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The influence of the 1972 statewide extension soybean production practice survey on amounts of staff time planned and expended and clientele contacts, : with selected audiences and teaching methods, fiscal year 1972 and 1975

James Kelly Allen

To the Graduate Council:

I am submitting herewith a thesis written by James Kelly Allen entitled "The influence of the 1972 statewide extension soybean production practice survey on amounts of staff time planned and expended and clientele contacts, : with selected audiences and teaching methods, fiscal year 1972 and 1975." I have examined the final electronic copy of this thesis for form and content and recommend that it be accepted in partial fulfillment of the requirements for the degree of Master of Science, with a major in Agricultural Extension.

Robert S. Dotson, Major Professor

We have read this thesis and recommend its acceptance:

Cecil E. Carter Jr., Frank F. Bell

Accepted for the Council:
Carolyn R. Hodges

Vice Provost and Dean of the Graduate School

(Original signatures are on file with official student records.)

To the Graduate Council:

I am submitting herewith a thesis written by James Kelly Allen entitled "The Influence of the 1972 Statewide Extension Soybean Production Practice Survey on Amounts of Staff Time Planned and Expended and Clientele Contacts With Selected Audiences and Teaching Methods, Fiscal Year 1972 and 1975." 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.

Robert S. Dotson, Major Professor

We have read this thesis
and recommend its acceptance:

Accepted for the Council:

Vice Chancellor
Graduate Studies and Research

THE INFLUENCE OF THE 1972 STATEWIDE EXTENSION SOYBEAN PRODUCTION PRACTICE SURVEY ON AMOUNTS OF STAFF TIME PLANNED AND EXPENDED AND CLIENTELE CONTACTS WITH SELECTED AUDIENCES AND TEACHING METHODS, FISCAL YEARS 1972 AND 1975

A Thesis

Presented for the

Master of Science

Degree

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James Kelly Allen

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DEDICATION

This thesis is dedicated to my parents, Mr. and Mrs. Arthur H. Allen, and my grandparents, Mr. and Mrs. Leo J. Kelly. Their constant encouragement made many of my achievements possible.

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ABSTRACT

Information from the 1972 Tennessee Soybean Production Practice Checklist Survey was related to data from the Tennessee Extension Management Information System, TEMIS, (i.e., agent day planned and expended and clientele contacts made) for Fiscal Years 1972 and 1975 to determine whether the survey had influenced agent time planned and expended according to state Extension Supervisory Districts and teaching methods.

The relation between soybean survey practices and TEMIS primary subjects was found to be acceptable for this study.

From the 1972 Tennessee Soybean Production Survey, it was found that the average production in bushels of soybeans per acre was approximately 28 bushels per acre for the state (i.e., actually 74 counties), little difference being noted among districts. Soybean producers with larger acreages (i.e., 50 acres or more) showed a tendency to have higher yields. Higher percents of those producing yields of over 28 bushels per acre, the 1972 survey average, used each and all of 12 recommended practices.

Recommended practices under the Primary TEMIS Subjects One, "Soybean Fertilization" and Two, "Soybean Pest Control" were found to be least used by Tennessee Soybean producers suggesting the need to emphasize them most in Extension's soybean educational program as priority areas. Stronger use areas included Subject Three, "Soybean

Management and Harvesting," Subject Four, "Soybean Production," and Subject Five, "Soybean Machinery."

Percents of total agent days planned and expended, then, on the weak soybean subjects and related practices showed decreases or no appreciable increases between Fiscal Years 1972 and 1975. Numbers of agent days planned increased for all districts for a state overall increase of more than two agent years (i.e., 550 agent days planned). Also, there was an increase for all subjects in number of agent days planned between FY 1972 and FY 1975.

In days expended between FY's 1972 and 1975, all subjects showed increases in numbers of days spent excepting Subjects One and Three. A large decrease was noted in total contacts made by Agents with soybean producers between FY's 1972 and 1975, especially on Subjects One and Two.

Of Extension methods studied, Individual Contacts showed the greatest increase in agent days used, 356, and in contacts made, 6,046. The largest number of these, 141 days and 2,193 contacts, was reported for teaching Subject Two information. The largest decreases in numbers of contacts reported were in Mass Media, 8,817, and Planning and Preparation, 1,354.

It was implied that factors other than the 1972 Tennessee Soybean Production Survey appeared to have influenced agent time planned and expended and contacts made by agents in the districts. Recommendations were included.

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CHAPTER I

INTRODUCTION

I. STUDY BACKGROUND

The primary task of the Extension Service is that of giving informal instruction to the American people in specified areas related to agriculture and home economics. Cooperative Extension work in agriculture and home economics is a partnership undertaking between each state land-grant college and university and the United States Department of Agriculture, in cooperation with local governments and local people (1:3)*. In Tennessee, legislators, taxpayers, and others have certain expectations regarding the scope of Extension's educational responsibilities. Some 19 agricultural work areas (e.g., soybean production, beef, dairy), 5 home economics areas, 5 youth development areas, and the community resource development area are regularly given emphasis, when appropriate, in Tennessee counties.

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

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

The model for development of the soybean and each other part of the Extension program in a county consists of a generally accepted system, or cycle, of producers and products. The cycle is commonly known as the County Extension Program Development Cycle. It consists of four interrelated parts: (1) five-year Extension planning; (2) annual Extension planning; (3) Extension teaching; and (4) Extension evaluation.

During the first stage of the cycle, the five-year Extension planning stage, it is the role of the County Extension staff responsible for soybeans and other work or audience areas to provide effective professional leadership. During this stage, the five-year plan or Plan of Work Projection (POWP) is developed. The POWP serves as a foundation for the other stages of the County Extension Program Development Cycle (9:1). During the development of the county POWP, six stages are involved: (1) collection of facts concerning the soybean and other situations; (2) analysis of facts; (3) identification of problems; (4) statement of objectives and/or goals in the soybean and other areas; (5) consideration of alternative ways of working toward attainment of objectives and/or goals; and (6) selection of the most promising alternative.

When the county POWP is completed, the second stage in the County Extension Program Development Cycle can begin. This is the Annual Extension Planning stage. During this stage, Extension workers decide what can and should be done in the year ahead and make their plans accordingly. From 60 to 80 percent of all staff time (and, consequently,

key annual soybean and other objectives and goals) should be accounted for in the Annual Plan of Work (POW). The completed document is used as a basis for further, more detailed planning essential to the third stage of the Extension Program Development Cycle, Extension teaching.

Extension teaching consists of carrying out both the planned soybean educational work of the POWP and the POW. It also involves carrying out items of an unplanned nature that come about during the educational process. Extension teaching is an informal type of education. Its programs are based on the needs of the people. Extension teaching methods involve the people in the learning process through the use of scientific methods. It provides flexible and continuous education in specified areas of agriculture, including soybean and others, and home economics.

Extension Evaluation is the fourth and final stage of the County Extension Program Development Cycle. This evaluation is done in terms of county five-year objectives and annual objectives. Evaluation makes it possible for agents to establish benchmarks and made periodic progress checks. Practice checklists, such as the Soybean Production Checklist, allow periodic evaluation of programs and help determine practice areas of strength and weakness. Facts from such evaluations provide the basis for reports and aid in subsequent planning and teaching related to soybean production and other subjects. The data received from evaluation make it possible to have a firm program basis for Extension educational programs. They provide direction for the development

of a soybean or other program and provide accountability for development of such a program.

Along with practice checklists, the Tennessee Extension Management Information System (TEMIS) provides a method of program accountability. TEMIS provides a daily record of the agent's activities in the various work areas. Days spent, contacts made, and teaching methods used are reported. Data received are useful for checking progress made.

Prior to the present study, no previous effort had been made to study the Tennessee Statewide Soybean Practice Checklist Survey and Tennessee Extension Management Information System data to determine what progress was being made.

II. PURPOSE OF THE STUDY

The major purpose of this study was to determine the influence a 1972 Statewide Soybean Practice Checklist Survey had on Extension's educational program.

Specific objectives included the following:

1. To relate Soybean Practice Checklist Survey and TEMIS data in a meaningful, prioritized way.

2. To study shifts in time planned and expended in FY 1972 and FY 1975 by Tennessee Agents doing soybean educational work in the State Extension Districts in order to measure the impact of the 1972 Statewide Soybean Practice Checklist Survey.

3. To study shifts in contacts made in FY 1972 and FY 1975 by Tennessee Agents doing soybean educational work in the State Extension

Districts and to measure any shift brought about by the 1972 Soybean Practice Checklist Survey.

4. To study Extension methods used in FY 1972 and FY 1975 and shifts in methods used and their relative effectiveness.

III. DEFINITIONS OF TERMS

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

Soybean Producers. This refers to individuals making all or part of their farming incomes from the production of soybeans for sale. They constituted the target audience considered in this study.

Individual Contact. Individual contact refers to farm and home visits by an agent, personal letter, telephone calls, and other on-site visits to discuss soybean or other subject matter of interest to target audiences.

Group Contacts. This refers to group meetings such as farm test demonstrations; 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, publication, and visuals.

Planning; Evaluation. Planning and Evaluation were separate items referring to time planned and spent by Extension personnel in those areas both with and without representatives of the various audiences (e.g., soybean producers) present.

Not Applicable. The TEMIS handbook lists Not Applicable as an entry not conforming to any of the listed teaching methods (8:3J).

Tennessee Extension Management Information System (TEMIS). TEMIS was the source of much of the information used for this study. TEMIS provides a vehicle for the flow of management information to be used in program planning, evaluation, and reporting. TEMIS is designed to provide information for purposes of improved decision making and program accountability (8:1A).

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

All Other Soybean Areas. All other Soybean areas refers to soybean subjects listed in TEMIS handbook that were not related to the five priority soybean subjects used in relation to recommended soybean practices.

CHAPTER II

REVIEW OF LITERATURE

A careful search of relevant literature disclosed relatively few items having direct bearing on the present study. Those that did relate in some way to the study are reviewed briefly below.

I. STUDIES RELATING TEMIS AND PRACTICE CHECKLIST SURVEY DATA

Two studies similar to the present study were conducted in fields of home economics (e.g., clothing and nutrition work areas) to relate TEMIS data to practice survey results.

Schlosshan (6) related 1972 and 1974 TEMIS data on agent time planned and expended, and contacts made to a 1972 Statewide Tennessee Extension Clothing Practice Survey. Schlosshan found that percentage of total agent days planned and expended on weak clothing and textile subjects between 1972 and 1974 showed no appreciable increases. Percentages planned with Home Demonstration Club Members increased and with non-members decreased; while percentages expended were reversed from 1972 and 1974. Total agent days expended decreased slightly as did total clientele contacts recorded in the clothing area from 1972 to 1974.

The Downen study (3) was a companion to the earlier Schlosshan study. It was related to TEMIS data and had to do with the influence

of the 1971 Statewide Tennessee Extension Foods and Nutrition Survey on amounts of staff time planned and expended, and clientele contacts with selected audiences and teaching methods, FY's 1972 and 1974. Downen's findings indicated that increases in agent days planned and expended, and contacts made by agents from FY 1972 to FY 1974 were minimal in the subjects of Health and Food Preservation (e.g., weak subject areas needing greatest nutritional program emphasis). Therefore, it appeared that the 1971 Food and Nutrition Survey had little influence that other factors were more influential or that systems and/or data available did not effectively measure or permit proper relation to test the influence of the survey.

II. STUDIES OF SOYBEAN PRACTICES USED IN TENNESSEE

The Hall study (4) on the relations of average two-year soybean yields produced to use of recommended production practices and selected characteristics of Marion County, Tennessee, producers was the only study relating to soybean production found. The purposes of the study were (1) to determine certain characteristics of Marion County soybean producers and their farms; (2) to more accurately determine which recommended practices soybean producers were using in 1968 and 1969; (3) to study the relation between use of recommended production practices and yield levels; (4) identify some of the more important factors influencing adoption of recommended soybean production practices. Thirty-eight Marion County soybean producers were used in this study. It was found that farmers were using all 11 recommended soybean production

practices in 1968. Essentially, no difference was shown between the high and low yield groups with regard to use of soybean production practices. Some reasons given to explain why soybean producers were not adopting recommended soybean production practices included: (1) lack of adequate machinery and equipment; (2) lack of technical knowledge needed; (3) relative cost of the practice and net returns per acre; (4) more rewarding activities demanded grower's time and money; and (5) belief that the practices were not sound. As a result of this study, Hall recommended that study findings be used in the development of an Extension teaching plan for soybean producers in Marion County. His practice checklist was the basis for the one used in the present study (see Appendix A).

III. STUDIES RELATING TEMIS RESEARCH

Cary made a study (2) in 1975 concerned with 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 were found to be 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) concerned description and evaluation of the Tennessee Extension Management Information System (TEMIS). Data for this study were collected by personal interviews in late 1974 and early 1975 with 28 selected Extension Leaders from across the state. Major findings of the study included: (1) the majority of Extension Leaders were keeping some type of record of their daily activities; (2) the majority of Extension Leaders felt that the weekly activity report data were most useful for purposes of evaluating and less useful for planning and reporting; (3) a majority of the leaders 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 the Extension Leaders felt that the fields on the report form that were most difficult and least accurate were subject code, field L, and purpose code, field I.

Since the present study is the first of its kind relating soybean survey to TEMIS data on time planned, expended, and contacts made by

Extension Districts and teaching methods; no other relevant studies were found to be available. Though two prior analyses of TEMIS data had been completed and related to home economics work areas, none had been done with the same purpose as the present study.

CHAPTER III

METHODS AND PROCEDURES

The two primary sources of information for this study were the 1972 Tennessee Soybean Production Survey and TEMIS data for FY 1972 and FY 1975. The 1972 statewide Soybean Production Survey summarized practices of Tennessee soybean producers in regard to their use of the 12 recommended soybean production practices (see Appendix A). The information received from this survey allowed the Extension agent to group soybean 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. The statewide survey was conducted during fiscal year 1972. A total of 1,153 adult soybean producers was surveyed including 595 in District I; 328 in District II; 150 in District III; 80 in District IV; and 0 in District V. The lack of returns from District V was due to the relative unimportance of soybeans in that district. Data from TEMIS computer printouts of agent days planned, expended, and contacts made, and teaching methods used for soybean subjects were collected and arranged in order of soybean production priorities in descending order, that is from least used (e.g., weakest) practice to most used (e.g., strongest) practice, in each of the Extension Districts and the state total. Only adult soybean producers were involved.

