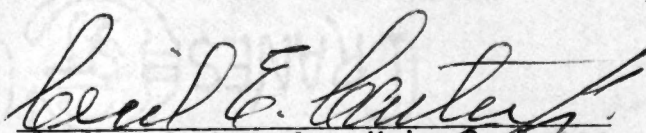
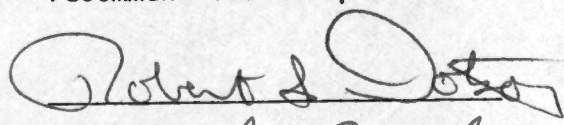
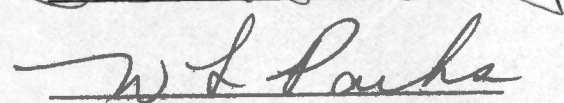


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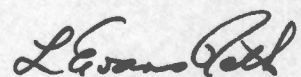
I am submitting herewith a thesis written by Roger Dale Robinson entitled "Characteristics of Tennessee Burley Tobacco Producers and Relationships between Selected Production Practices and Extension Contact Variables." I have examined the final copy of this thesis for form and content and recommend that it be accepted in partial fulfillment of the requirements for the degree of Master of Science, with a major in Agricultural Extension.


Cecil E. Carter, Jr., Major Professor

We have read this thesis and
recommend its acceptance:

Accepted for the Council:


Vice Chancellor
Graduate Studies and Research

CHARACTERISTICS OF TENNESSEE BURLEY TOBACCO PRODUCERS AND
RELATIONSHIPS BETWEEN SELECTED PRODUCTION
PRACTICES AND EXTENSION CONTACT VARIABLES

A Thesis

Presented for the

Master of Science

Degree

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Roger Dale Robinson

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ABSTRACT

The major purpose of the study was to characterize Tennessee burley tobacco producers as to their farm tenure status, their use of recommended production practices, yields per acre of tobacco produced, contacts they had with Extension Agents and their feelings about the kind, amount and quality of help they received from Extension Agents. Another purpose was to determine the relationships between variables used to characterize the producers.

Data were obtained through random sample surveys conducted by County Extension Agents in 1973 and in 1978. A total of 1,577 burley tobacco producers in 56 Tennessee counties was interviewed in 1973 and 942 producers from 39 counties were interviewed in 1978. Both descriptive and inferential statistics were used to analyze and summarize the data. The Chi Square test was used to determine the association between qualitative variables. One-way analysis of variance was used to test the association between two quantitative variables and between one qualitative variable and a quantitative variable. Chi Square values and F-values which achieved the .05 level were considered to be significant.

Results

Regarding tenure status the study indicated that:

1. Over 70 percent of the burley producers owned the land used to grow tobacco in 1973 and in 1978. About 13 percent of the producers grew some tobacco on land that they owned as well as

using some rented land. Only minor changes were found in the tenure status of burley producers in 1978 compared to 1973. Neither the percentage of producers using the 14 recommended practices or their tobacco yield per acre was significantly influenced by the tenure status of the producers. However, producers classified as owners, as compared to other producers, had a more positive attitude about the kind, amount and quality of help they received from Extension Agents.

2. Producers who were using the recommended production, harvesting and marketing practices reported a significantly larger number of contacts with Extension Agents through meetings, office visits, telephone calls and farm visits than those producers who were not using the recommended practices. This did not hold true, however, for the practices of fertilizing and liming according to soil test recommendations.

3. Producers who felt they received the kind, amount and quality of help they wanted from Extension Agents reported making a significantly larger number of contacts with Extension Agents than those who were not satisfied with the help they received.

4. Tobacco yield per acre was not significantly influenced by the number of contacts producers reported having with Extension Agents.

Implications and recommendations also were reported.

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CHAPTER I

BACKGROUND AND PROBLEM

I. INTRODUCTION

Cooperative Extension Work in agriculture and home economics assists people engaged in farming and homemaking to utilize more fully their own resources, and those available to them, in solving current problems and in meeting changing economic and social conditions. Extension uses the educational and service approach to help stimulate its clientele to solve problems and to make changes that will result in more efficient production and marketing of farm products, conservation of natural resources, more comfortable homes, improved health and more satisfying family and community life (9:1).

One important program area of the Tennessee Agricultural Extension Service has traditionally been production agriculture. Since a large number of Tennessee farmers cultivate tobacco as a marketable product, this work area has received priority educational emphasis throughout the years.

