0	1.48
d. Other	0	0	0	0	0	0
Total	15.43	2.14	0.94	-1.92	0.93	13.35
3. Wheat (Small Grain) Weeds						
a. Individual	-12.07	-0.82	-0.27	-8.40	-1.68	-0.90
b. Group Meetings	5.16	0	0	3.71	1.45	0
c. Mass Media	0	0	0	0	0	0
d. Other	0	0	0	0	0	0
Total	-6.91	-0.82	-0.27	-4.69	-0.23	-0.90
4. Wheat (Small Grain) Insects						
a. Individual	-3.90	-2.19	1.48	2.18	-1.81	-3.57
b. Group Meetings	0.37	0	0	0	0.37	0
c. Mass Media	1.48	0	0	0	0	1.48
d. Other	0	0	0	0	0	0
Total	-2.04	-2.19	1.48	2.18	-1.44	-2.09

Table 21 (continued)

TEMIS Wheat (Small Grain) Subject and Teaching Methods	Five County Total	Extension Supervisory District I Counties				
		Crockett	Fayette	Gibson	Haywood	Obion
5. Wheat (Small Grain) Management and Planning						
a. Individual	-3.64	0.74	0	0	-4.38	0
b. Group Meetings	0	0	0	0	0	0
c. Mass Media	0	0	0	0	0	0
d. Other	0	0	0	0	0	0
Total	-3.64	0.74	0	0	-4.38	0
6. Wheat (Small Grain) Production						
a. Individual	-0.30	1.31	1.67	-4.04	-1.10	1.86
b. Group Meetings	0	0	0	0	0	0
c. Mass Media	5.19	0	0	0	0	5.19
d. Other	0	0	0	0	0	0
Total	4.90	1.31	1.67	-4.04	-1.10	7.05
7. All Other Wheat (Small Grain) Areas						
a. Individual	-7.41	0	0	-0.36	-6.22	-0.82
b. Group Meetings	0	0	0	0	0	0
c. Mass Media	0	0	0	0	0	0
d. Other	0	0	0	0	0	0
Total	-7.41	0	0	-0.36	-6.22	-0.82

a high increase (+) of 88 contacts by means of Individual Methods reported on Subject 2 to a low decrease (-) of 36 contacts, also on Individual Methods but for Subject 3. Other total changes of any size included increases (+) of 58 contacts by means of Individual Methods on Subject 6, 35 more contacts through Group Meetings on Subject 3, and 28 contacts by means of Mass Methods on Subject 6. Decreases (-) all via Individual Methods were reported on 18 contacts less on Subject 7 and 12 contacts less on Subject 5, respectively.

When counties were compared, it may be noted that shifts in contacts ranged from an increase (+) of 64 contacts through Individual Methods on Subject 2 in Obion County, to a decrease (-) of 30 contacts via Individual Methods also, on Subject 3 in Gibson County. Other large positive (+) changes included 51 contacts by means of Individual Methods, 28 contacts by Mass Methods, all on Subject 6 and in Obion County, 20 contacts via Group Methods on Subject 3 in Gibson County, 17 contacts by means of Individual Methods on Subject 4 in Gibson County, 15 contacts through Group Methods on Subject 3 in Haywood County, 15 contacts via Individual Methods on Subject 2, also in Haywood County, and 12 contacts by means of Individual Methods on Subject 2 in Crockett County.

Other large negative (-) changes all by means of Individual Methods included 16 contacts fewer on Subject 5 in Obion County, 14 contacts on Subject 7 in Haywood County, eight contacts on Subject 4 in Crockett County, and seven contacts fewer each on Subject 6 and Subject 2, all in Gibson County.

In brief summary, the weakest subject, Subject 1, other than in Gibson County showed decreases in Individual Methods of contact. Another

weak subject, Subject 2, had increases in contacts made through Individual Methods, especially in Obion County. Except for Subjects 4 and 6, the stronger subjects showed decreases contacts made via Individual Methods. In Gibson and Haywood Counties, increased emphasis by means of Group Methods was on Subject 3, and in Obion County an increase in contacts was shown via Mass Methods on Subject 6.

H. METHODS COMPARED BY PERCENTS OF CONTACTS MADE

Information in Table 21 permits comparison of shifts in relative percents of contacts made by agents on wheat (small grain) subjects using certain Extension methods according to the five counties and their total. Changes in percents of contacts for the five county total between FY 1975 and FY 1977 ranged from an increase (+) of 13.76% of contacts using Individual Methods on Subject 2 to a decrease (-) of 12.07% contacts using Individual Methods on Subject 3.