Each of the 12 recommended soybean production practices was classified under one of six major TEMIS soybean subjects. All of the recommended practices were considered to be equally important (e.g., of equal weight) for study purposes. They were arranged in order from the least used practice under each subject to those used most.

It was decided that any practice whose use was 60 percent and below would be considered as needing improvement. This was selected arbitrarily as the concern level in this study.

All data from TEMIS were arranged in order of subject priority for the soybean producers by districts and selected teaching methods. This study considered four main areas. 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 soybean subjects were made by subtracting FY 1975 (see raw data table in Appendices) from those for FY 1972. These resulting figures represent absolute changes from 1972 and 1975.

Likewise, increases or decreases in relative percents of time planned and spent on the subjects studied were made by subtracting FY 1975 percents (see raw data tables in Appendices) from those for FY 1972. 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 (6).

CHAPTER IV

FINDINGS OF THE STUDY

The findings of this study will be discussed below as they relate to the following: (1) educational needs of soybean producers; (2) shifts in Agent days planned and expended doing Soybean work between FY 1972 and FY 1975; (3) shifts in contacts made by Agents with Soybean producers between FY 1972 and FY 1975; (4) shifts in Agent days devoted to Soybeans using various teaching methods; and (5) shifts in contacts by Agents with Soybean producers using various teaching methods.

I. EDUCATIONAL NEEDS OF SOYBEAN PRODUCERS

Recommended practices included in the 1972 Tennessee Soybean Production Survey were grouped according to six Tennessee Extension Management Information System (TEMIS) primary subjects of Fertilization, Pest Control, Management and Harvesting, Production, Machinery, and All Other Soybean Subjects. Table 1 lists these subjects in descending order of educational priority need for Adult Tennessee Soybean Producers. Priority needs were determined based on weak practices (i.e., those used by fewer than 60 percent of producers) identified by the 1972 Tennessee Soybean Practice Checklist Survey (TSPCS). Practices were then grouped in bundles related to TEMIS subjects for FY 1972 and 1975. Soybean practice checklist data from the 1972 survey disclosed that (see Appendix F):

TABLE 1

RECOMMENDED SOYBEAN PRACTICES ARRANGED IN DESCENDING ORDER OF EDUCATIONAL PRIORITY HELD AS DETERMINED BY THE 1972 TENNESSEE STATE EXTENSION SURVEY ACCORDING TO PERCENTS OF INTERVIEWEES IN EXTENSION DISTRICTS USING THE PRACTICES AND SHOWING TEMIS PRIMARY SUBJECT RELATIONS*

TEMIS Primary Soybean Subject and Related Recommended Practices	Total (N=1153)	District I (N=595)	District II (N=328)	District III (N=150)	District IV (N=80)	District V (N=0)
	- - - - - Average Percent Using Practice - - - - -					
1. Soybean Fertilization						
(a) Limed and fertilized according to soil test	23	22	24	25	21	-
(b) Used molybdenum on planting seed when appropriate	58	66	52	49	45	-
Subtotal	41	44	38	37	33	-
2. Soybean Pest Control						
(a) Controlled weeds	56	59	56	49	40	-
(b) Controlled insects	49	44	57	47	51	-
Subtotal	52	52	57	48	46	-

TABLE 1 (continued)

TEMIS Primary Soybean Subject and Related Recommended Practices	Total (N=1153)	District I (N=595)	District II (N=328)	District III (N=150)	District IV (N=80)	District V (N=0)
	- - - - - Average Percent Using Practice - - - - -					
3. Soybean Management and Harvesting						
(a) Planted a recommended variety	96	98	95	92	98	-
(b) Planted between April 15 and June 15	82	80	80	64	75	-
(c) Planted high quality seed	95	96	92	95	94	-
(d) Harvesting soybeans when moisture content was 12 to 14 percent	56	66	42	52	42	-
(e) Checked harvesting loss	36	33	33	48	50	-
Subtotal	73	76	68	70	73	-
4. Soybean Production						
(a) Prepared adequate seed bed	96	98	93	97	96	-
(b) Inoculated planting seed where soybeans had not been grown in last three years	68	69	71	58	64	-

TABLE 1 (continued)

TEMIS Primary Soybean Subject and Related Recommended Practices	(N=1153)	District I (N=595)	District II (N=328)	District III (N=150)	District IV (N=80)	District V (N=0)
	- - - - - Average Percent Using Practice - - - - -					
Subtotal	83	84	82	78	80	-
5. Soybean Machinery						
(a) Planted 8 to 12 seed per foot of row	89	96	84	85	75	-
Subtotal	89	96	84	85	75	-
Grand Total Average	68	70	66	64	61	-

*Percents are rounded to the nearest whole number.

1. District I agents had interviewed the largest number of producers with 595 (52 percent); District II had 328 (28 percent); District III had 150 (13 percent); District IV had 81 (7 percent); and District V had none for a state total of 1,153 interviewees.

2. Average production in bushels of soybeans per acre was approximately 28 bushels per acre for the state, little difference being noted among districts.

3. Soybean producers with larger acreages of soybeans showed a tendency to have higher yields.

4. A higher percent of those producing over 28 bushels per acre, the 1972 survey average, used each and all of the 12 recommended production practices (i.e., grouped under six TEMIS subject headings).

Comparison by Subjects

The grand total for average practice use in all subjects was 68 percent. While this total average is above the concern level of 60 percent, two of the five subjects (i.e., bundles of practices) subtotals were below this concern level.

Subject 1, Soybean Fertilization, had the lowest percentage of use at 41 percent. Subject 1 related to two practices, Practice 1A, "Liming and fertilizing according to soil test," and Practice 2A, "Use of Molybdeum on planting seed when appropriate."

Subject 2, Soybean Pest Control, also was below the concern level at 52 percent practice usage. Two practices were related to Subject 2. Practice 2A, "Controlled Weeds," totaled 56 percent usage. Practice 2B,

"Controlled Insects," total 49 percent usage. Both practices were indivudually below the concern level of 60 percent, an average of 52 percent of 1,153 respondents using this bundle of practices.

Subject 3, Soybean Management and Harvesting, had five related practices having a total average of 73 percent practice use. Two of the practices were at or below the concern level while three totaled above that level. Practice 3A, "Planted a recommended variety," totaled a high 96 percent. Practice 3B, "Planted between April 15 and June 15," averaged 82 percent. Practice 3C, "Planted high quality seed," totaled second highest with 95 percent. Practice 3D, "Harvesting soybeans when moisture content was 12 to 14 percent," was below the concern level with a total of 56 percent, and Practice 3E, "Checked harvesting loss," was below the concern level and was lowest for all practices in this subject with a total usage of 36 percent of 1,153 respondents using it.

Subject 4, Soybean Production, had two related practices having a total average of 83 percent usage. Both practices were above the concern level. Practice 4A, "Prepared adequate seedbed," had the highest percent usage with 96 percent. Practice 4B, "Inoculated planting seed where soybeans had not been grown in last three years," totaled 68 percent.

Subject 5, Soybean Machinery, included only one practice. Practice 5A, "Planted 8 to 12 seeds per foot of row," totaled 89 percent usage.

Regarding recommended practices used by soybean producers in different Districts, use of subjects ranged from an average of 33 percent in District IV using Subject 1, Soybean Fertilization, to 96 percent using Subject 5, Soybean Machinery, in District I. Table 1 on pages 15 and 16 divides the total average percent of those using the practice into five Districts, namely District I, District II, District III, District IV, and District V. District V had no responses because soybeans was not considered a major crop in that area.

Subject 1, Soybean Fertilization, averaged below the concern level in all Districts. However, it should be noted that Practice 1B was slightly above the concern level, 66 percent, in District I. All four Districts averaged 23 percent for use of Practice 1A. District IV had the lowest percent usage of this practice at 21 percent usage. Practice 2B also averaged below concern level with all four audiences averaging 58 percent usage.

Subject 2, Soybean Pest Control, also averaged below the concern level, with no district reaching above 60 percent practice usage. District IV, under Practice 2A with 40 percent usage, had the lowest percent usage for a practice under Subject 2. The highest percent usage of a practice by a district was in District I using Practice 2A with a 59 percent usage. Average percent usage for District IV was only 46 percent; for District III, 48 percent; for District I, 52 percent; and for District II, 57 percent.

Subject 3, Soybean Management and Harvesting, had a total average for all districts of 73 percent practice usage. All districts averaged

above the concern level on this subject. Relating to individual Practices 3D and 3E, all districts excepting District I use of Practice 3D, "Harvesting soybeans when moisture content was 12 to 14 percent," was below the concern level. Low use was represented in Practice 3E at 33 percent usage by Districts I and II; while the high was Practice 3D at 66 percent usage by District I. Practices 3A, 3B, and 3C all averaged above the concern level ranging from 64 percent usage to 98 percent usage. District II showed the lowest averages for Practices 3A, 3B, and 3C with only one Practice, 3C, being above the concern level. Subject 3 district subtotal averages were District II at 68 percent; District III at 70 percent; District IV at 73 percent; and District I at 76 percent.

Subject 4, Soybean Production, averaged 83 percent for the two related practices. All districts with one exception were above the concern level on both practices. District III, with 58 percent usage for Practice 4B was the only district and instance below the concern level in Subject 4. Practice use, then, ranged from 58 percent for District III on Practice 4B, to 98 percent for District I on Practice 4A. District III showed the lowest subtotal average for the two practices in Subject 4; however, only one of the practices, 4B, was below the concern level. District I, District II, and District IV ranged from 80 percent to 84 percent usage. Subject 4 subtotal averages were District III at 78 percent; District IV at 80 percent; District II at 82 percent; and District I at 84 percent.

Subject 5, Soybean Machinery, related to just one practice and averaged 89 percent. Each district was above the concern level: District IV was lowest at 75 percent; District II had 84 percent; District III had 85 percent; and District I had 96 percent practice use.

II. SHIFTS IN AGENT SOYBEAN TIME PLANNED COMPARING FY 1972 AND FY 1975

Table 2 presents increases and/or decreases between the number of Agent days planned for FY 1972 and FY 1975. TEMIS Primary Subjects are arranged by education priority (see Table 1, pages 15 and 16). The rankings are as follows: Subject 1, Soybean Fertilization; Subject 2, Soybean Pest Control; Subject 3, Soybean Management and Harvesting; Subject 4, Soybean Production; Subject 5, Soybean Machinery; and Subject 6, All Other Soybean Areas. The TEMIS data are presented for the five Extension Districts.

Comparison by Agent Days

There was a net increase (+) of 550 Agent days planned from FY 1972 to FY 1975. Total Agent days planned in 1972 were 667, while total Agent days planned in 1975 increased to 1,217. All subjects showed an increase (+) in Agent days planned ranging from 2 days in Soybean Management and Harvesting to 227 days in Soybean Pest Control. Number of Agent days planned by districts ranged from an increase (+) of 24 days for District V to an increase (+) of 258 days for District I.

TABLE 2

NUMBER INCREASES OR DECREASES (ACTUAL SHIFTS) COMPARING EXTENSION AGENT DAYS PLANNED IN EACH EXTENSION DISTRICT FROM FISCAL YEAR 1972 TO FISCAL YEAR 1975 BY SOYBEAN SUBJECTS ARRANGED IN ORDER OF PRIORITY NEED

Priority Subject (Ranked)	Total	Extension District				
		I	II	III	IV	V
		- - - - - Number of Agent Days - - - - -				
1. Soybean Fertilization	3	-46	44	-2	4	3
2. Soybean Pest Control	227	123	65	23	9	7
3. Soybean Management and Harvesting	2	-34	20	10	3	3
4. Soybean Production	131	81	33	2	10	5
5. Soybean Machinery	60	46	7	2	2	3
6. All Other Soybean Areas	127	89	13	15	7	3
Total	550	259	182	52	35	24
Total Agent Days, 1972	667	522	38	92	14	1
Total Agent Days, 1975	1,217	781	220	142	49	25

Subject 1, Soybean Fertilization, had a net increase (+) of only 3 Agent days. Although there was a decrease (-) of 46 Agent days planned for District I and a decrease (-) of 2 Agent days for District III, there was a 3 Agent days increase (+) for District V, a 4 Agent days increase (+) for District IV, and a 44 Agent days increase for District II.

Subject 2, Soybean Pest Control, had the greatest net increase (+) of 227 Agent days planned from FY 1972 to FY 1975. District V had an increase (+) of 7 Agent days, District IV an increase (+) of 9 Agent days, District III an increase (+) of 23 Agent days, District II had an increase (+) of 65 Agent days, and District I had the largest increase (+) of 123 Agent days.

Subject 3, Soybean Management and Harvesting, had a net increase (+) of 2 Agent days. District I had a decrease (-) of 34 Agent days. Districts IV and V both had an increase (+) of 3 Agent days, District III had an increase of 10 Agent days, and District II had the largest increase (+) of any audience with 20 Agent days.

Subject 4, Soybean Production, had a net increase (+) of 131 Agent days from FY 1972 to FY 1975. All audiences increased (+) in Agent days planned. District III increased (+) 2 Agent days, District V increased (+) 5 Agent days, District IV increased (+) 10 Agent days, District II increased (+) 33 Agent days, and District I had the largest increase (+) of 81 Agent days.

Subject 5, Soybean Machinery, showed a net increase (+) of 60 Agent days from 1972 to 1975. All districts increased (+) in Agent

days planned. Districts III and IV both had an increase (+) of 2 Agent days, District V had an increase (+) of 3 Agent days, District II had an increase (+) of 7 Agent days, and District I had an increase (+) of 46 Agent days.

Subject 6, All Other Soybean Areas, showed a net increase (+) of 127 Agent days from FY 1972 to FY 1975. All audiences increased (+) in Agent days planned. District V increased (+) 3 Agent days, District IV increased (+) 7 Agent days, District II increased (+) 13 Agent days, District III increased (+) 15 Agent days, and District IV had an increase (+) of 89 Agent days.

Comparison by Percents

Table 3 presents the changes in relative percents of Agent time planned according to the Soybean Priority Subjects for the various districts between FY 1972 and FY 1975. Percent of Agent time planned by subjects ranged from a decrease (-) of 11.34 percent for Subject 1, Soybean Fertilization, to an increase (+) of 6.37 percent for Subject 6, All Other Soybean Areas. District I and District III showed total decreases (-) of 14.09 percent and 2.14 percent, respectively. District V had a 1.91 percent total increase (+); District IV had a 1.93 percent total increase (+); and District II had a 12.39 percent total increase (+).