As a result of tobacco production being such an integral part of Tennessee farmers' income much agent time and contacts have been devoted to the dissemination of tobacco production and marketing information. Broad areas of information included site selection, seedbed preparation, soil testing, lime and fertilizer application, insect and disease control, harvesting techniques and marketing methods.

Teaching methods employed by the Extension worker are believed to influence the effectiveness of his efforts. The number of county Extension workers and their qualifications would appear to have a direct bearing upon the intensity of the teaching effort and thus may influence the emphasis placed on certain methods of teaching as well as the extent to which producers adopt recommended practices (9:3).

Individual and group contacts as well as mass communications methods are used to varying degrees by Extension agents to disseminate practical and useful information to producers and to encourage the adoption of recommended production and marketing practices.

In view of the above situation this study was designed to help describe burley tobacco producers in Tennessee as to the frequency of contacts, of selected types, they had with Extension agents as well as the number of recommended production and marketing practices used by the producers. Also the study was directed at describing relationships between the number of contacts producers reported having with Extension agents over a 12-month period and the number of recommended practices they used as well as their yield per acre of tobacco produced at selected points in time (i.e., 1973 and 1978).

II. PURPOSE AND OBJECTIVES

The underlying purpose of this study then was to help identify some possible problem areas regarding delivery of the Extension program among burley tobacco producers in Tennessee. Another purpose was to suggest some ways which may help to improve the county Extension programs.

More specifically, the study objectives were as follows:

1. To characterize Tennessee burley tobacco producer as to tenure, use of burley tobacco production and marketing practices, number of contacts with Extension agents and yield per acre of tobacco produced.
2. To determine the relationships between selected characteristics of Tennessee burley tobacco producers and their use of recommended practices as well as their yield.

III. RELATED STUDIES

Several studies have been conducted in Tennessee regarding relationships between selected characteristics of crops, livestock and dairy producers and their yields per acre or per animal unit as well as their use of recommended practices. Only selected studies are reported below.

Relationship Between Production Practice Use and Yield

In 1964 Clyde Webster through his study of approaches to teaching recommended production practices to burley tobacco producers in Trousdale County cited that growers in above average yield groups were following more research verified practices than those on the below average groups (9).

Lowe in a 1962 study of Williamson County burley tobacco producers found that growers with considerably above average per acre tobacco yields were more likely to be using research-verified recommended cultural practices than were growers with below average yields (6).

Iven, in 1964 when studying the tobacco production practices and net return per acre from burley tobacco in Anderson County, found that growers with above-average net returns were found to be using more of the recommended cultural practices than were growers with below-average net returns (4).

Relationship Between Characteristics of Production
Practice Use and Contacts Made with Extension Personnel

Arnett in a Wilson County study found that the number of Extension office visits made by farmers was significantly related to the major farm enterprises of the farmer. Those with the dairy, beef and tobacco enterprise on their farms made more visits than did those with swine, sheep, or poultry (1).

Although Yabaya's statewide study of corn producers and Jenkins' study of soybean producers did not show a significant relation between the use of most recommended practices and contacts with Extension personnel. Jenkins' 1977 study did, however, show a significant relationship between soybean producers' contacts with Extension and their adoptions of the practice of liming and fertilizing according to soil test recommendations (5).

McLemore in 1975 found in his statewide study of swine producers that those who were using the recommended practice of breeding gilts at 8 months of age and 250 pounds made significantly more contacts with Extension agents than those not using the practice (7).

Perry in his 1980 statewide study of characteristics of swine producers stated that the total number of recommended practices used by producers was significantly related to the number of contacts

producers had with Extension agents through meetings, office visits, telephone calls, farm visits received from agents, and total Extension contacts (8).

Relationship Between the Number of Extension Contacts and Yield

In a 1978 study of corn producers in Tennessee, Yabaya cited that producers who had more contacts with Extension personnel had significantly larger acreage and higher yields for both corn silage and grain than those who had fewer contacts (10).

Freeman found in his study of Grade A dairy producers in Tennessee, that there was a significant relationship between producers' herd averages in pounds of milk and butterfat and farm visits made by Extension agents (3).

Relationship Between Producers' Feelings about the Kind, Amount and Quality of Help Received and the Number of Contacts Made with Extension Agents

In a study conducted by John Bradley in 1980 a significant relationship was found between cotton producers' feelings about the kind, amount and quality of help they reported having with Extension agents. Producers who said they had received the kind, amount and quality of help wanted made significantly more total contacts with Extension (2).