Other total changes of any size included increases (+) of 5.19% using Mass Methods on Subject 6, 5.16% using Group Methods on Subject 3, 1.48% each using Mass Methods on Subjects 2 and 4; and decreases (-) of 7.41% using Individual Methods on Subject 7, 3.90% using Individual Methods on Subject 4, 3.64% also using Individual Methods on Subject 5. Other changes were relatively small.

When counties were compared, it was found that shifts in percents of contacts ranged from an increase (+) of 11.87% in Individual Methods on Subject 2 in Obion County to a decrease (-) of 8.40% also in Individual Methods on Subject 3 in Gibson County. Other positive (+) shifts included 5.19% in Mass Methods on Subject 6, Obion County; 3.71%

in Group Methods on Subject 3, Gibson County; 2.18% in Individual Methods on Subject 4, Gibson County; 2.14% in Individual Methods on Subject 2, Crockett County; 1.86% in Individual Methods on Subject 6, Obion County; 1.67% in Individual Methods on Subject 6, Fayette County; 1.48% each in Mass Methods on Subjects 2 and 4 in Obion County; and 1.48% in Individual Methods on Subject 4, Fayette County.

Other negative (-) changes included, all in Individual Methods: 6.22% on Subject 7, Haywood County; 4.38% on Subject 5, Haywood County; 4.04% on Subject 6, Gibson County; 3.57% on Subject 4, Obion County; 2.19% on Subject 4, Crockett County; 1.92% on Subject 2, Gibson County; 1.81% on Subject 4, Haywood County; and 1.68% on Subject 3, Haywood County.

In brief summary, the weakest subject, Subject 1, showed a slight decrease in relative percents of contacts primarily due to losses in Individual Methods. Other than Individual Method, no other methods of contact were made on Subject 1. Subject 2 showed a consequential relative net increase in percents of contacts made mainly due to increases in Individual Methods and very slight gains in Group and Mass Methods of Extension teaching. The stronger subjects showed some losses in relative percents of Individual Methods of contact, but gains were noted in Group and Mass Methods, especially for Subject 3 which had a consequential decrease in Individual and an increase in Group Methods.

CHAPTER V

SUMMARY, IMPLICATIONS, AND RECOMMENDATIONS

The continual processes of program determination and program evaluation are important and necessary for Extension personnel to help county residents in identifying and satisfying their needs and reaching personal, group, and community goals. By relating Tennessee Extension Management Information System (TEMIS) data concerning agent time planned, expended, and contacts made and according to selected teaching methods to practice checklist survey data, it was felt the Extension wheat (small grain) educational programs might be evaluated and better planned in terms of the priority needs of the District I wheat (small grain) producers. The major purpose of this study was to determine possible implications of the 1975 and 1977 TEMIS data for the 1972 Statewide Wheat Practice Checklist Survey (SWPCS) and Extension's educational program.

Specific study objectives included the following: (1) to study WPCS and TEMIS data together in a meaningful, prioritized way; (2) to study shifts in time planned and expended in FY 1975 and FY 1977 by Tennessee Agents doing wheat (small grain) educational work in five selected Extension Supervisory District I counties for which data were available in order to try to measure the impact of the 1972 SWPCS based on changes reflected in the 1977 Survey; (3) to study shifts in contacts made in FY 1975 and 1977 by Tennessee agents doing wheat (small grain) educational work in the Extension District I counties and to try to

measure any shifts brought about by the 1972 SWPCS based on changes reflected in the 1977 Survey; and (4) to study Extension methods used in FY 1975 and FY 1977 and note shifts in methods used and consider the relative effectiveness of the methods in teaching wheat (small grain) producers.

Information from the SWPCS conducted in 1972 comparing wheat (small grain) producers in the five selected District I counties of Tennessee regarding their use of recommended wheat (small grain) practices was used as the basis for identifying priority educational needs of the producers. In 1972, a total of 142 adult wheat (small grain) producers was randomly surveyed, including 30 growers each from Crockett, Fayette, Haywood and Obion Counties, and 22 growers from Gibson County. In 1977, a total of 100 adult wheat (small grain) producers was randomly surveyed in the counties, basically 20 growers per county in the five selected District I counties, namely: Crockett, Fayette, Gibson, Haywood and Obion. Information collected from TEMIS computer printouts included agent days planned, expended, contacts made, and teaching methods used in terms of days expended and contacts made according to counties.