Subject 1, Soybean Fertilization, showed a net relative decrease (-) in Agent days planned of 11.34 percent for FY 1972 to FY 1975. District I (-13.33 percent) and District III (-1.52 percent) both had

TABLE 3

PERCENT INCREASES OR DECREASES (RELATIVE SHIFTS) COMPARING TENNESSEE EXTENSION AGENT DAYS PLANNED IN EACH EXTENSION DISTRICT FROM FISCAL YEAR 1972 TO FISCAL YEAR 1975 BY SOYBEAN SUBJECT ARRANGED IN ORDER OF PRIORITY NEED

Priority Subject (Ranked)	Total	Extension District				
		I	II	III	IV	V
		- - - - - Percent of Agent Days - - - - -				
1. Soybean Fertilization	-11.34	-13.33	3.14	-1.52	0.12	0.25
2. Soybean Pest Control	0.29	-5.00	4.80	-0.69	0.61	0.57
3. Soybean Management and Harvesting	-4.85	-6.79	1.44	0.28	-0.03	0.25
4. Soybean Production	5.08	3.74	1.56	-1.19	0.63	0.34
5. Soybean Machinery	4.45	3.44	0.58	0.02	0.16	0.25
6. All Other Soybean Areas	6.37	3.85	0.87	0.96	0.44	0.25
Total	0.00	-14.09	12.39	-2.14	1.93	1.91

decreases (-) in percents of Agent days planned. District IV increased (+) 0.12 percent; District V increased (+) 0.25 percent, and District II increased (+) 3.14 percent in Agent days planned.

Subject 2, Soybean Pest Control, had a net relative increase (+) of 0.29 percent in Agent days planned from 1972 to 1975. Agent days planned with District I decreased (-) 5 percent; and decreased (-) 0.69 percent with District III. District V increased (+) 0.57 percent in Agent days planned; Agent days planned with District IV increased (+) 0.61 percent; and District II had the greatest increase (+), 4.8 percent, in Agent days planned.

Subject 3, Soybean Management and Harvesting, had a relative net decrease (-) of 4.85 percent in Agent days planned from 1972 to 1975. District I decreased (-) 6.79 percent, and District IV decreased (-) 0.03 percent in Agent days planned. District V increased (+) 0.25 percent; District III increased (+) 0.28 percent; and District II increased (+) 1.44 percent in Agent days planned.

Subject 4, Soybean Production, had a net increase (+) of 5.08 percent in Agent days planned from 1972 to 1975. District III decreased (-) 1.19 percent in Agent days planned. District V increased (+) 0.34 percent; District IV increased (+) 0.63 percent; District II increased (+) 1.56 percent; and District I increased (+) 3.74 percent in Agent days planned.

Subject 5, Soybean Machinery, showed a net relative increase (+) in Agent days planned of 4.45 percent for 1972 to 1975. District III increased (+) 0.02 percent; District IV increased (+) 0.16 percent;

District V increased (+) 0.25 percent; District II increased (+) 0.58 percent; and District I had the greatest increase (+), 3.44 percent, in Agent days planned.

Subject 6, All Other Soybean Areas, had a net relative increase (+) of 6.37 percent in Agent days planned from 1972 to 1975. District V increased (+) 0.25 percent; District IV increased (+) 0.44 percent; District II increased (+) 0.87 percent; District III increased (+) 0.96 percent; and District I had the greatest increase (+), 3.85 percent, in Agent days planned.

III. SHIFTS IN AGENT SOYBEAN TIME EXPENDED COMPARING FY 1972 AND FY 1975

Comparison by Agent Days

Table 4 presents increases and/or decreases between the number of Agent days expended for FY 1972 and FY 1975. (See Appendix C for Raw Data for FY 1972 and FY 1975.) There was a net increase (+) of 177.70 Agent days expended from 1972 to 1975. Total Agent days expended in 1972 were 913.37; while total Agent days expended in 1975 increases to 1,091.07. Agent days expended by subjects ranged from a decrease (-) of 26.98 days expended for Subject 3, Soybean Management and Harvesting, to an increase (+) of 91.65 days expended for Subject 6, All Other Soybean Areas. All districts showed an increase (+) in Agent days expended ranging from 5.15 days for District II to 101.44 days for District I.

Subject 1, Soybean Fertilization, had a net decrease (-) of 26.49 Agent days expended from 1972 to 1975. There were decreases (-) in

TABLE 4

NUMBER OF INCREASES AND DECREASES (ACTUAL SHIFTS) COMPARING TENNESSEE EXTENSION AGENT DAYS EXPENDED IN EACH DISTRICT FROM FISCAL YEAR 1972 TO FISCAL YEAR 1975 BY SOYBEAN SUBJECTS ARRANGED IN ORDER OF PRIORITY NEED

Priority Subjects (Ranked)	Total	Extension District				
		I	II	III	IV	V
		- - - - - Number of Agent Days - - - - -				
1. Soybean Fertilization	-26.49	-26.64	6.90	-8.25	-2.00	2.50
2. Soybean Pest Control	75.30	2.16	37.00	25.04	4.35	6.75
3. Soybean Management and Harvesting	-26.98	-47.12	13.27	4.49	0.01	2.37
4. Soybean Production	23.27	61.42	-23.38	-25.52	2.64	6.11
5. Soybean Machinery	40.95	30.35	1.61	3.25	2.62	3.12
6. All Other Soybean Areas	91.65	80.27	-2.01	4.14	4.49	4.76
Total	177.70	101.44	33.39	5.15	12.11	25.61
Total Agent Days, 1972	913.37	616.18	140.20	108.10	43.13	5.76
Total Agent Days, 1975	1,091.07	717.62	173.59	113.25	55.24	31.37

three districts: District I (-26.64); District III (-8.25); and District IV (-2.00). District V increased (+) 2.50 Agent days; and District II increased (+) 6.90 Agent days expended from 1972 to 1975.

Subject 2, Soybean Pest Control, had a net increase (+) in Agent days expended of 75.30 Agent days. All districts increased (+) in Agent days expended. District I increased (+) 2.16 Agent days; District IV increased (+) 4.35 Agent days; District V increased (+) 6.75 Agent days; District III increased (+) 25.04 Agent days; and District II increased (+) 37 Agent days expended from 1972 to 1975.

Subject 3, Soybean Management and Harvesting, had a net decrease (-) of 26.98 Agent days expended from 1972 to 1975. District I was the only district to decrease (-) in days expended as there was a decrease (-) of 47.12 Agent days. District IV increased (+) 0.01 Agent days; District V increased (+) 2.37 Agent days; District III increased (+) 4.49 Agent days; and District II increased (+) 13.27 Agent days.

Subject 4, Soybean Production, had a net increase (+) in Agent days expended of 23.27 Agent days. There were decreases (-) in two districts; District III (-25.52) and District II (-23.38). District IV increased (+) 2.64 Agent days; District V increased (+) 6.11 Agent days; and District I increased (+) 61.42 Agent days expended from 1972 to 1975.

Subject 5, Soybean Machinery, had a net increase (+) in Agent days expended of 40.95 Agent days. All districts showed increases of Agent days expended. District II increases (+) 1.61 Agent days; District IV increased (+) 2.62 Agent days; District V increased (+) 3.12

Agent days; District III increased (+) 3.25 Agent days; and District I increased (+) 30.35 Agent days.

Subject 6, All Other Soybean Areas, showed a net increase (+) of 91.65 Agent days expended from 1972 to 1975. District II was the only district to decrease (-) in days expended as there was a decrease (-) of 2.01 Agent days. District III increased (+) 4.14 Agent days; District IV increased (+) 4.49 Agent days; District V increased (+) 4.76 Agent days; and District I increased (+) 80.27 Agent days expended.

Comparison by Percents

Table 5 presents the changes in relative percents of Agent time expended according to the Soybean Priority Subjects for the various districts between FY 1972 and FY 1975. Subjects ranged from a decrease (-) of 4.32 percent Agent days expended for Subject 3, Soybean Management and Harvesting, to an increase (+) of 6.37 percent Agent days expended for Subject 6, All Other Soybean Areas. District I and District III had total decreases (-) of 1.70 percent and 1.45 percent, respectively. District IV had a relative increase (+) of 0.34 percent; District II had an increase (+) of 0.56 percent; and District V had an increase (+) of 2.25 percent Agent days expended.

Subject 1, Soybean Fertilization, had a relative decrease (-) in Agent days of 4.31 percent. District I decreased (-) 3.87 percent in Agent days; District III decreased (-) 0.94 percent in Agent days expended. District V increased (+) 0.23 percent; District IV increased (+) 0.28 percent; and District II increased (+) 0.55 percent in Agent days expended.

TABLE 5

PERCENT INCREASES AND DECREASES (RELATIVE SHIFTS) COMPARING TENNESSEE EXTENSION AGENT DAYS EXPENDED IN EACH EXTENSION DISTRICT FROM FISCAL YEAR 1972 TO FISCAL YEAR 1975 BY SOYBEAN SUBJECTS ARRANGED IN ORDER OF PRIORITY NEED

Priority Subject (Ranked)	Total	Extension District				
		I	II	III	IV	V
		- - - - - Percent Agent Days - - - - -				
1. Soybean Fertilization	-4.31	-3.87	0.55	-0.94	0.28	0.23
2. Soybean Pest Control	0.56	-4.82	2.88	1.68	0.21	0.61
3. Soybean Management and Harvesting	-4.32	-5.62	0.94	0.30	-0.15	0.21
4. Soybean Production	-1.94	3.79	-3.25	-2.94	-0.01	0.47
5. Soybean Machinery	3.64	2.75	0.09	0.27	0.24	0.29
6. All Other Soybean Areas	6.37	6.07	-0.65	0.18	0.33	0.44
Total	0.00	-1.70	0.56	-1.45	0.34	2.25

Subject 2, Soybean Pest Control, showed a net relative increase (+) in percent of Agent days expended of 0.56 percent. District I decreased (-) 4.82 percent; however, District IV (0.21 percent), District V (0.61 percent), District III (1.68 percent), and District II (2.88 percent), all showed relative increases (+) in Agent days expended.

Subject 3, Soybean Management and Harvesting, had a net relative decrease (-) in Agent days expended of 4.32 percent. Subject 3 had a total decrease (-) of 4.32 percent. Audiences showing relative decreases (-) were District I (-5.62 percent) and District IV (-0.15 percent). District V (0.21 percent), District III (0.30 percent), and District II (0.94 percent) all showed relative increases (+) in Agent days expended.

Subject 4, Soybean Production, also had a net relative decrease (-) in Agent days expended of 1.94 percent. Subject 4 had a total decrease (-) of 1.94 percent. Subject 4 had a total decrease (-) of 1.94 percent. Districts showing relative decreases (-) were District II (-3.25 percent), District III (-2.94 percent), and District IV (-0.01 percent). District V increased (+) 0.47 percent, and District I increased (+) 3.79 percent in Agent days expended.

Subject 5, Soybean Machinery, had a net relative increase (+) of 3.64 percent in Agent days expended. District II increased (+) 0.09 percent, District IV increased (+) 0.24 percent, District III increased (+) 0.27 percent, District V increased (+) 0.29 percent, and District I increased (+) 2.75 percent in Agent days expended.

Subject 6, All Other Soybean Areas, had a net relative increase (+) of 6.37 percent in Agent days expended. District II decreased (-) 0.65; however, District III (0.18 percent), District IV (0.33 percent), District V (0.44 percent), and District I (6.07 percent), all showed relative increases (+) in Agent days expended.

IV. SHIFTS IN AGENT SOYBEAN CONTACTS MADE COMPARING FY 1972 AND FY 1975

Comparison by Numbers of Contacts Made

Table 6 presents the numbers of increases and/or decreases between Agent contacts made for FY 1972 and FY 1975 by Soybean Priority Subjects and the districts studied. (See Appendix D for Raw Data for FY 1972 and FY 1975.)

Total contacts among all districts showed a net decrease (-) of 1,538 contacts from FY 1972 to FY 1975. Total contacts decreased (-) from 36,696 in 1972 to 35,158 in 1975. Subject 2, Soybean Pest Control, showed a decrease (-) of 9,914 contacts. Subject 4, Soybean Production, showed a substantial increase (+) of 6,107 contacts from 1972 to 1975. District I had a decrease (-) of 2,111 contacts, while District II had a net increase (+) of 1,100 contacts.

Subject 1, Soybean Fertilization, had a decrease (-) in contacts of 755. District I decreased (-) 1,130 contacts, District III decreased (-) 224 contacts, and District IV decreased (-) 43 contacts. District V increased (+) 24 contacts; and District II increased (+) 618 contacts.

TABLE 6

NUMBER OF INCREASES AND DECREASES (ACTUAL SHIFTS) COMPARING TENNESSEE EXTENSION AGENT CONTACTS MADE IN EACH EXTENSION DISTRICT FROM FISCAL YEAR 1972 TO FISCAL YEAR 1975 BY SOYBEAN SUBJECT ARRANGED IN ORDER OF PRIORITY NEED

Priority Subjects (Ranked)	Total	Extension District				
		I	II	III	IV	V
		- - - - - Number of Contacts - - - - -				
1. Soybean Fertilization	-755	-1,130	618	-224	-43	24
2. Soybean Pest Control	-9,914	-10,084	108	-10	0	72
3. Soybean Management and Harvesting	800	-248	1,081	-24	-29	20
4. Soybean Production	6,107	8,266	-1,778	-44	53	-390
5. Soybean Machinery	1,928	1,777	73	30	19	29
6. All Other Soybean Areas	296	-692	998	-416	344	62
Total	-1,538	-2,111	1,100	-688	344	-183
Total Agent Contacts, 1972	36,696	26,141	6,075	3,109	764	607
Total Agent Contacts, 1975	35,158	24,030	7,175	2,421	1,108	424

Subject 2, Soybean Pest Control, had the largest decrease (-) of contacts with 9,914. Two districts showed decreases (-) in contacts. District I had a decrease (-) of 10,084 contacts, and District III had a decrease (-) of 10 contacts. District V had an increase (+) of 72 contacts, District II had an increase (+) of 108 contacts. District IV indicated no change in number of contacts.