IV. NEED FOR THE STUDY

There seems to be little doubt that most Extension agents throughout Tennessee have a desire to effectively serve their clientele.

Thus, it would appear that Tennessee agents recognize the need and possess the desire to continually improve their educational programs.

This study provided an opportunity to analyze and summarize data obtained in 1973 and in 1978 regarding the use of burley tobacco production practices. No recent study provided useful information regarding burley tobacco producers in Tennessee, their use of recommended production practices, or the relationship between the number of contacts producers had with Extension agents and their use of recommended practices. Since Extension agents throughout Tennessee were believed to be genuinely concerned with serving their clientele as effectively and efficiently as possible, it was believed that information from this study will help to improve the effectiveness of educational programs of the Tennessee Agricultural Extension Service.

The study was not only concerned with the distinguishing factors of burley tobacco producers at the present time, but also hopefully will serve as a basis for the determination of need for program change and possible directions that this change may take within the state of Tennessee.

V. LIMITATIONS OF THE STUDY

Data for the study were secured from those counties completing the 1973 and/or the 1978 Burley Tobacco Production Survey. Data for this study were secured by Extension agents through personal interviews with burley tobacco producers in 56 counties in 1973 and 39 counties in 1978. Figure 1 shows the counties that were surveyed in 1973 and/or 1978.

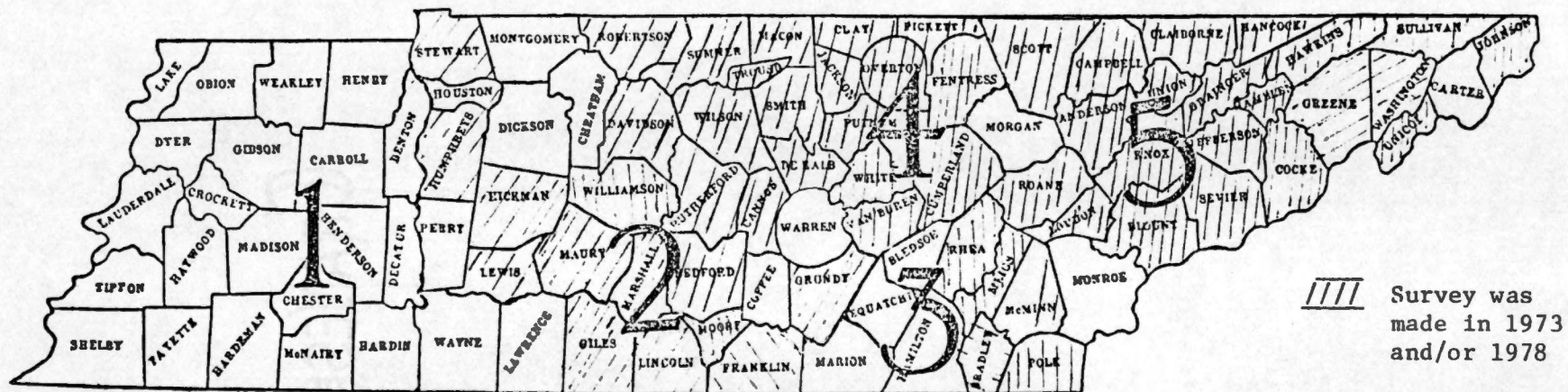


Figure 1. Counties Conducting Burley Tobacco Production Surveys by Extension Districts.

VI. DEFINITION OF TERMS

Listed below are definitions and/or descriptions of terms as used in the study.

1. Burley Tobacco Producer. Burley tobacco producer is an individual who derives part of his income from the production and sale of burley tobacco.

2. Dependent Variable. Dependent variables are those to be explained as a function of other (i.e., independent) variables.

3. Evaluation. Evaluation is the process of judging the value or worth of something as it is related to some predetermined standard.

4. Extension Contact. The term Extension contact is used to refer to farm visits received, office visits made, group meetings attended, and/or the total number of Extension contacts burley tobacco producers reported having over a 12-month period with county Extension agents.

5. Independent Variable. The explanatory variable in a statistical analysis.

6. Practice. In the sense that it is used in the practice checklist survey, a practice is a research verified procedure that if carried out correctly and on a regular basis, will increase production. For example, in the area of burley tobacco production applying recommended pesticides in recommended quantities and at recommended times will control tobacco insects.