A "concern level" of 60% was set up for subjects prioritized for this study. Wheat (small grain) subjects and related practices having only 60% or less in average district-wide grower use were considered to be "of program concern" or "weak."

A. SUMMARY OF FINDINGS

It was noted in the study that 1972 and 1977 average productions for producers surveyed in bushels of wheat (small grain) per acre were 38.8 and 42.6 bushels, respectively. The number of ten Extension recommended practices used by producers surveyed in 1977 for wheat (small grain) production were positively associated with yields, the higher the production, the higher the numbers of practices used ($P < 0.0001$). Yields also were related to the number of contacts that producers had made with extension (2).

Relation of WPCS and TEMIS Data

The ten recommended practices were classified under six TEMIS subject headings to permit relating WPCS 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 related. Two of the six TEMIS subjects were far below the concern level of 60% for both the 1972 and the 1977 WPCS in the District I total. The two were Subject 1, Wheat (Small Grain) Disease, and Subject 2, Wheat (Small Grain) Nutrition, which had percentages of use of 28.9% and 37%, respectively, in 1972, and 34% and 31%, respectively, in 1977. The other TEMIS subjects above the concern level in 1972 were: Subject 3, Wheat (Small Grain) Weeds used by 71.5%; Subject 4, Wheat (Small Grain) Insects used by 76.2%; Subject 5, Wheat (Small Grain) Management and Planning used by 91.2%; and Subject 6, Wheat (Small Grain) Production used by 96.3%. In 1977, use of practices related to Subject 3, Wheat (Small Grain) Weeds was 75%; use of those related to Subject 4, Wheat

(Small Grain) Insects was 75.5%; use of those related to Subject 5, Wheat (Small Grain) Management and Planning was 91%, and use of those related to Subject 6, Wheat (Small Grain) Production was 75.5%.

The grand total average practice use for all subjects in 1972 was 72.6%; and in 1977 was 68.4%, a small decrease of 4.2% during the five year period for the five county total. When the grand total average on all ten practices for each county was considered it was found that Fayette fell below the concern level for both years, 55.9% in 1972, and 59% in 1977; whereas Haywood fell below the concern level only in 1977, with a score of 51%. The other three counties had their grand total averages above the concern level for both 1972 and 1977. When individual practice related subjects were studied regarding their percentage use in each of the counties: Subject 1, excepting for Obion County in 1977 was found to fall below the concern level in both 1972 and 1977; Subject 2, other than Obion County in 1972, was found to fall at and below the concern level in both 1972 and 1977; Subject 3 excepting Crockett in 1972, Fayette in 1977, and Haywood in 1972 and 1977, was found to fall above the concern level; Subject 4, other than Fayette in both 1972 and 1977, and Haywood in 1977, was found to be above the concern level; Subjects 5 and 6 were found to average above the concern level in all the counties studied in both years.

Comparison of Shifts in Agent Time Planned by Counties

There was a net increase (+) of 20 agent days planned from FY 1975 to FY 1977. Subjects ranged from a decrease (-) of seven days on Subject 6 to an increase (+) of 18 days for Subject 7, a nonpractice related subject.

The overall shift in numbers of agent days planned by counties from FY 1975 to FY 1977 showed an increase (+). Increases ranged from increases (+) of four days each in Crockett and Obion Counties to an increase (+) of 12 days in Gibson County.

Subjects 1, 3, 4, 5 and 6 showed decreases (-) in relative percents of agent days planned of 7.74%, 1.24%, 10.73%, 1.24% and 25.18%, respectively. Counties ranged from a consequential decrease (-) of 19.4% of time planned on Subject 6, Obion County, to a consequential increase (+) of 19.63% on Subject 7, Gibson County.

Comparison of Shifts in Agent Time Expended by Counties

There was a net increase (+) of 9.01 agent days expended from FY 1975 to FY 1977. Three subjects, Subjects 1, 2 and 6, showed increases (+) in agent days expended of 1.12, 10.24 and 3.14, respectively. All other subjects (i.e., 3, 4, 5 and 7) showed decreases (-) in agent days expended ranging from 2.12 days on Subject 3, 1.99 for Subject 7, 1.00 for Subject 5, and 0.38 day in Subject 4. All counties showed overall increases (+) in agent days expended ranging from an increase of 0.65 day in Gibson County to an increase of five agent days in Obion County. Increases (+) in agent days expended according to subjects occurred in Crockett County, on Subjects 2, 6, and 7; Fayette County, on Subjects 2, 4, and 6; Gibson County, on Subjects 1, 4, and 6; Haywood County, on Subjects 2 and 3; and Obion County, on Subjects 2 and 6. Decreases (-) in agent days expended according to subjects occurred in Crockett County, on Subjects 1, 3, and 4; Fayette County, on

Subjects 1 and 3; Gibson County, on Subjects 2, 3 and 7; Haywood County, on Subjects 4, 5, 6 and 7; and Obion County, on Subjects 3, 4 and 7.