Subject 3, Soybean Management and Harvesting, had a net increase (+) of 800 contacts. District I decreased (-) 248 contacts, District IV decreased (-) 29 contacts, and District III had a decrease (-) of 24 contacts. District V had an increase (+) of 20 contacts, and District II had an increase (+) of 1,081 contacts.

Subject 4, Soybean Production, had the largest net increase (+) of contacts with 6,107. District II had a decrease (-) of 1,778, District V had a decrease (-) of 390, and District III had a decrease (-) of 44 contacts. District IV increased (+) 53 contacts; and District I increased (+) 8,266 contacts.

Subject 5, Soybean Machinery, had the second largest net increase (+) of contacts with 1,928. All audiences showed increased (+) contacts: District IV (19); District V (29); District III (30); District II (73); and District I (1,777).

Subject 6, All Other Soybean Areas, had a net increase (+) in contacts with 296. District I and District III decreased (-) 692 and 416 contacts, respectively. District V had an increase (+) of 62 contacts, District IV had an increase (+) of 344 contacts, and District II had an increase (+) of 998 contacts.

Comparison by Percents of Contacts Made

Table 7 presents the increases and/or decreases between relative percents of Agent contacts made for FY 1972 and FY 1975 by Soybean Priority Subjects and the districts studied. (See Appendix D for Raw Data from FY 1972 and FY 1975.) Percents for subject contacts ranged from a relative net decrease (-) of 25.94 percent for Soybean Pest Control to a relative net increase (+) of 18.30 percent for Soybean Production. District I had a decrease (-) of 2.89 percent, District III had a decrease (-) of 1.59 percent, and District V had a decrease (-) of 0.45 percent of Agent contact. District IV and District II had relative increases (+) of 1.07 and 3.86 percent contacts, respectively.

Subject 1, Soybean Fertilization, had a relative net decrease (-) of 1.73 percent in contacts. District I decreased (-) 2.89 percent, District III decreased (-) 0.61 percent, and District IV decreased (-) 0.12 percent. District V increased (+) 0.08 percent, and District II increased (+) 1.81 percent of contacts made.

Subject 2, Soybean Pest Control, had the largest relative decrease (-) in contacts of 25.94 percent. Only District I had a decrease (-). The decrease (-) was 26.70 percent. District IV increased (+) 0.03 percent; District III increased (+) 0.06 percent; District V increased (+) 0.21 percent; and District II increased (+) 0.46 percent of contacts made.

Subject 3, Soybean Management, increased (+) 2.49 percent in relative net contacts. District I had a decrease (-) of 0.58 percent, District IV a decrease (-) of 0.07, and District III a decrease (-) of

TABLE 7

PERCENT INCREASES AND DECREASES (RELATIVE SHIFTS) COMPARING TENNESSEE EXTENSION AGENTS CONTACTS MADE IN EACH EXTENSION DISTRICT FROM FISCAL YEAR 1972 TO FISCAL YEAR 1975 BY SOYBEAN SUBJECTS ARRANGED IN ORDER OF PRIORITY NEED

Priority Subject (Ranked)	Total	Extension District				
		I	II	III	IV	V
		- - - - - Percent of Contacts - - - - -				
1. Soybean Fertilization	-1.73	-2.89	1.81	-0.61	-0.12	0.08
2. Soybean Pest Control	-25.94	-26.70	0.46	0.06	0.03	0.21
3. Soybean Management and Harvesting	2.49	-0.58	3.12	-0.03	-0.07	0.05
4. Soybean Production	18.30	23.75	-4.61	0.02	0.19	-1.05
5. Soybean Machinery	5.49	5.06	0.21	0.09	0.05	0.08
6. All Other Soybean Areas	1.39	-1.53	2.87	-1.12	0.99	0.18
Total	0.00	-2.89	3.86	-1.59	1.07	-0.45

0.03 percent of contacts made. District V had an 0.05 percent increase (+); and District II had a 3.12 percent increase (+) in contacts made.

Subject 4, Soybean Production, had the largest relative net increase (+) of 18.30 in contacts. District II had a decrease (-) of 4.61 percent, and District V a decrease (-) of 1.05 percent of contacts made. District III had an 0.02 percent increase (+), District IV had an 0.19 percent increase (+), and District I had a 23.75 percent increase (+) in contacts made.

Subject 5, Soybean Machinery, increased (+) 5.49 percent in relative net contacts. All districts showed increased (+) percents of contacts: District IV (0.05 percent), District V (0.08 percent), District III (0.09 percent), District II (0.21 percent), and District I (5.06 percent).

Subject 6, All Other Soybean Areas, had a relative net increase (+) of 1.39 percent in contacts. District I had a decrease (-) of 1.53 percent, and District II a decrease (-) of 1.12 percent of contacts made. District V had an 0.18 percent increase (+); District IV an 0.99 percent increase (+); and District II a 2.87 percent increase in contacts made.

V. NUMBERS, PERCENTS, AND SHIFTS IN AGENTS TEACHING METHODS USED COMPARING FY 1972 AND FY 1975

Agent Days Expended in 1972

Table 8 presents the number of days expended by Agents in all districts in the state by Soybean Priority Subjects according to

TABLE 8

NUMBER OF DAYS SPENT BY TENNESSEE EXTENSION AGENTS IN ALL DISTRICTS USING DIFFERENT TEACHING METHODS IN 1972 BY SOYBEAN SUBJECTS ARRANGED IN ORDER OF PRIORITY NEED

Priority Subjects (Ranked)	Total	Teaching Methods					
		Individual Contacts	Group Contacts	Mass Media	Planning & Preparation	Evaluation	Non-Applicable
		- - - - - Number of Agent Days - - - - -					
1. Soybean Fertilization	105.62	78.13	16.63	5.62	2.99	0.50	1.75
2. Soybean Pest Control	355.36	209.35	78.78	19.25	15.60	19.74	12.64
3. Soybean Management and Harvesting	103.37	58.36	18.37	5.39	5.88	12.12	3.25
4. Soybean Production	228.13	79.62	53.52	18.36	38.24	18.38	20.01
5. Soybean Machinery	6.77	2.12	1.00	0.76	0.00	1.64	1.25
6. All Other Soybean Areas	114.13	52.22	23.01	6.22	13.77	7.27	11.63
Total	913.37	479.80	191.31	55.60	76.48	59.65	50.53

selected teaching methods used. A total of 913.37 Agent days was spent in 1972 using the selected teaching methods, with the largest number of Agent days spent with Individual Contacts: 479.80 Agent days. The smallest number of Agent days were spent in Non-Applicable: 50.53 Agent days. Agent days spent teaching the Priority Subjects ranged from 6.77 Agent days for Soybean Machinery to 355.36 Agent days spent for Soybean Pest Control.

Subject 1, Soybean Fertilization, had 105.62 Agent days spent. Of methods reported, Evaluation had 0.50 Agent days; Non-Applicable showed 1.75 Agent days; Planning and Preparation had 2.99 Agent days; Mass Media had 5.62 Agent days; while 16.63 Agent days were spent for Group Contacts; and 78.13 Agent days were spent in Individual Contacts.

Subject 2, Soybean Pest Control, showed the greatest amount of Agent days spent at 355.36. Non-Applicable showed 12.64 Agent days; Planning and Preparation, 15.60 Agent days; Mass Media, 19.25 Agent days; Evaluation, 19.74 Agent days; Group Contacts, 78.78 Agent days; and Individual Contacts, 209.35 Agent days spent.

Subject 3, Soybean Management and Harvesting, was taught 103.37 Agent days. A total of 3.25 Agent days were Non-Applicable to these teaching methods; 5.39 Agent days were spent using Mass Media; 5.88 Agent days were spent in Planning and Preparation; 12.12 Agent days were used for Evaluation; 18.37 Agent days were used in Group Contact; and 58.36 Agent days were spent with Individual Contacts.

Subject 4, Soybean Production, showed 228.13 Agent days spent. Of methods used, Mass Media showed 18.36 Agent days; Evaluation, 18.38

Agent days; Non-Applicable, 20.01 Agent days; Planning and Preparation, 38.24 Agent days; Group Contacts, 53.52 Agent days; and Individual Contacts, 79.62 Agent days spent.

Subject 5, Soybean Machinery, showed the least number of Agent days spent: 6.77. Planning and Preparation had no change in number of Agent days spent; Mass Media showed 0.76 Agent days; Group Contacts used 1.00 Agent days; Non-Applicable totaled 1.25 Agent days; Evaluation showed 1.64 Agent days; and 2.12 Agent days were spent on individual Contacts.

Subject 6, All Other Soybean Areas, received 114.13 Agent days. A total of 6.22 Agent days of that total was devoted to Mass Media; 7.27 were spent in Evaluation; while 11.63 Agent days were Non-Applicable to these teaching methods. Also, 13.77 Agent days were used in Planning and Preparation; 23.01 Agent days were spent in Group Contacts; and 52.22 Agent days were spent in Individual Contacts.

Percent of Time Expended in 1972

Table 9 presents the percents of days expended by Agents in all districts in the state by Soybean Priority Subjects according to teaching methods used. Non-Applicable had the lowest percent of Agent days at 5.53 percent; and the highest percentage of Agent days was devoted to Individual Contacts at 52.53 percent. Subject 5, Soybean Machinery, had the least percentage of Agent days devoted at 0.74 percent; and Subject 2, Soybean Pest Control, had the highest percent of Agent days devoted at 38.91 percent.

TABLE 9

PERCENT OF DAYS SPENT BY TENNESSEE EXTENSION AGENTS IN ALL DISTRICTS USING DIFFERENT TEACHING METHODS IN 1972 BY SOYBEAN SUBJECTS ARRANGED IN ORDER OF PRIORITY NEED

Priority Subjects (Ranked)	Total	Teaching Methods					
		Individual Contacts	Group Contacts	Mass Media	Planning & Preparation	Evaluation	Non-Applicable
		- - - - - Percent of Agent Days - - - - -					
1. Soybean Fertilization	11.56	8.55	1.82	0.62	0.33	0.05	0.19
2. Soybean Pest Control	38.91	22.92	8.63	2.11	1.71	2.16	1.38
3. Soybean Management and Harvesting	11.32	6.39	2.01	0.59	0.64	1.33	0.36
4. Soybean Production	24.98	8.72	5.86	2.01	4.19	2.01	2.19
5. Soybean Machinery	0.74	0.23	0.11	0.08	0.00	0.18	0.14
6. All Other Soybean Areas (All Other 4400's)	12.49	5.72	2.51	0.68	1.51	0.80	1.27
Total	100.00	52.53	20.94	6.09	8.38	6.53	5.53

Subject 1, Soybean Fertilization, had 11.56 percent of Agent days devoted. Of methods used here, Evaluation had the smallest percentage at 0.05 percentage; followed by Non-Applicable, 0.19 percent; Planning and Preparation, 0.33 percent; Mass Media, 0.62 percent; Group Contacts, 1.82 percent; and Individual Contacts, 8.55 percent of Agent days.

Subject 2, Soybean Pest Control, had the highest percentage (38.91 percent) of Agent days spent. Of this, 1.38 percent of Agent days was spent on Non-Applicable; 1.71 percent of Agent days was spent on Planning and Preparation; 2.11 percent of Agent days was spent on Mass Media; 2.16 percent of Agent days was spent on Evaluation; 8.63 percent of Agent days was spent on Group Contacts; and 22.92 percent of Agent days was spent in Individual Contacts.

Subject 3, Soybean Management and Harvesting, had 11.32 percent of Agent days spent. Non-Applicable showed the least percentage (0.36 percent); while Mass Media (0.59 percent); Planning and Preparation (0.64 percent); Evaluation (1.33 percent); Group Contacts (2.01 percent); and Individual Contacts (6.39 percent) were higher.

Subject 4, Soybean Production, had 24.98 percent of Agent days spent. Mass Media and Evaluation tied for the lowest percent of Agent days spent with 2.01 percent; followed by Non-Applicable, 2.19 percent; Planning and Preparation, 4.19 percent; Group Contacts, 5.86 percent; and Individual Contacts, 8.72 percent of Agent days.

Subject 5, Soybean Machinery, had the least percentage of Agent days devoted at 0.74 percent. With regard to methods used, Planning and Preparation showed no change in percent of Agent days; 0.08 percent

of Agent days was spent in Mass Media; 0.11 percent of Agent days was spent in Group Contacts; 0.14 percent of Agent days was Non-Applicable teaching methods; 0.18 percent of Agent days was spent in Evaluation; and 0.23 percent of Agent days was devoted to Individual Contacts.

Subject 6, All Other Soybean Areas, had 12.49 percent of all Agent days spent. Of methods, Mass Media had the least percentage at 0.68 percent; followed by Evaluation, 0.80 percent; Non-Applicable, 1.27 percent; Planning and Preparation, 1.51 percent; Group Contacts, 2.51 percent; and Individual Contacts, 5.72 percent of Agent days.

Agent Days Expended in 1975

Table 10 presents the number of days spent by Agents in all districts in the state by Soybean Priority Subjects according to selected teaching methods used. A total of 1,091.07 Agent days was spent in 1975 using the selected teaching methods, with the least number of Agent days spent in Evaluation: 14.39 Agent days. The largest number of Agent days was spent with Individual Contacts: 835.64 Agent days. Agent days spent teaching the Priority Subjects ranged from 47.72 Agent days for Soybean Machinery to 430.66 Agent days for Soybean Pest Control.

Subject 1, Soybean Fertilization, involved 79.13 Agent days. Of those Agent days, 0.76 was spent using Non-Applicable teaching methods, 1.38 was spent in Evaluation, 2.88 was spent in Planning and Preparation, 4.76 was spent in Group Contacts, 6.86 was used for Mass Media, and 62.49 was spent with Individual Contacts.