7. Practice Checklist. The term practice checklist refers to a list of recommended Extension practices for a specific subject or commodity.

8. Practice Checklist Survey. A practice checklist survey refers to interviews conducted by Extension agents with a randomly selected number of producers in a specific Extension audience. The checklist is used as an instrument to record which practices are being used by the producer and also those practices that are not being used.

9. Program Evaluation. Program evaluation refers to the process by which evidence or data are obtained and used as a basis for making judgement in the assessment of the outcomes of program efforts.

VII. METHODS AND PROCEDURES

Population and Sample Studied

The population of this study included all burley tobacco producers in those Tennessee counties where the county Extension agent conducted the Burley Tobacco Production Practice Survey in 1973 and/or 1978. A total of 1577 burley producers in 56 counties were surveyed in 1973 while a total of 942 burley producers in 39 counties were surveyed in 1978.

Sampling was carried out on a county-level basis with an Extension agent interviewing from ten to forty individual burley producers per county. The Nth number method was used to identify individuals to be included in the survey.

Survey Instruments

The Extension Tobacco Specialist and Extension Education Specialists working in cooperation with county Extension agents, Associate Supervisors, Administrators and Specialists in other Extension

sections developed survey instruments for both the 1973 and the 1978 Burley Tobacco Survey.

Interviews

Approved survey instruments were mailed to the Associate District Supervisors who in turn distributed appropriate instruments to the County Extension Leaders in each county where burley tobacco was considered an important part of the total agricultural income of the county and in other counties where both the agent and the Associate Supervisor believed burley tobacco should be included in the County's Plan of Work Projection. Personal interviews were conducted by the County Extension Leader in each county and/or other agents designated by the Leader. These interviews were completed during the winters of 1973 and 1978. Completed interview schedules were returned to the appropriate Associate District Supervisor who then sent them to the Extension Education section.

Analysis of Data

Survey instruments were checked for completeness and accuracy prior to processing for computer analysis. Computations were made by The University of Tennessee Computing Center. Descriptive statistics (e.g., frequency counts, means) were used to summarize variables used to characterize the burley tobacco producers (e.g., farm tenure, per acre yield, use of recommended practices, number of contacts producers had with Extension agents and responses of producers regarding their feelings about the kind, amount and quality of help received from Extension agents). Results of this analysis were organized into tables

and presented in Chapter II along with a description of major findings.

Two primary statistical tests were used to analyze and summarize data relating to the second and final objective of the study (e.g., of the producers). The Chi Square statistic was used to analyze and summarize relationships between qualitative variables (e.g., tenure and practice use, practice use and feelings about help received from Extension agents). One-way analysis of variance and the F-test of significance was used to determine the strength of relationships between a quantitative and a qualitative variable and between two quantitative variables (e.g., number of contacts producers had with Extension agents and whether or not producers were using each of the recommended practices, yield per acre and practice use, yield per acre and number of contacts). Findings regarding these analyses were summarized in tables and the major findings are presented in Chapter III.

CHAPTER II

CHARACTERISTICS OF TENNESSEE BURLEY

TOBACCO PRODUCERS

This chapter presents major findings regarding selected characteristics of Tennessee burley tobacco producers. Producers are described as to land ownership or tenure status in 1978 compared to 1973, yield per acre in 1978 compared to 1973, producers' feelings about the kind, amount and quality of help they received from Extension agents, comparison of the proportion of producers using each tobacco production practice in 1973 and 1978 and the number of contacts producers reported having over a 12-month period with Extension agents. Results of the descriptive analysis are summarized in tables. Significances of observed differences (e.g., 1978 compared to 1973) were not tested in this chapter since the major purpose was to describe the producers not to make inference regarding the population. However, the Chi Square statistic is reported in one table to show significance of differences among owners and non-owners (i.e., tenure) as to their feelings regarding the kind, amount and quality of help received from Extension agents.

Data summarized in this chapter were organized into three major sections. Section I presents findings regarding selected general characteristics (e.g., tenure, yields per acre, feelings about help received from Extension agents and use of recommended practices). Section II presents findings regarding number of contacts producers

reported having with Extension agents through meetings, office visits, telephone calls and farm visits. Section III presents a descriptive summary of Extension contacts in regard to the use of recommended practices.