Relative percents of agent days expended ranged from a decrease (-) of 7.02% on Subject 3 to a consequential increase (+) of 18.09% in agent days expended on Subject 2. Crockett County showed decreases (-) on three subjects (i.e., Subjects 1, 3, and 4; Fayette County decreased (-) on Subjects 1 and 2, Gibson County decreased (-) on Subjects 2, 3, and 7, Haywood County decreased (-) on Subjects 4, 5, 6, and 7; and Obion County decreased (-) on Subjects 3, 4, 6, and 7.

Comparison of Shifts on Contacts by Counties

Total contacts among all audiences showed a net increase (+) of 174 wheat (small grain) producer contacts from FY 1975 to FY 1977. Three subjects, Subjects 3, 5, and 7, showed decreases (-) in contacts of 1, 12, and 18 contacts, respectively. All other subjects (i.e., 1, 2, 4, and 6) showed increases (+) in contacts of 97 on Subject 2, 86 on Subject 6, 20 on Subject 4, and two on Subject 1. Overall increases (+) in total contacts for the counties were Gibson County, two contacts; Crockett County, 10 contacts; Fayette County, 17 contacts, and Obion County, 151 contacts. The only decrease (-) was in Haywood County with six contacts less. Decreases (-) in contacts made according to subjects occurred in Crockett County, on Subjects 1, 3, and 4; Fayette County, on Subjects 1 and 3; Gibson County, on Subjects 2, 3, 6, and 7; Haywood County, on Subjects 4, 5, 6, and 7; and Obion County, on Subjects 3 and 7.

Percents of contacts by subject ranged from a relative decrease (-) of 7.41% on Subject 7 to a consequential relative increase (+) of 15.43% on Subject 2. Crockett County showed decreases (-) on Subjects 1,

3, and 4; Fayette County decreased (-) on Subjects 1 and 3; Gibson County decreased (-) on Subjects 2, 3, 6, and 7; and Obion County decreased (-) on Subjects 3, 4, and 7.

Comparisons of Shifts in Agent Time Expended by Methods

Changes in days spent using different teaching methods on wheat (small grain) subjects for the five county total between FY 1975 and FY 1977, ranged from a high increase (+) of 9.87 days of work using Individual Methods recorded on Subject 2 to a low decrease (-) of 3.62 days, also on agent work using Individual Methods recorded for Subject 3.

When counties were compared, it was noted that shifts in days devoted ranged from an increase (+) of 6.63 days for Individual Methods on Subject 2, Obion County, to a decrease (-) of 3.50 days also in Individual Methods on Subject 3, Gibson County.

It appears that any relatively large changes in days devoted between FY 1975 and FY 1977 occurred in Individual Methods, Obion and Haywood Counties showing largest increases (+) on a weaker subject, Subject 2; Gibson and Obion Counties showing decreases (-) on the stronger subjects, Subjects 3 and 4. Some emphasis on the weaker subjects was noted in all of the counties studied, especially the increase in agent days devoted on Subject 1 in Gibson County. The stronger subjects showed very slight changes in agent time spent in all the counties studied.

Changes in percents of days devoted between FY 1975 and FY 1977 for the selected five District I counties ranged from a consequential increase (+) of 17.43% in days spent using Individual Methods on

Subject 2 to a consequential decrease (-) of 9.51% using the same method of teaching on Subject 3.

When counties were compared, it was found that shifts in percents of days devoted ranged from a consequential increase (+) of 12.48% in Individual Methods on Subject 2 in Obion County to a decrease (-) of 8.03% also in Individual Methods on Subject 3 in Gibson County.