TABLE 10

NUMBER OF DAYS SPENT BY TENNESSEE EXTENSION AGENTS IN ALL DISTRICTS USING DIFFERENT TEACHING METHODS IN 1975 BY SOYBEAN SUBJECTS ARRANGED IN ORDER OF PRIORITY NEED

Priority Subjects (Ranked)	Total	Teaching Methods					
		Individual Contacts	Group Contacts	Mass Media	Planning & Preparation	Evaluation	Non-Applicable
		- - - - - Number of Agent Days - - - - -					
1. Soybean Fertilization	79.13	62.49	4.76	6.86	2.88	1.38	0.76
2. Soybean Pest Control	430.66	350.14	39.53	14.10	12.26	5.24	9.39
3. Soybean Management and Harvesting	76.39	52.74	14.65	2.74	0.00	3.51	2.75
4. Soybean Production	251.40	176.63	28.13	24.25	12.76	2.26	7.37
5. Soybean Machinery	47.72	42.87	4.11	0.37	0.25	0.12	0.00
6. All Other Soybean Areas	205.77	150.77	26.25	9.97	7.14	1.88	9.76
Total	1,091.07	835.64	117.43	58.29	35.29	14.39	30.03

Subject 2, Soybean Pest Control, had the largest number of Agent days devoted at 430.66 Agent days. Evaluation had 5.24 Agent days; Non-Applicable had 9.39 Agent days; Planning and Preparation had 12.26 Agent days; Mass Media had 14.10 Agent days; Group Contacts had 39.53 Agent days; and Individual Contacts had 350.14 Agent days expended.

Subject 3, Soybean Management and Harvesting, involved 76.39 Agent days. Of those Agent days, there was no change in Planning and Preparation, 2.74 was used for Mass Media, 2.75 was Non-Applicable, 3.51 was spent in Evaluation, 14.65 was spent with Group Contacts, and 52.74 was spent in Individual Contacts.

Subject 4, Soybean Production, included 251.40 Agent days: 2.26 Agent days were for Evaluation; 7.37 Agent days were Non-Applicable; 12.76 Agent Days were for Planning and Preparation; 24.25 Agent days were for Mass Media; 28.13 Agent days were for Group Contacts; and 176.63 Agent days were for Individual Contacts.

Subject 5, Soybean Machinery, involved 47.72 Agent days. Of those Agent days, there was no change in Non-Applicable, 0.12 was spent in Evaluation, 0.25 was spent in Planning and Preparation, 0.37 was spent in Mass Media, 4.11 was spent in Group Contacts, and 42.87 was spent with Individual Contacts.

Subject 6, All Other Soybean Areas, had 205.77 Agent days spent: 1.88 Agent days for Evaluation; 7.14 Agent days for Planning and Preparation; 9.76 Agent days were Non-Applicable; 9.97 Agent days for Mass Media; 26.25 Agent days for Group Contacts; and 150.77 Agent days for Individual Contacts.

Percent of Time Expended in 1975

Table 11 presents the percents of days spent by Agents in all districts by Soybean Priority Subjects according to teaching methods used. The lowest percentage of Agent days was devoted to Evaluation at 1.31 percent; and the highest percentage of Agent days was devoted to Individual Contacts at 76.59 percent. Subject 5, Soybean Machinery, had the lowest percentage of Agent days devoted at 4.38 percent; and Soybean Pest Control had the highest percentage of Agent days devoted at 39.47 percent.

Subject 1, Soybean Fertilization, had a 7.25 percent Agent days spent. Lowest percentage was devoted to Non-Applicable at 0.07 percent; 0.12 percent for Evaluation; 0.26 percent for Planning and Preparation; 0.44 percent for Group Contacts; 0.63 percent for Mass Media; and 5.73 percent for Individual Contacts.

Subject 2 had the largest percentage of Agent days spent. A total of 39.47 percent of Agent days included: Evaluation, 0.48 percent; Non-Applicable, 0.87 percent; Planning and Preparation, 1.12 percent; Mass Media, 1.29 percent; Group Contacts, 3.62 percent; and Individual Contacts, 32.09 percent of Agent days.

Subject 3, Soybean Management and Harvesting, had 7.00 percent Agent days spent. There was no time spent in Planning and Preparation, 0.25 percent for Mass Media, 0.26 percent for Non-Applicable, 0.32 percent for Evaluation, 1.34 percent for Group Contacts, and 4.83 percent for Individual Contacts.

TABLE 11

PERCENT OF DAYS SPENT BY TENNESSEE EXTENSION AGENTS IN ALL DISTRICTS USING DIFFERENT TEACHING METHODS IN 1975 BY SOYBEAN SUBJECTS ARRANGED IN ORDER OF PRIORITY NEED

Priority Subjects (Ranked)	Total	Teaching Methods					
		Individual Contacts	Group Contacts	Mass Media	Planning & Preparation	Evaluation	Non-Applicable
		- - - - - Percent of Agent Days - - - - -					
1. Soybean Fertilization	7.25	5.73	0.44	0.63	0.26	0.12	0.07
2. Soybean Pest Control	39.47	32.09	3.62	1.29	1.12	0.48	0.87
3. Soybean Management and Harvesting	7.00	4.83	1.34	0.25	0.00	0.32	0.26
4. Soybean Production	23.04	16.19	2.58	2.22	1.17	0.21	0.67
5. Soybean Machinery	4.38	3.93	0.38	0.04	0.02	0.01	0.00
6. All Other Soybean Areas	18.86	13.82	2.41	0.91	0.66	0.17	0.89
Total	100.00	76.59	10.77	5.34	3.23	1.31	2.76

Subject 4, Soybean Production, had 23.04 percent of Agent days spent. Lowest percent was Evaluation at 0.21 percent, next was Non-Applicable at 0.67 percent; Planning and Preparation at 1.17 percent; Mass Media at 2.22 percent; Group Contacts at 2.58 percent; and Individual Contacts at 16.19 percent of Agent days spent.

Subject 5, Soybean Machinery, had 4.38 percent Agent days spent. There was no time spent in Non-Applicable; 0.01 percent for Evaluation; 0.02 percent for Planning and Preparation; 0.04 percent for Mass Media; 0.38 percent for Group Contacts; and 3.93 percent for Individual Contacts.

Subject 6, All Other Soybean Areas, had 18.86 percent of Agent days spent. Lowest percentage was devoted to Evaluation at 0.17 percent; 0.66 percent for Planning and Preparation; 0.89 percent for Non-Applicable; 0.91 percent for Mass Media; 2.41 percent for Group Contacts; 13.82 percent for Individual Contacts.

Comparison by Agent Days

Table 12 presents absolute increases and/or decreases in time expended by Agents in all districts for FY 1972 and FY 1975 by Soybean Priority Subjects according to the selected teaching methods. The total increase (+) in Agent days expended from 1972 to 1975 was 177.70 days. A total of 913.37 Agent days was expended in 1972; increasing to 1,091.07 in 1975. There was a decrease (-) of 73.88 Agent days in Group Contacts. The largest increase (+) of Agent days spent was 355.84 in Individual Contacts. Net total Agent days devoted to subjects

TABLE 12

NUMBER INCREASES AND DECREASES (ACTUAL SHIFTS) COMPARING TENNESSEE EXTENSION AGENT DAYS EXPENDED USING DIFFERENT TEACHING METHODS FROM FISCAL YEAR 1972 TO FISCAL YEAR 1975 BY SOYBEAN SUBJECTS ARRANGED IN ORDER OF PRIORITY NEED

Priority Subjects (Ranked)	Total	Teaching Methods					
		Individual Contacts	Group Contacts	Mass Media	Planning & Preparation	Evaluation	Non-Applicable
		- - - - - Number of Agent Days - - - - -					
1. Soybean Fertilization	-26.49	-15.64	-11.87	1.24	-0.11	0.88	-0.99
2. Soybean Pest Control	75.30	140.79	-39.26	-5.15	-3.34	-14.50	-3.25
3. Soybean Management and Harvesting	-26.98	-5.62	-3.72	-2.65	-5.88	-8.61	-0.50
4. Soybean Production	23.27	97.01	-25.39	5.89	-25.48	-16.12	-12.64
5. Soybean Machinery	40.95	40.75	3.11	-0.39	0.25	-1.52	-1.25
6. All Other Soybean Areas	91.64	98.54	3.24	3.75	-6.63	-5.39	-1.87
Total	177.70	355.84	-73.88	2.69	-41.19	-45.26	-20.50
Total Agent Days, 1972	913.37	479.80	191.31	55.60	76.48	59.65	50.53
Total Agent Days, 1975	1,091.07	835.64	117.43	58.29	35.29	14.39	30.03

ranged from a decrease (-) of 26.98 days in Soybean Management and Harvesting to an increase (+) of 91.64 in All Other Soybean Areas.

Subject 1, Soybean Fertilization, had a net decrease (-) of 26.49 Agent days. Individual Contacts decreased (-) 15.64 Agent days; Group Contacts decreased (-) 11.87 Agent days; Non-Applicable decreased (-) 0.99 Agent days; and Planning and Preparation decreased (-) 0.11 Agent days. Evaluation and Mass Media increased (+) 0.88 and 1.24 Agent days, respectively.

Subject 2, Soybean Pest Control, had a net increase of 75.30 Agent days. There were decreases (-) in Group Contacts, of (-) 39.26 Agent days; Evaluation, (-) 14.50 Agent days; Mass Media, (-) 5.15 Agent days; Planning and Preparation, (-) 3.34 Agent days; and in Non-Applicable (-) 3.25 Agent days. The only increase was in Individual Contacts with (+) 140.79 Agent days expended.

Subject 3, Soybean Management and Harvesting, had a net decrease (-) of 26.98 Agent days. Evaluation decreased (-) 8.61 Agent days; Planning and Preparation decreased (-) 5.88 Agent days; Individual Contacts decreased (-) 5.62 Agent days, Group Contacts decreased (-) 3.72 Agent days; Mass Media decreased (-) 2.65 Agent days; and Non-Applicable decreased (-) 0.50 Agent days.

Subject 4, Soybean Production, had a net increase (+) of 23.27 Agent days. Planning and Preparation decreased (-) 25.48 Agent days; Group Contacts decreased (-) 25.39 Agent days; Evaluation decreased (-) 16.12 Agent days; and Non-Applicable decreased (-) 12.64 Agent

days. Mass Media increased (+) 5.89 Agent days, and Individual Contacts increased (+) 97.01 Agent days.

Subject 5, Soybean Machinery, had a net increase (+) of 40.95 Agent days. Evaluation decreased (-) 1.52 Agent days; Non-Applicable decreased (-) 1.25 Agent days; and Mass Media decreased (-) 0.39 Agent days. Planning and Preparation increased (+) 0.25 Agent days; Group Contacts increased (+) 3.11 Agent days; and Individual Contacts increased (+) 40.75 Agent days.

Subject 6, All Other Soybean Areas, had a net increase of 91.64 Agent days. Planning and Preparation decreased (-) 6.63 Agent days; Evaluation decreased (-) 5.39 Agent days; and Non-Applicable decreased (-) 1.87 Agent days. Group Contacts increased (+) 3.24 Agent days; Mass Media increased (+) 3.75 Agent days; and Individual Contacts increased (+) 98.54 Agent days.

Comparison by Percents

Table 13 presents relative changes in the percent of Agent time expended from FY 1972 to FY 1975 by Soybean Priority Subjects according to selected teaching methods. Group Contacts showed the greatest relative net decrease (-) of 10.17 percent. Individual Contacts had the greatest relative net increase (+) of 24.06 percent Agent days expended. Total Agent days expended by Subjects ranged from a relative decrease (-) of 4.32 percent of Agent days in Soybean Management and Harvesting to a relative increase (+) of 6.37 percent Agent days in All Other Soybean Areas.

TABLE 13

PERCENT INCREASES AND DECREASES (RELATIVE SHIFTS) COMPARING TENNESSEE EXTENSION AGENT DAYS EXPENDED USING DIFFERENT TEACHING METHODS FROM FISCAL YEAR 1972 TO FISCAL YEAR 1975 BY SOYBEAN SUBJECTS ARRANGED IN ORDER OF PRIORITY NEED

Priority Subjects (Ranked)	Total	Teaching Methods					
		Individual Contacts	Group Contacts	Mass Media	Planning & Preparation	Evaluation	Non-Applicable
		- - - - - Percent of Agent Days - - - - -					
1. Soybean Fertilization	-4.31	-2.82	-1.38	0.01	-0.07	0.07	-0.12
2. Soybean Pest Control	0.56	9.17	-5.01	-0.82	-0.59	-1.68	-0.51
3. Soybean Management and Harvesting	-4.32	-1.56	-0.67	-0.34	-0.64	-1.01	-0.10
4. Soybean Production	-1.94	7.47	-3.28	0.21	-3.02	-1.80	-1.52
5. Soybean Machinery	3.64	3.70	0.27	-0.04	0.02	-0.17	-0.14
6. All Other Soybean Areas	6.37	8.10	-0.10	0.23	-0.85	-0.63	-0.38
Total	0.00	24.06	-10.17	-0.75	-5.15	-5.22	-2.77

Subject 1, Soybean Fertilization, had a relative net decrease (-) of 4.31 percent of Agent days, decreases (-) being recorded in Individual Contacts (2.82 percent), Group Contact (1.38 percent), Non-Applicable (0.12 percent), and Planning and Preparation (0.07 percent). Evaluation increased (+) 0.07 percent, and Mass Media increased (+) 0.01 percent.

Subject 2, Soybean Pest Control, had a relative net increase (+) of 0.56 percent in Agent days expended. Group Contacts decreased (-) 5.01 percent; Evaluation decreased (-) 1.68 percent; Mass Media decreased (-) 0.82 percent; Planning and Preparation decreased (-) 0.59 percent; and Non-Applicable decreased (-) 0.51 percent. Individual Contacts increased (+) 9.17 percent of Agent days.

Subject 3, Soybean Management and Harvesting, had a relative net decrease (-) of 4.32 percent of Agent days. Individual Contacts decreased (-) 1.56 percent; Evaluation decreased (-) 1.01 percent; Group Contacts decreased (-) 0.67 percent; Planning and Preparation decreased (-) 0.64 percent; Mass Media decreased (-) 0.34 percent; and Non-Applicable decreased (-) 0.10 percent.

Subject 4, Soybean Production, had a relative net decrease (-) of 1.94 percent of Agent days expended. Group Contacts decreased (-) 3.28 percent; Planning and Preparation decreased (-) 3.02 percent; Evaluation decreased (-) 1.80 percent; and Non-Applicable decreased 1.52 percent in Agent days expended. Mass Media increased (+) 0.21 percent, and Individual Contacts increased (+) 7.47 percent.

Subject 5, Soybean Machinery, had a relative net increase (+) of 3.64 percent in Agent days expended. Evaluation decreased (-) 0.17 percent; Non-Applicable decreased (-) 0.14 percent; and Mass Media decreased (-) 0.04 percent. Planning and Preparation increased (+) 0.02 percent; Group Contacts increased (+) 3.70 percent of Agent days expended.