I. GENERAL CHARACTERISTICS OF TENNESSEE BURLEY TOBACCO PRODUCERS, 1973 AND 1978

The purpose of this section was to characterize the burley producers as to tenure, tobacco yield per acre, feelings about help received from Extension agents and their adoption of recommended practices at two points in time (i.e., 1973 and 1978).

Tenure of Burley Tobacco Producers

Table I shows that over 70 percent (79 percent in 1973, and 74 percent in 1978), of the burley producers (1,577 in 1973 and 943 in 1978), surveyed were producing burley tobacco on land that they owned. Those producing burley through a combination of tenure status increased from 12 percent in 1973 to 14 percent in 1978. This combination being that of owner, renter, share of crop, or partner. The combination could have been any two or more classifications of tenure. Those producing burley on shares was 5 percent for both the periods of 1973 and 1978. An increase in the percent of renters from 3 percent to 6 percent was shown from 1973 to 1978. A mere 1 percent of the burley producers grew tobacco only in a partnership operation. Table I indicates that there have been only minor changes in tenure status from 1973 to 1978.

Table I
Tenure Status of Burley Tobacco Producers

Tenure Status	1973		1978	
	Number of Producers	%	Number of Producers	%
Owners	1,234	79.1	633	73.6
Renters	51	3.3	53	6.2
Shares	71	4.5	43	5.0
Partners	18	1.2	8	0.9
Combination	182	11.6	121	14.1
Other	5	0.3	2	0.2
Total	1,561	100	860	100

Yield Per Acre

Table II compares the yield per acre of burley tobacco producers by tenure for two time periods (i.e., 1973 and 1978). The mean yield was 2,171 pounds in 1973 compared to 2,268 in 1978.

Table II
Relationship Between Tenure Status and Yield Per Acre
in 1973 and 1978

Tenure Status	Yield Per Acre			
	1973		1978	
	No.	Mean	No.	Mean
Owner	1,160	2,147	608	2,257
Other	310	2,263	221	2,297
Total	1,470	2,171	829	2,268
	F = 9.6	p = 0.002	F = 1.0	p = 0.32

The data also show that in 1973, 1,160 (79 percent) of the burley producers were classified as owners. These owners had a mean yield of 2,147 pounds per acre. The 310 (21 percent) producers classified as

other (renter, shares, partner, combination) reported a mean yield of 2,263 pounds per acre. When the F test was applied there was a significant relationship between the tenure status of the burley producers and the yield per acre. When the data were collected from the 1978 survey only 608 (73 percent) of the burley producers were classified as owners. These owners had a mean yield of 2,257 pounds per acre. The 221 (27 percent) others (renter, shares, partner, combination) had a mean yield of 2,297 pounds per acre. However, the F test showed no significant relation between tenure status and yield per acre.

Feelings About Kind, Amount and Quality of Help Received from Extension Agents

Table III compares the feelings tobacco producers reported having about the kind, amount and quality of help they received from Extension agents as to their tenure.

Received the kind of help wanted. About 29 percent of the 860 producers interviewed did not answer whether they received the kind of help they wanted. There were 603 (70.1 percent) total producers indicating that they did receive the kind of help they wanted compared to 10 (1.2 percent) that said they did not receive the kind of help wanted from Extension. There were 465 (73.5 percent) of the 633 burley producers who were classified as owners that indicated they did receive the kind of help wanted from Extension. Only 60.8 percent or 138 of the 227 other producers (renter, partner, shares, combination) indicated that they did receive the kind of help wanted. Of those indicating "no" they did not receive the kind of help wanted from Extension, 0.8 percent were classified as owners as compared to 2.2 percent that were

Table III

Relationships Between Tenure Status of Burley Producers and
Feeling About Help Received from Extension in 1978