Overall slight increases (+) were noted on relative percents of time devoted to weaker subjects, Subjects 1 and 2, especially Subject 1 in Gibson County, Subject 2,in Crockett, Fayette, Haywood and Obion Counties. Some shifts were made from individual to Group and Mass Methods on these weaker subjects notably on Subject 1 in Gibson County and on Subject 2 in Obion County. On stronger subjects changes were also noted from Individual Methods to either Group or Mass Methods. Mass Methods were more emphasized on Subject 6 in Gibson and Obion Counties, wehereas Group Methods were emphasized on Subject 7 in Haywood County. Some variation was noted from county to county for other subjects.

Comparison in Shifts in Contacts by Methods

Changes in numbers of contacts made on wheat (small grain) subjects in the five selected District I counties between FY 1975 and FY 1977 ranged from a high increase (+) of 88 contacts by means of Individual Methods made on Subject 2 to a low decrease (-) of 36 contacts, also on Individual Methods on Subject 6.

When counties were compared, it was noted that shifts in contacts ranged from an increase (+) of 64 contacts through Individual Methods on

Subject 2, Obion County, to a decrease (-) of 30 contacts also via Individual Methods on Subject 3, Gibson County.

Decreases (-) in Individual Methods of contact were noted on the weakest subject, Subject 1, in all counties except for Gibson. The other weak subject, Subject 2, showed increases (+) in Individual Methods of contact, especially in Obion County. Except for Subjects 4 and 6, the stronger subjects had decreases (-) in Individual Methods. In Gibson and Haywood Counties emphasis was more on Group Methods for Subject 3, and in Obion County some emphasis was shown via Mass Methods for Subject 6.

Changes in relative percents of contacts for the selected District I counties between FY 1975 and FY 1977 ranged from a consequential increase (+) of 13.76% in contacts using Individual Methods on Subject 2 to a consequential decrease (-) of 12.07% in contacts also using Individual Methods on Subject 3.

When counties were compared, it was found that shifts in percents of contacts ranged from a consequential increase (+) of 11.87% in Individual Methods on Subject 2 in Obion County to a decrease (-) of 8.40% also in Individual Methods on Subject 3 in Gibson County.

The weakest subject, Subject 1, showed a slight decrease (-) on relative percents of contacts primarily due to decreases (-) in Individual Methods of contact. Other than Individual Methods, no other method of contacts was made on Subject 1. Subject 2 showed a relative net increase (+) in Individual Methods and slight gains (+) in Group and Mass Methods of contacts made. The stronger subjects showed decreases (-) in percents of Individual Methods of contact, but increases (+) were

noted in Group and Mass Methods, especially for Subject 3 which increased in Group Methods and Subject 6 in Mass Methods.

B. IMPLICATIONS

Subjects 1 and 2 were identified as those of the greatest educational need in wheat (small grain) production in District I counties by reason of their relatively low (i.e., below the concern level of 60% practice usage) practice usage in all the counties studied.

Since for Subject 1, Wheat (Small Grain) Disease, time planned decreased, and time expended and contacts made showed very slight increases, it is implied that either the district-wide survey of wheat (small grain) producers did not appreciably influence Extension programs during the period or that other factors were more influential (e.g., WPCS and TEMIS data had not permitted proper relation as practices were assigned to subjects). The same reasoning might not be true for Subject 2, Wheat (Small Grain) Nutrition, which had increases in time planned, time expended and contacts made. For Subject 2, then, it can be implied that the 1972 and 1977 surveys did have influence on Extension work in the wheat (small grain) area. However, percents of producers using practices did slightly decrease during the period.

Since Individual Methods determined the shifts in agent days expended and contacts made on wheat (small grain) subjects, especially on Subjects 1 and 2, it is implied that wheat (small grain) production problems faced by agents may have been of such nature that personal contacts must needs have been the main teaching method, and Group and Mass Methods would be emphasized where appropriate.

C. RECOMMENDATIONS

1. Definite efforts should be made to more closely relate wheat (small grain) subjects and wheat production practices in order to facilitate comparative analysis.

2. Encourage agents through appropriate training to plan based on SWPCS findings.

3. Since the present study is limited to five counties in District I, a follow-up study is recommended when data are available.