Subject 6, All Other Soybean Areas, had a relative net increase of 6.37 percent in Agent days expended. Planning and Preparation decreased (-) 0.85 percent; Evaluation decreased (-) 0.63 percent; Non-Applicable decreased (-) 0.38 percent; Group Contacts decreased (-) 0.10 percent. Mass Media increased (+) 0.23 percent, and Individual Contacts increased (+) 8.10 percent in Agent days expended.

Comparison by Number of Contacts Made

Table 14 presents the number of increases and/or decreases between Agent contacts made for FY 1972 and FY 1975 by Soybean Priority Subjects according to the selected teaching methods. (See Appendix E for Raw Data for FY 1972 and FY 1975.)

Total contacts for all teaching methods showed a net decrease (-) of 1,538 from 1972 to 1975. Total contacts decreased (-) from 36,696 in 1972 to 35,158 in 1975. Mass Media had a net decrease (-) of 8,817 contacts from 1972 to 1975. Individual Contacts had the greatest net increase (+) in number of contacts with 6,046 contacts. Subject 2, Soybean Pest Control, had a net decrease (-) of 9,914 contacts; while Soybean Production had the greatest net increase (+) of 6,107 contacts made.

TABLE 14

NUMBER INCREASES AND DECREASES (ACTUAL SHIFTS) COMPARING TENNESSEE EXTENSION AGENT CONTACTS MADE USING DIFFERENT TEACHING METHODS FROM FISCAL YEAR 1972 TO FISCAL YEAR 1975 BY SOYBEAN SUBJECTS ARRANGED IN ORDER OF PRIORITY NEED

Priority Subjects (Ranked)	Total	Teaching Methods					
		Individual Contacts	Group Contacts	Mass Media	Planning & Preparation	Evaluation	Non-Applicable
		- - - - - Number of Contacts - - - - -					
1. Soybean Fertilization	-755	-150	11	-552	-30	-2	-32
2. Soybean Pest Control	-9,914	2,193	517	-11,943	-472	-97	-112
3. Soybean Management and Harvesting	800	-102	144	1,086	-118	-53	-157
4. Soybean Production	6,107	2,725	-102	4,433	-657	-122	-170
5. Soybean Machinery	1,928	335	1,592	0	1	0	0
6. All Other Soybean Areas	296	1,045	1,176	1,841	-68	179	-195
Total	-1,538	6,046	3,338	-8,817	-1,354	-95	-666
Total Agent Days, 1972	36,696	4,097	4,301	25,469	1,676	423	730
Total Agent Days, 1975	35,158	10,143	7,639	16,652	332	328	64

Subject 1, Soybean Fertilization, had a net decrease (-) in contacts with 755. Mass Media decreased (-) 552 contacts; Individual Contacts decreased (-) 150 contacts; Non-Applicable decreased (-) 32 contacts; Planning and Preparation decreased (-) 30 contacts; and Evaluation decreased (-) 2 contacts. Group Contacts had an increase (+) of 11 contacts made by Agents.

Subject 2, Soybean Pest Control, had the greatest net decrease (-) of Agent contacts with 9,914. Mass Media decreased (-) 11,943 contacts; Planning and Preparation decreased (-) 472 contacts; Non-Applicable decreased (-) 112 contacts; and Evaluation decreased (-) 97 contacts. Group Contacts increased (+) 517 contacts, and Individual Contacts increased (+) 2,193 contacts made by Agent.

Subject 3, Soybean Management and Harvesting, had a net increase (+) of 800 contacts. Non-Applicable decreased (-) 157 contacts; Planning and Preparation decreased (-) 118 contacts; Individual Contacts decreased (-) 102 contacts; and Evaluation decreased (-) 53 contacts. Group Contacts and Mass Media increased (+) 144 and 1,086 contacts made by Agents, respectively.

Subject 4, Soybean Production, had a net increase (+) of 6,107 contacts. Planning and Preparation decreased (-) 657 contacts; Non-Applicable decreased (-) 170 contacts; Evaluation decreased (-) 122 contacts; and Group Contacts decreased (-) 102 contacts. Individual Contacts increased (+) 2,725 contacts, and Mass Media increased (+) 4,433 contacts made by Agent from 1972 to 1975.

Subject 5, Soybean Machinery, had a net increase (+) of 1,928 contacts. Mass Media, Evaluation, and Non-Applicable had no contacts. Planning and Preparation increased (+) one contact; Individual Contacts increased (+) 335 contacts; and Group Contacts increased (+) 1,592 contacts made by Agents.

Subject 6, All Other Soybean Areas, had a net increase (+) of 296 contacts. Non-Applicable and Planning and Preparation had decreases (-) in contacts of 195 and 68, respectively. Evaluation increased (+) 179 contacts; Individual Contacts increased (+) 1,045 contacts; Group Contacts increased (+) 1,176 contacts; and Mass Media increased (+) 1,841 contacts made by Agents.

Comparison by Percents of Contacts Made

Table 15 presents the relative increases and/or decreases between percents of Agent contacts made for FY 1972 and FY 1975 by Soybean Priority Subjects according to selected teaching methods. Mass Media had the greatest net relative decrease (-) in contacts of 22.04 percent. Individual Contacts had the greatest net relative increase (+) in contacts of 17.68. Subject 2, Soybean Pest Control, had the largest net relative decrease (-) of contacts of 25.94; while Subject 4, Soybean Production, had the largest net relative increase (+) in contacts of 18.30 percent.

Subject 1, Soybean Fertilization, had a relative decrease (-) of 1.73 percent contacts made. Evaluation had no change in percent of contacts from FY 1972 to FY 1975. Planning and Preparation, and

TABLE 15

PERCENT INCREASES AND DECREASES (RELATIVE SHIFTS) COMPARING TENNESSEE EXTENSION AGENT CONTACTS MADE WITH DIFFERENT TEACHING METHODS FROM FISCAL YEAR 1972 TO FISCAL YEAR 1975 BY SOYBEAN SUBJECTS ARRANGED IN ORDER OF PRIORITY NEED

Priority Subjects (Ranked)	Total	Teaching Methods					
		Individual Contacts	Group Contacts	Mass Media	Planning & Preparation	Evaluation	Non-Applicable
		- - - - - Percent of Contact - - - - -					
1. Soybean Fertilization	-1.73	0.35	0.04	1.26	-0.08	0.00	-0.08
2. Soybean Pest Control	-25.94	6.47	1.63	-32.19	-1.29	-0.26	-0.30
3. Soybean Management and Harvesting	2.49	-0.23	0.48	3.14	-0.33	-0.15	-0.42
4. Soybean Production	18.30	7.83	-0.09	13.10	1.76	0.32	-0.46
5. Soybean Machinery	5.49	0.95	4.53	0.00	0.01	0.00	0.00
6. All Other Soybean Areas	1.39	3.01	3.42	-4.83	-0.18	0.51	-0.54
Total	0.00	17.68	10.01	-22.04	-3.63	-0.22	-1.80

Non-Applicable tied with a decrease (-) of 0.08 percent. Group Contacts increased (+) 0.04 percent; Individual Contacts increased (+) 0.35 percent; and Mass Media increased (+) 1.26 percent contacts made.

Subject 2, Soybean Pest Control, had a relative decrease (-) of 25.94 percent contacts made. Mass Media decreased (-) 32.19 percent; Planning and Preparation decreased (-) 1.29 percent; Non-Applicable decreased (-) 0.30 percent; and Evaluation decreased (-) 0.26 percent. Group Contacts increased (+) 1.63 percent, and Individual Contacts increased (+) 6.47 percent of contacts made.

Subject 3, Soybean Management and Harvesting, had a relative increase (+) of 2.49 percent of contacts made. Non-Applicable decreased (-) 0.42 percent; Planning and Preparation decreased (-) 0.33 percent; Individual Contacts decreased (-) 0.23 percent; and Evaluation decreased (-) 0.15 percent. Group Contacts and Mass Media increased (+) 0.48 and 3.14 percents, respectively.

Subject 4, Soybean Production, had a relative net increase (+) of 18.30 percent contacts made. Non-Applicable and Group Contacts had decreases (-) of 0.46 and 0.09 percents, respectively. Evaluation increased (+) 0.32 percent; Planning and Preparation increased (+) 1.76 percent; Individual Contacts increased (+) 7.83 percent; and Mass Media increased (+) 13.10 percent of contacts made by Agents.

Subject 5, Soybean Machinery, had a relative net increase (+) of 5.49 percent of contacts made. Mass Media, Evaluation, and Non-Applicable had no contacts. Planning and Preparation increased (+)

0.01 percent; Individual Contacts increased (+) 0.95 percent; and Group Contacts increased 4.53 percent of contacts by Agents.

Subject 6, All Other Soybean Areas, had a relative net increase of 1.39 percent contacts made. Mass Media decreased (-) 4.83 percent; Non-Applicable decreased (-) 0.54; and Planning and Preparation decreased (-) 0.18 percent. Evaluation increased (+) 0.51 percent; Individual Contacts increased (+) 3.01 percent; and Group Contacts increased (+) 3.42 percent contacts made by Agents from 1972 to 1975.

CHAPTER V

SUMMARY, IMPLICATIONS, AND RECOMMENDATIONS

Program determination and program evaluation are seen as important and necessary processes as Extension workers assist county residents in identifying and satisfying their needs and personal, group, and community goals. By relating Tennessee Extension Management Information System (TEMIS) data concerning Agent time planned, expended, and contacts made by districts and according to selected teaching methods to practice checklist survey data, it was felt that Extension Soybean educational programs might be evaluated and better planned in terms of the priority needs of the Soybean producers. The major purpose of this study, then, was to determine the influence a 1972 Statewide Soybean Practice Checklist Survey had on Extension's educational program.

Specifically, objectives were to: (1) relate Soybean Practice Checklist Survey (SPCS) and TEMIS data in a meaningful, prioritized way; (2) study shifts in time planned and expended in FY's 1972 and 1975 by Tennessee Agents doing Soybean educational work according to subjects and districts; (3) study shifts in contacts made in FY's 1972 and 1975 by Tennessee Agents doing Soybean work by subjects and districts; and (4) study relative effectiveness of Extension methods used for Soybean work in FY's 1972 and 1975.

Information from a statewide survey conducted in 1972 comparing Soybean Producers in the five Extension supervisory districts of Tennessee regarding their use of Soybean recommended practices was used as the basis for identifying priority education needs of the producers. A total of 1,153 Adult Soybean Producers was surveyed including 595 in District I; 328 in District II; 150 in District III; 80 in District IV; and 0 in District V. The lack of returns from District V was due to the relative unimportance of Soybeans in that district. 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. Data regarding Agent days planned by teaching methods were unavailable. Data were assembled for comparative purposes according to the districts and teaching methods selected.

A "concern level" of 60 percent was set for subjects prioritized for this study. Soybean Subjects having only 60 percent or less in average statewide producer use were considered to be of "concern."

I. SUMMARY OF FINDINGS

It was noted in the study that 1972 average production in bushels of soybeans per acre was approximately 28 bushels per acre for the State, little difference being noted among districts. Soybean producers with larger acreages (i.e., 50 acres or more) showed a tendency to have higher yields. Higher percents of those producing yields of over 28 bushels per acre, the 1972 survey average, used each

and all of the 12 recommended production practices than was true for lower producers.

Relation of SPCS and TEMIS Data

The 12 soybean recommended practices were classified under 6 TEMIS subject headings to permit relating SPCS and TEMIS information. They were ordered from least used (i.e., weakest) to most used (i.e., strongest). It was found that data from the two sources could be related. The only two TEMIS Soybean Subjects that were less than the 60 percent concern level were, Subject 1, Soybean Fertilization, 41 percent (i.e., this includes two practices, namely limed and fertilized, according to soil test - 23 percent, and used Molybdenum on planting seed when appropriate - 58 percent); and Subject 2, Soybean Pest Control, 52 percent (i.e., this includes two practices, namely 2A Controlled weeds - 56 percent, and 2B Controlled insects - 49 percent).

String TEMIS Soybean Subjects (i.e., above the concern level) included Subject 3, Soybean Management and Harvesting - 73 percent; Subject 4, Soybean Production - 83 percent; and Subject 5, Soybean Machinery - 89 percent. The grand total average practice use for all subjects was 68 percent. Average percents of Soybean producers in all districts (i.e., District I, District II, District III, and District IV) were below the concern level of practice usage on Subjects 1 and 2. An exception was District I under Practice 1B which was above the concern level, 66 percent.

Comparisons of Shifts in Agent Time Planned by Districts

There was a net increase (+) of 550 Agent days planned from FY's 1972 to 1975. All subjects showed an increase (+) in Agent days planned ranging from two days in Subject 3 to 227 Agent days in Subject 2.

The overall shift in numbers of Agent days planned by districts from FY's 1972 to 1975 ranged from an increase (+) of 24 days for District V to an increase (+) of 259 days for District I. None of the districts had relatively large decreases in Agent days planned under any subject.

Subject 1 and Subject 3 showed decreases (-) in relative percents of Agent days planned of 11.34 percent and 4.85 percent, respectively. District I and District III showed decreases (=) in relative percents on three of the six subjects. District IV showed decreases (-) in relative percents on one of the six subjects, Subject 3. District II had the greatest increases in relative percents of Agent days planned.

Comparisons of Shifts in Agent Time Spent by Districts

There was a net increase (+) of 177.70 Agent days expended from FY 1972 to FY 1975. Two subjects, Subject 1 and Subject 3, showed decreases (-) in Agent days expended of 26.49 and 26.98 days, respectively. All other subjects (i.e., 2, 4, and 5) showed increases (+) in Agent days expended ranging from 23.27 days in Subject 4 to 91.65 days in Subject 6. All districts showed overall increases (+) in Agent

days expended ranging from 5.15 days for District III to 101.44 days for District I. Decreases (-) in Agent days expended according to subjects occurred in District I, on Subjects 1 and 4; District II, on Subjects 4 and 6; District III, on Subjects 1 and 4; and District IV, on Subject 1.

Relative percents of Agent days expended ranged from a decrease (-) of 4.32 percent Agent days expended on Subject 3 to an increase (+) of 6.37 percent Agent days expended on Subject 6. District I showed decreases (-) on three subjects (i.e., Subjects 1, 2, and 3); District II decreased (-) on Subjects 4 and 6; District III decreased (-) on Subjects 1 and 4; and District IV decreased (-) on Subjects 3 and 4 in terms of shifts in Agent days expended.