Reaction to Help Received from Ext.	Owner		Other		Row No.	Total %
	No.	%	No.	%		
Received kind of help wanted						
DNA*	163	25.8	84	37.0	247	28.7
No	5	0.8	5	2.2	10	1.2
Yes	465	73.5	138	60.8	603	70.1
Total	633	100.0	227	100.0	860	100.0
Column Total		73.6		26.4		
$\chi^2 = 14.06$ d.f = 2 p = 0.001						
Received amount of help wanted						
DNA	163	25.8	83	36.6	246	28.6
No	5	0.8	6	2.6	11	1.3
Yes	465	73.5	138	60.8	603	70.1
Total	633	100.0	227	100.0	860	100.0
Column Total		73.6		26.4		
$\chi^2 = 15.14$ d.f = 2 p = 0.001						
Received the quality of help wanted						
DNA	162	25.6	83	36.6	245	28.5
Poor	0	0.0	2	0.9	2	0.2
Fair	7	1.1	5	2.2	12	1.4
Good	270	42.7	88	38.8	358	41.6
Excellent	194	30.6	49	21.6	243	28.3
Column Total	633	100.0	227	100.0	860	100.0
$\chi^2 = 19.54$ d.f = 4 p = 0.001						

*DNA = Did not answer or does not apply.

classified as other. When tested by the F test there was a significant relationship between the tenure status of burley producers and the feeling about help received from Extension. A higher percentage of owners than others were receiving the kind of help wanted from Extension.

Received the amount of help wanted. Almost 29 percent of the 860 producers did not answer as to whether they received the amount of help wanted. There were 73.5 percent of the 633 producers classified as owners that did receive the amount of help wanted from Extension compared to 60.8 percent of the 227 producers classified as other receiving the amount of help wanted. For those not receiving the amount of help wanted from Extension there were 0.8 percent that were classified as owners compared to 2.6 percent that were classified as other. When the F test was applied there was a significant relationship between the tenure status of burley producers and the feeling about the amount of help received from Extension. There was a higher percentage of owners than others that received the amount of help wanted from Extension.

Received the quality of help wanted. There was almost 29 percent of the total burley producers interviewed that did not answer as to whether they received the quality of help wanted from Extension. There were no owners indicating they received "poor" quality of help from Extension compared to 0.9 others (renter, partner, shares, combination) reporting a poor quality of help received. Of those producers receiving "fair" help from Extension 1.1 percent were owners and 2.2 percent were

others. The largest percentage of producers reported receiving "good" help from Extension, 42.7 percent of the owners and 38.8 percent of the others. An "excellent" rating of the quality of help received from Extension was reported by 30.6 percent owners compared to 21.6 percent of those producers classified as others. The F test indicated a significant relationship between the tenure status of burley producers and the feeling about help received from Extension. A higher percentage of owners than others rated the quality of help received from Extension as "good" or "excellent."

Use of Recommended Practices

Table IV presents findings regarding the percents of burley tobacco producers who were and those who were not using recommended practices in 1973 and in 1978. Findings are discussed below in three subsections (i.e., plant bed practices, field practices and harvesting and marketing practices).

Plant bed production practices. The percentages of those burley producers utilizing plant bed practices in 1973 ranged from 72.4 to 85.4. The range for those not using plant bed practices was 14.6 percent to 27.6 percent. In 1978 the percentages of those producers using the plant bed practices ranged from a low of 65.2 to a high of 90.2. Data show the largest decrease was from 72.4 to 65.2 percent in the percentage of producers that fertilized the plant bed. The highest increase in percentage of those was a 6.8 percent increase in those producers controlling disease in the plant bed.

Table IV
Number and Percent of Burley Producers Using Recommended
Burley Production Practices in 1973 and 1978

		1973		1978	
		No. Producers (N=1577)	Percent	No. Producers (N=943)	Percent
<u>Plant Bed Practices</u>					
Weeds controlled	No	280	18.0	140	20.3
in plant bed	Yes	1273	82.0	749	79.7
Fertilized plant	No	429	27.6	309	34.8
bed	Yes	1124	72.4	578	65.2
Sowed recommended	No	226	14.6	140	15.7
amount of seed	Yes	1327	85.4	749	84.3
Controlled plant	No	226	14.6	80	9.8
bed insects	Yes	1326	85.4	739	90.2
Controlled plant	No	265	17.1	78	10.3
bed disease	Yes	1287	82.9	680	89.7
<u>Field Production Practices</u>					
Transplanted recom-	No	234	14.9	125	13.6
ended variety	Yes	1332	85.1	795	86.4
Tobacco followed	No	926	58.9	448	48.3
grass sod	Yes	645	41.1	480	51.7
Fertilized by	No	1200	76.5	724	77.6
soil test	Yes	368	23.5	209	22.4
Limed by soil	No	--	--	704	77.2
test*	Yes	--	--	208	22.8
Controlled insects	No	288	18.3	219	23.8
in field	Yes	1285	81.7	701	76.2
Controlled weeds	No	--	--	112	12.1
in field*	Yes	--	--	817	87.9
Topped at time	No	285	18.1	224	24.0
recommended	Yes	1288	81.9	710	76.0
<u>Harvesting and Marketing Practices</u>					
Harvested at	No	340	21.6	207	22.3
time recommended	Yes	1232	78.4	720	77.7
Housed at time	No	405	25.8	330	35.9
recommended	Yes	1167	74.2	590	64.1
Used recommended	No	480	30.5	160	17.9
market preparation	Yes	1092	69.5	734	82.1
procedure					

*Not included in 1973 survey.