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

5. Studies similar to the present one might be conducted in other agricultural commodity or work areas over time.

6. 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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BIBLIOGRAPHY

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APPENDIX

THE AGRICULTURAL EXTENSION SERVICE

THE UNIVERSITY OF TENNESSEE

Knoxville, Tennessee

TENNESSEE WHEAT PRODUCTION SURVEY

Name of Farmer _____ Address _____

County _____ Date_____ Number _____ Tenure Status _____

Part A—General Information

1. How many acres of wheat did you plant last year for grain? _____

2. What percent of last year's seeding was by airplane? _____
   Drilled? _____ Other? _____

3. How many acres of wheat did you harvest last year for grain? _____

4. Per acre yield: Bushels of grain? _____

5. How much of the harvested acreage was _____ owned? _____ cash rented? _____ shared?

6. What percent of last harvested crop was contracted to sell: before harvest? _____% Sold when harvested? _____% Stored on farm? _____%

7. What percent of last year's wheat crop did you sell? _____%
   Feed? _____%

8. If you fed part or all of last year's harvested wheat crop, about how many bushels were fed to swine? _____ Beef? _____
   Dairy? _____ Other? _____

9. Did you have any wheat that was double cropped with soybeans? _____
   If so, how many acres? _____ If so, what was expected price of wheat at planting time? _____ What was expected price of soybeans at that time? _____

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Part B—Practice Checklist

RECOMMENDED PRACTICE (See corresponding number on explanatory guide sheet)	Yes	No
1. Planted a recommended wheat variety or varieties last year		
Comment:		
2. Treated planting seed with a fungicide		
Comment:		
3. A. Planted a Hessian fly resistant variety(s) between September 25 and November 1, or		
B. Planted a Hessian fly susceptible variety(s) between October 15 and November 1		
Comment:		
4. Planted 1 to 1½ bushels per acre		
Comment:		
5. Limed and fertilized your wheat land according to soil test recommendations		
Comment:		
6. Controlled weeds last year		
Comment:		
7. Controlled insects		
Comment:		
8. Harvested wheat at the proper stage		
Comment:		
9. Protected stored grain from pests		
Comment:		

Part C—Additional Information

1. What is biggest problem respondent has in wheat production and marketing? _____

2. Would respondnet be interested in attending Extension meetings related to wheat:
   __a. Production __b. Marketing __c. Storage __d. Other

   (Please specify interest) _____

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GUIDE SHEET FOR TENNESSEE WHEAT PRODUCTION SURVEY

(For General Recommendations See Publication 576,

"Growing Wheat in Tennessee")

1. See current bulletin, "Performance Trials of Field Crop Varieties" and current revision of Extension Circular 643, "Recommended Field Crop Varieties for Tennessee" for recommended varieties.

2. See Publication 576, "Growing Wheat in Tennessee."

3. See revised Publication 506, "Stop Field Crop Pests" and current bulletin, "Performance Trials of Field Crop Varieties."

4. See Publication 576, "Growing Wheat in Tennessee."

5. Data show that 30 pounds of nitrogen applied during February 15-March 15 increased yield approximately eight bushels per acre provided recommended amount of N, P_2O_5, and K_2O were used at seeding time. See revised Publication 381, "Fertilizer Recommendations."

6. Wild garlic in wheat is the most common reason for millers and grain dealers to dock prices. See current revision of Publication 385, "Chemical Weed Control Guide for Field Crops."

7. For control measures, see current revision of Publication 506, "Stop Field Crop Pests."

8. See Publication 576, "Growing Wheat in Tennessee."

9. See current revision of SP332, "Farm Stored Grain Sanitation."

Regarding comments: For use of agents to further identify problems or critical points to remember about each practice. Also, for use to record results experienced by interviewee.

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POSSIBLE LEAD QUESTIONS FOR WHEAT PRODUCTION SURVEY

(Questions Are Related to Corresponding Practice Number)

1. What variety of wheat did you plant last year? _____

2. What fungicide did you use to treat your planting seed? _____

3. When did you plant your last year's wheat crop? _____

4. How much seed did you plant per acre? _____

5. A. How much fertilizer did you use per acre? _____

   B. What kind of analysis was used (N-P-K)? _____

   C. Did you lime and how much per acre was used? _____

   D. What were the soil test recommendations (N, P_2O_5, K_2O)? _____

      Lime _____

   E. Who tested your soil? _____

   F. Where was it sent to be tested? _____

      (Check soil test records in your office before interview and then confirm.)