Comparisons of Shifts in Contacts by Districts

Total contacts among all audiences showed a net decrease (-) of 1,538 soybean producer contacts from FY 1972 to FY 1975. Only District II and District IV had increases (+) in contacts with 1,100 and 344, respectively. Subject 4 showed the largest increase (+) of 6,107 contacts. District I had the largest decrease (-) of 10,084 contacts on Subject 2 and also the largest increase (+) in contacts, 8,266, Subject 4.

Percents for Subject contacts ranged from a relative decrease (-) of 25.94 percent on Subject 2 to a relative increase (+) of 18.30 percent on Subject 4. District I, District III, and District V had overall decreases (-) in total relative percents of contacts made.

District II had the largest total increase (+) in relative percentage of contacts made at 3.86.

Comparisons of Shifts in Agent Time Spent by Methods

Of the total increase (+) in Agent days expended at 177.70 days from FY 1972 to FY 1975; Agent days expended by the selected teaching methods ranged from a decrease (-) of 73.88 Agent days in Group Contacts to an increase (+) of 355.84 Agent days in Individual Contacts. Subjects 1 and 2 showed largest decreases for all methods, especially Mass Media.

Group Contacts had the largest decrease (-) in relative percent of Agent days expended of 10.17 percent. Individual Contacts decreased (-) on Subject 1, 2.82 percent, and increased (+) on Subject 2, 9.17 percent. It also had the largest relative percentage of Agent days expended, 24.06 percent.

Comparisons in Shifts in Contacts by Methods

Total contacts by all teaching methods showed a net decrease (-) of 1,538 contacts from FY 1972 to FY 1975. Mass Media had a net decrease (-) of 8,817 contacts from FY 1972 to FY 1975. Individual Contacts had the largest net increase (+) in number of contacts of 6,046. Subject 2 had a net decrease (-) of 9,914 contacts; while Subject 4 had the largest net increase (+) of 6,107 contacts.

Mass Media had the largest relative decrease (-) in contacts made of 22.04 percent. Individual Contacts had the largest relative increase (+) in contacts made of 17.68 percent. Subject 2 had the

largest relative decrease (-) in contacts made, 25.94 percent; while Subject 4 had the largest relative increase (+) in contacts made of 18.30 percent.

II. IMPLICATIONS

Subjects 1 and 2 were identified as those of the greatest statewide educational need in Soybean production by reason of their relatively low (i.e., below the concern level of 60 percent practice usage) practice usage in all districts surveyed.

Since for Subject 1, Soybean Fertilization, and Subject 2, Soybean Pest Control, time planned decreased or did not change, time expended decreased or did not change, and contacts made decreased from FY 1972 to FY 1975, it is implied that either the statewide survey of Soybean producers did not appreciably influence Extension programs during the period or that other factors were more influential (e.g., SPCS and TEMIS data had not permitted proper relation as practices were assigned to subjects).

Since Individual Contacts dramatically increased in use, and Group Contacts consequently increased at the expense of Mass Media; Soybean production problems faced by Agents may be of such nature that personal contacts must be made and group meetings planned for their proper solution.

III. RECOMMENDATIONS

1. Definite efforts should be made to more closely relate and define Soybean TEMIS Subjects and Soybean production practices in order to facilitate comparative analysis.

2. Since Agent time planned by primary Extension methods was not available for the present study, efforts might be made to obtain and analyze such data.

3. A follow-up study on the present one is recommended following the Soybean Progress Check to be conducted in 1977.

4. Studies similar to the present one might be conducted in other agricultural work areas of importance to the Tennessee Agricultural work areas of importance to the Tennessee Agricultural Extension Service (e.g., swine, corn).

5. When FY 1977 Soybean Production Practice Survey data become available, a study should be made to determine, if possible, which methods demonstrate the greatest dividends in terms of yield increases and practice change. Also, since Plan of Work Projections (POWP), or five-year plans, project work over a five-year period, study of accumulated TEMIS data over that entire period, should give a truer picture of time expended and contacts made.

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BIBLIOGRAPHY

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APPENDICES

APPENDIX A

THE AGRICULTURAL EXTENSION SERVICE, UNIVERSITY OF TENNESSEE

Knoxville, Tennessee

TENNESSEE SOYBEAN PRODUCTION SURVEY

Name of Respondent_____ Address_____

County_____ Date_____ Number_____ Tenure Status_____

PART A - General Information

1. How many acres of soybeans did you plant last year?_____acres. Per acre yield_____bushels.

2. How many acres of the land you planted in soybeans were capable of producing 20 bushels per acre?_____acres, 30 bushels per acre? _____acres, more than 30 bushels per acre?_____acres.

3. How much of your soybean acreage last year was upland?_____acres, bottom land?_____acres.

4. How much of the harvested acreage was_____Owned? _____Cash rented? _____Shared?

5. What percent of last year's soybean crop was contracted to sell before harvest?_____%, sold when harvested?_____%, stored on farm_____%.

6. What were the months last year during which you sold your stored soybeans? _____.

7. A. Did you rotate any of your soybeans last year?_____. If so, how many acres? _____.

   B. Why did you rotate? Cyst nematode____ Disease____ Other_____.

8. If you had cyst nematode last year, how many acres were infested? _____acres.

9. Did you fertilize soybeans with any nitrogen? _____Yes _____No. If so, what? _____.

10. Did you double crop any soybeans with wheat? _____Yes _____No. If so, how many acres? _____. If so, what was the expected price of wheat at planting time? _____. What was the expected price of soybeans when you planted wheat? _____.

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PART B - Practice Checklist

RECOMMENDED PRACTICE (See corresponding number on explanatory guide sheet)	YES	NO
1. Prepared an adequate seedbed		
Comment:		
2. Planted a recommended variety		
Comment:		
3. Limed and fertilized according to soil test recommendations		
Comment:		
4. Used molybdenum on planting seed when appropriate		
Comment:		
5. Planted between April 15 and June 15		
Comment:		
6. Planted high quality seed		
Comment:		
7. Inoculated planting seed where soybeans had not been grown in last three years		
Comment:		
8. Planted 8 to 12 seed per foot of row		
Comment:		
9. Controlled weeds		
Comment:		
10. Controlled insects		
Comment:		
11. Harvested soybeans when moisture content was 12 to 14 percent		
Comment:		
12. Checked harvesting loss		
Comment:		

PART C - Additional Information

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

2. Would respondent be interested in attending Extension meetings related to soybeans:

___a. Production ____b. Marketing ____c. Storage ____d. Other (Please specify interest)_____

_____.

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3/23/72

APPENDIX B

TABLE 16

RAW DATA FOR TIME PLANNED FOR ALL DISTRICTS
IN 1972 BY AGENT DAYS

Soybean Subject Codes	Total	Extension Districts				
		I	II	III	IV	V
4467	171	141	7	20	3	0
4441	271	223	8	38	2	0
4431 & 4466	74	59	3	8	4	0
4444	84	43	17	20	3	1
4429	7	5	0	2	0	0
All Other 4400's	60	51	3	4	2	0
Total	667	522	38	92	14	1

Soybean Subject Code
4467 - Soybean Fertilization
4441 - Soybean Pest Control
4431 - Soybean Management
4466 - Soybean Harvesting
4444 - Soybean Production
4429 - Soybean Machinery
All Other 4400's - All Other Soybean Areas

TABLE 17

FAW DATA FOR TIME PLANNED FOR ALL DISTRICTS
IN 1975 BY AGENT DAYS

Soybean Subject Codes	Total	Extension Districts I	II	III	IV	V
2617	174	95	51	18	7	3
2611 & 2633	498	346	73	61	11	7
2615	76	25	23	18	7	3
2620	215	124	50	22	13	6
2607	67	51	7	4	2	3
All Other 2600's	187	140	16	19	9	3
Total	1,217	781	220	142	49	25

Soybean Subject Code

2617 - Soybean Fertilization
2611 - Soybean Insects
2633 - Soybean Weeds
2615 - Soybean Management
2620 - Soybean Production
2607 - Soybean Machinery
All Other 2600's - All Other Soybean Areas

TABLE 18

RAW DATA FOR TIME PLANNED BY AGENTS IN ALL DISTRICTS
ACCORDING TO SOYBEAN SUBJECTS IN 1972
BY PERCENT OF AGENT DAYS PLANNED

Soybean Subject Codes	Total	Extension Districts				
		I	II	III	IV	V
		- - - Percent of Agent Days - - -				
4467	25.64	21.14	1.05	3.00	0.45	0.00
4441	40.63	33.43	1.20	5.70	0.30	0.00
4431 & 4466	11.09	8.84	0.45	1.20	0.60	0.00
4444	12.59	6.45	2.55	3.00	0.45	0.14
4429	1.05	0.75	0.00	0.30	0.00	0.00
All Other 4400's	9.00	7.65	0.45	0.60	0.30	0.00
Total	100.00	78.26	5.70	13.80	2.10	0.14

Soybean Subject Code
4467 - Soybean Fertilization
4441 - Soybean Pest Control
4431 - Soybean Management
4466 - Soybean Harvesting
4444 - Soybean Production
4429 - Soybean Machinery
All Other 4400's - All Other Soybean Areas

TABLE 19

RAW DATA TIME PLANNED BY AGENTS IN ALL DISTRICTS
ACCORDING TO SOYBEAN SUBJECTS IN 1975
BY PERCENT OF AGENT DAYS PLANNED

Soybean Subject Codes	Total	Extension Districts				
		I	II	III	IV	V
		- - - Percent of Agent Days - - -				
2617	14.30	7.81	4.19	1.48	0.57	0.25
2633 & 2611	40.92	28.43	6.00	5.01	0.91	0.57
2615	6.24	2.05	1.89	1.48	0.57	0.25
2620	17.67	10.19	4.11	1.81	1.08	0.48
2607	5.50	4.19	0.58	0.32	0.16	0.25
All Other 2600's	15.37	11.50	1.32	1.56	0.74	0.25
Total	100.00	64.17	18.09	11.66	4.03	2.05

Soybean Subject Code
2617 - Soybean Fertilization
2611 - Soybean Insects
2633 - Soybean Weeds
2615 - Soybean Management
2620 - Soybean Production
2607 - Soybean Machinery
All Other 2600's - All Other Soybean Areas

APPENDIX C

TABLE 20

RAW DATA FOR TIME EXPENDED FOR ALL DISTRICTS
IN 1972 BY AGENT DAYS

Soybean Subject Codes	Total	Extension Districts				
		I	II	III	IV	V
		- - - Agent Days - - -				
4467	105.62	85.13	4.74	10.75	5.00	0.00
4441	355.36	281.27	28.74	34.46	10.64	0.25
4431 & 4466	103.37	72.75	15.74	6.01	8.62	0.25
4444	228.13	103.00	61.61	44.14	14.12	5.26
4429	6.77	1.64	3.51	1.62	0.00	0.00
All Other 4400's	114.12	72.39	25.86	11.12	4.75	0.00
Total	913.37	616.18	140.20	108.10	43.13	5.76

Soybean Subject Code
4467 - Soybean Fertilization
4441 - Soybean Pest Control
4431 - Soybean Management
4466 - Soybean Harvesting
4444 - Soybean Production
4429 - Soybean Machinery
All Other 4400's - All Other Soybean Areas

TABLE 21

RAW DATA FOR TIME EXPENDED FOR ALL DISTRICTS
IN 1975 BY AGENT DAYS

Soybean Subject Codes	Total	Extension Districts I	II	III	IV	V
		- - - Number of Agent Days - - -				
2617	79.13	59.49	11.64	2.50	3.00	2.50
2633 & 2611	430.66	283.43	65.74	59.50	14.99	7.00
2615	76.39	25.63	29.01	10.50	8.63	2.62
2620	251.40	164.42	38.23	20.62	16.76	11.37
2607	47.72	31.99	5.12	4.87	2.62	3.12
All Other 2600's	205.77	152.66	23.85	15.26	9.24	4.76
Total	1,091.07	717.62	173.59	113.25	55.24	31.37

Soybean Subject Code
2617 - Soybean Fertilization
2611 - Soybean Insect
2633 - Soybean Weeds
2615 - Soybean Management
2620 - Soybean Production
2607 - Soybean Machinery
All Other 2600's - All Other Soybean Areas

TABLE 22

RAW DATA FOR TIME EXPENDED BY AGENTS IN ALL DISTRICTS ACCORDING TO SOYBEAN SUBJECTS IN 1972 BY PERCENT OF AGENT DAYS EXPENDED

Soybean Subject Codes	Total	Extension Districts				
		I	II	III	IV	V
		- - - Percent of Agent Days - - -				
4467	11.56	9.32	0.52	1.17	0.55	0.00
4441	38.91	30.80	3.15	3.77	1.16	0.03
4431 & 4466	11.32	7.97	1.72	0.66	0.94	0.03
4444	24.98	11.28	6.75	4.83	1.55	0.57
4429	0.74	0.18	0.38	0.18	0.00	0.00
All Other 4400's	12.49	7.92	2.83	1.22	0.52	0.00
Total	100.00	67.47	15.35	11.83	4.72	0.63

Soybean Subject Code
4467 - Soybean Fertilization
4441 - Soybean Pest Control
4431 - Soybean Management
4466 - Soybean Harvesting
4444 - Soybean Production
4429 - Soybean Machinery
All Other 4400's - All Other Soybean Areas

TABLE 23

RAW DATA FOR TIME EXPENDED IN ALL DISTRICTS
ACCORDING TO SOYBEAN SUBJECTS IN 1975
BY PERCENT OF AGENT DAYS

Soybean Subject Codes	Total	Extension Districts I	II	III	IV	V
		- - - Percent of Agent Days - - -				
2617	7.25	5.45	1.07	0.23	0.27	0.23
2633 & 2611	39.47	25.98	6.03	5.45	1.37	0.64
2615	7.00	2.35	2.66	0.96	0.79	0.24
2620	23.04	15.07	3.50	1.89	1.54	1.04
2607	4.38	2.93	0.47	0.45	0.24	0.29
All Other 2600's	18.86	13.99	2.18	1.40	0.85	0.44
Total	100.00	65.77	15.91	10.38	5.06	2.88

Soybean Subject Code
2617 - Soybean Fertilization
2611 - Soybean Insects
2633 - Soybean Weeds
2615 - Soybean Management
2620 - Soybean Production
2607 - Soybean Machinery
All Other 2600's - All Other Soybean Areas

APPENDIX D

TABLE 24

RAW DATA FOR CONTACTS MADE BY AGENTS FOR ALL DISTRICTS IN 1972 BY NUMBER OF CONTACTS

Soybean Subject Codes	Total	Extension Districts I	II	III	IV	V
4467	3,508	2,744	463	239	62	0
4441	18,985	16,715	1,270	803	196	1
4431 & 4466	1,811	1,068	346	311	84	2
4444	7,789	2,030	3,710	1,162	283	604
4429	35	5	19	11	0	0
All Other 4400's	4,568	3,579	267	583	139	0
Total	36,696	26,141	6,075	3,109	764	607

Soybean Subject Code
4467 - Soybean Fertilization
4441 - Soybean Pest Control
4431 - Soybean Management
4466 - Soybean Harvesting
4444 - Soybean Production
4429 - Soybean Machinery
All Other 4400's - All Other Soybean Areas

TABLE 25

RAW DATA FOR CONTACTS MADE BY AGENTS FOR ALL DISTRICTS IN 1975 BY NUMBER OF CONTACTS

Soybean Subject Codes	Total	Extension Districts I	II	III	IV	V
2617	2,753	1,614	1,081	15	19	24
2633 & 2611	9,071	6,631	1,378	793	196	73
2615	2,611	820	1,427	287	55	22
2620	13,896	10,296	1,932	1,118	336	214
2607	1,963	1,782	92	41	19	29
All Other 2600's	4,864	2,887	1,265	167	483	62
Total	35,158	24,030	7,175	2,421	1,108	424

Soybean Subject Code

2617 - Soybean Fertilization
2611 - Soybean Insects
2633 - Soybean Weeds
2615 - Soybean Management
2620 - Soybean Production
2607 - Soybean Machinery
All Other 2600's - All Other Soybean Areas

TABLE 26

RAW DATA FOR CONTACTS MADE BY AGENTS FOR ALL DISTRICTS IN 1972 BY PERCENT OF CONTACTS MADE

Soybean Subject Codes	Total	Extension Districts I	II	III	IV	V
4467	9.56	7.48	1.26	0.65	0.17	0.00
4441	51.74	45.56	3.46	2.19	0.53	0.00
4431 & 4466	4.94	2.91	0.94	0.85	0.23	0.01
4444	21.22	5.53	10.11	3.16	0.77	1.65
4429	0.09	0.01	0.05	0.03	0.00	0.00
All Other 4400's	12.45	9.75	0.73	1.59	0.38	0.00
Total	100.00	71.24	16.55	8.47	2.08	1.66

Soybean Subject Code
4467 - Soybean Fertilization
4441 - Soybean Pest Control
4431 - Soybean Management
4466 - Soybean Harvesting
4444 - Soybean Production
4429 - Soybean Machinery
All Other 4400's - All Other Soybean Areas

TABLE 27

RAW DATA FOR CONTACTS MADE BY AGENTS FOR ALL DISTRICTS IN 1975 BY PERCENT OF CONTACTS MADE

Soybean Subject Codes	Total	Extension Districts I	II	III	IV	V
2617	7.83	4.59	3.07	0.04	0.05	0.08
2633 & 2611	25.80	18.86	3.92	2.25	0.56	0.21
2615	7.43	2.33	4.06	0.82	0.16	0.06
2620	39.52	29.28	5.50	3.18	0.96	0.60
2607	5.58	5.07	0.26	0.12	0.05	0.08
All Other 2600's	13.84	8.22	3.60	0.47	1.37	0.18
Total	100.00	68.35	20.41	6.88	3.15	1.21

Soybean Subject Code
2617 - Soybean Fertilization
2611 - Soybean Insects
2633 - Soybean Weeds
2615 - Soybean Management
2620 - Soybean Production
2607 - Soybean Machinery
All Other 2600's - All Other Soybean Areas

APPENDIX E

TABLE 28

NUMBER OF CONTACTS MADE BY TENNESSEE EXTENSION AGENTS IN ALL DISTRICTS USING DIFFERENT TEACHING METHODS IN 1972 BY SOYBEAN SUBJECTS ARRANGED IN ORDER OF PRIORITY NEED

Priority Subjects (Ranked)	Total	Teaching Methods					
		Individual Contacts	Group Contacts	Mass Media	Planning & Preparation	Evaluation	Non-Applicable
		- - - - - Number of Contacts - - - - -					
1. Soybean Fertilization (4467)	3,508	653	112	2,648	49	8	38
2. Soybean Pest Control (4441)	18,985	1,895	1,383	14,910	504	146	147
3. Soybean Management and Harvesting (4431 & 4466)	1,811	510	585	350	118	85	163
4. Soybean Production (4444)	7,789	695	1,675	4,197	907	142	173
5. Soybean Machinery (4429)	35	16	19	0	0	0	0
6. All Other Soybean Areas (All Other 4400's)	4,568	328	527	3,364	98	42	209
Total	36,696	4,097	4,301	25,469	1,676	423	730

TABLE 29

NUMBER OF CONTACTS MADE BY TENNESSEE EXTENSION AGENTS IN ALL DISTRICTS USING DIFFERENT TEACHING METHODS IN 1975 BY SOYBEAN SUBJECTS ARRANGED IN ORDER OF PRIORITY NEED

Priority Subjects (Ranked)	Total	Teaching Methods					
		Individual Contacts	Group Contacts	Mass Media	Planning & Preparation	Evaluation	Non-Applicable
		- - - - - Number of Contacts - - - - -					
1. Soybean Fertilization (2617)	2,753	503	123	2,096	19	6	6
2. Soybean Pest Control (2633 & 2611)	9,071	4,088	1,900	2,967	32	49	35
3. Soybean Management and Harvesting (2615)	2,611	408	729	1,436	0	32	6
4. Soybean Production (2620)	13,896	3,420	1,573	8,630	250	20	3
5. Soybean Machinery (2607)	1,963	351	1,611	0	1	0	0
6. All Other Soybean Areas (2600's)	4,864	1,373	1,703	1,523	30	221	14
Total	35,158	10,143	7,639	16,652	332	328	64

TABLE 30

PERCENT OF CONTACTS MADE BY TENNESSEE EXTENSION AGENTS IN ALL DISTRICTS USING DIFFERENT TEACHING METHODS IN 1972 BY SOYBEAN SUBJECTS ARRANGED IN ORDER OF PRIORITY NEED

Priority Subjects (Ranked)	Total	Teaching Methods					
		Individual Contacts	Group Contacts	Mass Media	Planning & Preparation	Evaluation	Non-Applicable
1. Soybean Fertilization (4467)	9.56	1.78	0.31	7.22	0.13	0.02	0.10
2. Soybean Pest Control (4441)	51.47	5.16	3.77	40.63	1.38	0.40	0.40
3. Soybean Management and Harvesting (4431 & 4466)	4.94	1.39	1.59	0.95	0.33	0.24	0.44
4. Soybean Production (4444)	21.22	1.90	4.56	11.44	2.47	0.38	0.47
5. Soybean Machinery (4429)	0.09	0.04	0.05	0.00	0.00	0.00	0.00
6. All Other Soybean Areas (All Other 4400's)	12.45	0.89	1.44	9.17	0.27	0.11	0.57
Total	100.00	11.16	11.72	69.41	4.58	1.15	1.98

TABLE 31

PERCENT OF CONTACTS MADE BY TENNESSEE EXTENSION AGENTS IN ALL DISTRICTS USING DIFFERENT TEACHING METHODS IN 1975 BY SOYBEAN SUBJECTS ARRANGED IN ORDER OF PRIORITY NEED

Priority Subjects (Ranked)	Total	Teaching Methods					
		Individual Contacts	Group Contacts	Mass Media	Planning & Preparation	Evaluation	Non-Applicable
1. Soybean Fertilization (2617)	7.83	1.43	0.35	5.96	0.05	0.02	0.02
2. Soybean Pest Control (2633 & 2611)	25.80	11.63	5.40	8.44	0.09	0.14	0.10
3. Soybean Management and Harvesting (2615)	7.43	1.16	2.07	4.09	0.00	0.09	0.02
4. Soybean Production (2620)	39.52	9.73	4.47	24.54	0.71	0.06	0.01
5. Soybean Machinery (2607)	5.58	0.99	4.58	0.00	0.01	0.00	0.00
6. All Other Soybean Areas (2600's)	13.84	3.90	4.86	4.34	0.09	0.62	0.03
Total	100.00	28.84	21.73	47.37	0.95	0.93	0.18

APPENDIX F

TABLE 32

PERCENTS OF INTERVIEWEES IN THE EXTENSION DISTRICTS AND STATE ACCORDING TO YIELD GROUPS AND TOTALS

Yield - Bushels Per Acre	State Total (N=1153)	Extension District I (N=594)	II (N=328)	III (N=150)	IV (N=81)	V (N=0)
		- - - - - Percent - - - - -				
No Response	2.0	1.0	1.0	1.0	15.0	0.0
28 Bushels Per Acre	50.9	51.0	53.0	50.0	44.0	0.0
More Than 28 Bushels Per Acre	47.1	48.0	46.0	49.0	41.0	0.0
Total	100.0	100.0	100.0	100.0	100.0	0.0

TABLE 33

PERCENTS OF INTERVIEWEES IN AVERAGE YIELD GROUPS AND TOTAL ACCORDING TO EXTENSION DISTRICTS AND STATE TOTALS

Extension Districts	Total (N=1153)	Average Yield Per Acre: No Response (N=19)	28 Bushels or Less (N=587)	Over 28 Bushels (N=547)
		- - - - - Percent - - - - -		
I	52.0	21.0	52.0	53.0
II	28.7	11.0	30.0	28.0
III	12.4	5.0	12.0	13.0
IV	6.9	63.0	6.0	6.0
V	0.0	0.0	0.0	0.0
State Total	100.0	100.0	100.0	100.0

TABLE 34

PERCENTS OF INTERVIEWEES IN AVERAGE ACREAGE GROUPS AND TOTAL ACCORDING TO YIELD GROUPS AND TOTALS

	Average Number of Acres				
Yield - Bushels Per Acre	Total (N=1153)	(N=272)	(N=279)	(N=219)	Over 100 Acres (N=383)
	- - - - - Percent - - - - -				
No Response	1.6	3.0	1.0	1.0	1.0
28 Bushels or Less	51.0	54.0	53.0	47.0	50.0
More than 28 Bushels Per Acre	47.4	43.0	46.0	52.0	49.0
Total	100.0	100.0	100.0	100.0	100.0

TABLE 35

RECOMMENDED SOYBEAN PRACTICES ARRANGED IN DESCENDING ORDER OF EDUCATIONAL PRIORITY HELD AS DETERMINED BY THE 1972 TENNESSEE STATE EXTENSION SURVEY ACCORDING TO PERCENTS OF INTERVIEWEES IN PRODUCTION GROUPS USING THE PRACTICES AND SHOWING TEMIS PRIMARY SUBJECT RELATIONS

Subjects and Related Practices	Total (N=1153)	No Response (N=19)	28 Bushels or Less (N=587)	Over 28 Bushels (N=547)
		- - - - - Percent - - - - -		
1. Soybean Fertilization				
A. Limed and Fertilized According to Soil Test	22.4	26.0	19.0	26.0
B. Used Molybdenum on Planting Seed When Appropriate	58.1	11.0	57.0	61.0
Subtotal	40.3	18.5	38.0	43.5
2. Soybean Pest Control				
A. Controlled Weeds	55.5	26.0	43.0	70.0
B. Controlled Insects	49.2	42.0	45.0	54.0
Subtotal	52.4	34.0	44.0	62.0

TABLE 35 (continued)

Subjects and Related Practices	Total (N=1153)	No Response (N=19)	28 Bushels or Less (N=587)	Over 28 Bushels (N=547)
		- - - - - Percent - - - - -		
3. Soybean Management and Harvesting				
A. Planted a Recommended Variety	96.9	95.0	97.0	97.0
B. Planted Between April 15 and June 15	82.2	79.0	78.0	87.0
C. Planted High Quality Seed	94.9	90.0	95.0	95.0
D. Harvesting Soybeans When Moisture Content was 12 to 14 Percent	55.4	58.0	54.0	57.0
E. Checked Harvesting Loss	35.8	37.0	30.0	42.0
4. Soybean Production				
A. Prepared Adequate Seed Bed	95.9	95.0	95.0	97.0
B. Inoculated Planting Seed Where Soybean Had Not Been Grown in the Last Three Years	68.8	32.0	66.0	71.0
Subtotal	82.4	63.5	80.5	84.0

TABLE 35 (continued)

Subjects and Related Practices	Total (N=1153)	No Response (N=19)	28 Bushels or Less (N=587)	Over 28 Bushels (N=547)
		- - - - - Percent - - - - -		
5. Soybean Machinery				
A. Planted 8 to 12 Seed Per Foot of Row	89.2	53.0	87.0	93.0
Subtotal	89.2	53.0	87.0	93.0
Grand Total Average	67.5	48.2	64.1	71.6

TABLE 36

PERCENTS OF INTERVIEWEES IN AVERAGE PRACTICE NUMBERS USED CATEGORIES ACCORDING TO YIELD GROUPS AND TOTALS

Yield - Bushels Per Acre	Average Number Practices Used			
	Total (N=1153)	No Response (N=5)	8 Practices or Fewer (N=661)	Practices (N=487)
	- - - - - Percent - - - - -			
No Response	1.6	20.0	2.0	1.0
28 Bushels or Less	51.0	60.0	58.0	41.0
Over 28 Bushels	47.4	20.0	40.0	58.0
Total	100.0	100.0	100.0	100.0

VITA

James Kelly Allen was born in Bloomington, Illinois, and was graduated from Murfreesboro Central High School, Murfreesboro, Tennessee, in 1964. He entered Middle Tennessee State University in 1964, and in June 1969, he received a Bachelor of Science degree in Animal Science. He served two years in the Armed Forces, one year in the Republic of Vietnam. He was employed by Carnation Milk Company as a production foreman for two years.

In 1975, he entered graduate school at The University of Tennessee, Knoxville, in the field of Agricultural Extension. He is a member of Gamma Sigma Delta, the honorary agricultural society.