6. A. What herbicide(s) was (were) used for weed control? _____

   B. Rate per acre? _____

   C. Was wild garlic the most serious pest? _____

7. Did you have a field insect problem? _____ If so, what insecticide(s) did you use? _____

8. How did you decide when to start harvesting your wheat? _____

   _____

9. Did you have a problem with pests in your stored grain? _____

   If so, what preventive measures did you use? _____

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THE TENNESSEE AGRICULTURAL EXTENSION SERVICE

1977 Tennessee Wheat Production Survey

(See Instructions on Last Page)

Name of Farmer _____ Address _____

(2) (3) (4) County _____ Date _____

Part A—General Information*

(5) (6) (7) 1. How many acres of wheat for grain did you plant in the fall of 1976 (1977 wheat crop)? (actual acres)

(8) (9) 2. What percent of the 1977 wheat crop (grain) was seeded by airplane? (actual percent)

(10) (11) (12) 3. How many acres of wheat (grain) did you harvest in 1977? (actual acres)

(13) (14) 4. What was the yield per acre of wheat harvested in 1977? (actual bushels)

5. What percent of the 1977 harvested acreage of wheat grown for grain was:

(15) (16) (17) a. cash rented? (actual percent)

(18) (19) (20) b. shared? (actual percent)

6. What percent of the 1977 wheat crop was:

(21) (22) (23) a. contracted to sell before harvest? (actual percent)

(24) (25) (26) b. stored on farm for sale later? (actual percent)

(27) (28) (29) c. stored on farm as feed grain? (actual percent)

(30) (31) (32) d. stored off farm for sale later? (actual percent)

(33) (34) (35) e. sold when harvested? (actual percent)

(36) (37) (38) f. used as feed grain, but not stored on farm? (actual percent)

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*Coding instructions

1. Fill each column with a number and right justify.
2. A zero (0) = none.
3. A nine (9) in each column allowed for a question = do not know.

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7. What percent of the 1977 wheat crop was fed to:

___ ___ ___ (39) (40) (41) a. swine? (actual percent)

___ ___ ___ (42) (43) (44) b. beef? Actual percent)

___ ___ ___ (45) (46) (47) c. dairy? (actual percent)

___ ___ ___ (48) (49) (50) d. other? (actual percent)

___ ___ ___ (51) (52) (53) 8. What percent of the 1977 wheat crop (grain) was double cropped with soybeans? (actual percent)

Part B—Lead Questions and Practice Checklist*

1. Lead Question: What variety of wheat did you plant for the 1977 crop year? _____

___ (54) Recommended Practice #1: Planted a recommended variety or varieties. (1 = no; 2 = yes)

2. Lead Questions: A. Did you treat your planting seed with a fungicide? _____ B. If yes, what fungicide did you use? _____

___ (55) Recommended Practice #2: Treated planting seed with a fungicide. (1 = no; 2 = yes)

3. Lead Question: When did you plant your 1977 wheat crop? Month _____ Day _____

___ (56) Recommended Practice #3a: Planted a Hessian fly resistant variety(s) between October 1 and November 1. (1 = no; 2 = yes)

___ (57) Recommended Practice #3b: Planted a Hessian fly susceptible variety(s) between October 15 and November 1. (1 = no; 2 = yes)

4. Lead Question: How much seed did you plant per acre?

_____

___ (58) Recommended Practice #4: Planted 1 to 1½ bushels per acre. (1 = no; 2 = yes)

*The farmer's response to each lead question should be recorded on the blank line provided. The agent then decides whether or not the farmer used the recommended practice and enters the appropriate code number (1 = no; 2 = yes) in the card column provided for that practice.

5. Lead Questions:
   A. What percent of this year's wheat acreage was fertilized and limed according to soil test recommendations? _____
   B. On fields not soil tested, what was the average pounds of nitrogen (N) ____; phosphate (P_2O_5) _____; potash (K_2O) _____, and lime _____ (tons) applied per acre?
   C. What analyses of fertilizer was used (N, P, K)? _____
   D. How many pounds of nitrogen (N) were applied per acre of wheat: at time of planting? _____ as a topdress? _____

____ (59) Recommended Practice #5: Limed and fertilized wheat land according to soil test recommendations. (1 = no; 2 = yes)

6. Lead Questions:
   A. What herbicide(s) was(were) used for weed control? _____
   B. Rate per acre? _____
   C. Was wild garlic the most serious pest? _____

____ (60) Recommended Practice #6: Controlled weeds in this year's crop. (1 = no; 2 = yes)

7. Lead Questions:
   A. Did you have a field insect problem? _____
   B. If yes, what insecticide(s) did you use? _____

____ (61) Recommended Practice #7: Controlled insects. (1 = no; 2 = yes)

8. Lead Question: What was the moisture content when you started harvesting your wheat? _____

____ (62) Recommended Practice #8: Harvested wheat at the proper stage. (1 = no; 2 = yes)

9. Lead Questions:
   A. Did you have a problem with pests in your stored grain? _____
   B. If yes, what preventive measures did you use? _____

____ (63) Recommended Practice #9: Protected stored grain from pests (1 = no; 2 = yes)

(continued)

10. Agent's comment regarding "What is the biggest problem respondent has in wheat production and marketing?" _____

_____

Part C—Additional Information

(64) ____ 1. Would you be interested in attending Extension meetings this winter related to wheat production, marketing and/or storage? (1 = no; 2 = yes)

2. Over the past 12 months:

(65) (66) ____ ____ a. How many Extension meetings (any subject) did you attend? (actual number)

(67) (68) ____ ____ b. How many visits did you make to the County Extension Office? (actual number)

(69) (70) ____ ____ c. How many telephone calls did you make to the Extension Office? (actual number)

(71) (72) ____ ____ d. How many farm visits did you receive from Extension agents? (actual number)

REFERENCES FOR WHEAT PRODUCTION PRACTICES

(For General Recommendations See Revised Publication 576, "Growing Wheat in Tennessee")

Practice #1—See current bulletin, "Performance Trials of Field Crop Varieties" and current revision of Extension Circular 643, "Recommended Field Crop Varieties for Tennessee" for recommended varieties.

Practice #2—See revised Publication 576, "Growing Wheat in Tennessee."

Practice #3—See revised Publication 506, "Stop Field Crop Pests" and revised Publication 576, "Growing Wheat in Tennessee."

Practice #4—See revised Publication 576, "Growing Wheat in Tennessee," and current Publication 378, "Field Crops Seeding Guide."

Practice #5—Data show that 30 pounds of nitrogen applied during February 15-March 15 increased yield approximately eight bushels per acre provided recommended amount of N, P_2O_5, and K_2O were used at seeding time. See revised Publication 381, "Fertilizer Recommendations."

Practice #6—Wild garlic in wheat is the most common reason for millers and grain dealers to dock prices. See current revision of Publication 385, "Chemical Weed Control Guide for Field Crops."

Practice #7—For control measures, see current revision of Publication 506, "Stop Field Crop Pests."

(continued)

Practice #8—See Publication 576, "Growing Wheat in Tennessee."
Practice #9—See current revision of Publication 601, "Insects in Farm Stored Grain—Prevention and Control."

1977 WHEAT PRODUCTION SURVEY

General Survey Instructions

1. Date Due: Tuesday, November 1, 1977.

2. Disposition: Mail the completed survey forms to the Associate District Supervisor of Agricultural programs.

3. Counties Included:
   A. Counties where 5,000 or more acres of wheat were planted in 1976. The following counties meet this criterion: Dyer, Lake, Lauderdale, Obion, Shelby, Tipton, Crockett, Fayette, Gibson, Hardeman, Haywood, Henry and Weakley counties in District I; Bedford, Montgomery, Robertson, Maury and Williamson counties in District II; Coffee, Franklin and Warren counties in District III and Greene County in District V.

   B. Other counties may, also, want to conduct the survey. However, these counties will not be included in the state summary.

4. Sample Size: Twenty (20) producers per county.

5. Survey Population: All wheat producers who planted 25 or more acres of wheat for grain in 1977.

6. Sampling Procedures:
   A. Make a list of all wheat (grain) producers who grew 25 or more acres of wheat in 1977.

   B. Apply the Nth number technique to identify 25 producers. The last five (5) producers identified will be used as alternates. Alternates should be used only to replace producers who for some good reason cannot be interviewed or who grew less than 25 acres of wheat (grain) in 1977.

VITA

Abdullah Idris Bin Tengku was born on January 28, 1952, in Kuala Trengganu, Trengganu, Malaysia. He completed his high school at Dungun English Secondary School in Trengganu in 1970. He entered Mara Institute of Technology in Shah Alam, Selangor, in 1971 and graduated with a Diploma in Planting Industry and Management in 1974. He worked as a Research Assistant with the Malaysian Agricultural Research and Development Institute in October 1974. In 1976, he came to the United States to study at The University of Tennessee, Knoxville, Tennessee. He graduated with a B.S. in Agriculture (Plant and Soil Science) in December 1977. He entered graduate school at The University of Tennessee, Knoxville, in the field of Agricultural Extension, January 1978, and completed his work in August 1979.