Field production practices. Data indicate a low of 23.5 percent and a high of 85.1 percent in 1973 for those burley producers that indicated they were using the group of field production practices. In 1978 this percentage range was from 22.4 percent to 87.9 percent. Data show that during both test years less than 25 percent of all producers were utilizing the practice of fertilizing according to soil test recommendations. The greatest increase in practice usage came in the practice of having the burley crop follow grass sod.

Harvesting and marketing practices. The data show that in 1973 the percentage of producers using harvesting and marketing practices ranged from a low of 69.5 percent to a high of 78.4 percent as compared to a low of 64.1 percent and a high of 82.1 percent in 1978. The highest increase in practice utilizations was in the number of producers that used recommended market preparation procedures.

II. CONTACTS WITH EXTENSION AGENTS

Burley tobacco producers are described in this section as to the number and types of contacts they had over a 12-month time period with Extension agents. Four types of contacts (i.e., tobacco meetings, visits and telephone calls to the Extension office, and farm visits received from Extension agents) are summarized in subsections below.

Tobacco meetings attended. The number of tobacco meetings attended by burley producers during the 12-month period varied from 0 to 9 (see Table V). Among 942 producers 200 tobacco meetings were attended over the 12-month period. The number of tobacco meetings

Table V

Tobacco Meetings Attended by Burley Tobacco Producers

No. of Tobacco Meetings attended	0	1	2	3	6	9	Total
No. of tobacco producers	765	166	8	1	1	1	942
Total no. meetings	0	166	16	3	6	9	200
% of producers	81	17.6	.85	.11	.11	.11	100
% of meetings	0.0	83.0	8	1.5	1.5	1.5	100
Subtotals							
No. of burley producers	765	--	177	--	--	--	942
No. of tobacco meetings	0	--	200	--	--	--	200
% of tobacco meetings	0	--	100	--	--	--	100
% of producers	81	--	18.8	--	--	--	100
Tobacco meetings/producer	0	--	1.1	--	--	--	0.21

producers attended during the 12-month period ranged from not any to 9. Almost 18 percent of the producers attended at least one tobacco meeting. However, less than 1 percent of the producers attended two or more meetings. Seven hundred and sixty-five (81.2 percent) of the 942 burley producers did not attend even one tobacco meeting. The other 18.8 percent of the producers attended from one to nine tobacco meetings. Among the 942 producers, 177 attended 200 meetings for an average of 1.1 meetings per burley producer. All 942 burley producers attended less than one (.21) tobacco meeting per producer that attended meetings. There were relatively few tobacco meetings held.

Visits made to Extension office. Table VI presents data regarding the number of visits burley producers made to the Extension office over a 12-month period. Four hundred and three (42.8 percent) of the 942 burley producers did not make even one visit to the Extension office. Twenty-one percent (198) of the 942 burley producers made one visit to the Extension office while less than 1 percent made over 6 visits. In the group of producers making 7 to 25 office visits, 32 of the producers made 349 visits to the Extension office which averaged 10.9 office visits per producer. When the entire group of producers is taken into account the 942 burley producers made a total of 1543 visits to the Extension office for an average of 1.6 office visits per burley producer.

Telephone calls to the Extension office. Table VII shows the number and percent of producers making telephone calls to the Extension office as well as the number and percent of tobacco calls that were

Table VI
Visits by Burley Producers to the Extension Office in 1978

No. Visits to Extension Office	0	1	2	3	4	5	6	7	8	9	10	12	15	20	25	Total
No. tobacco producers	403	198	127	71	55	27	29	5	7	1	7	7	2	2	1	942
Total no. office visits	0	198	254	213	220	135	174	35	56	9	70	84	30	40	25	1543
% of producers	43	21.0	13.5	7.5	5.8	2.9	3.1	.53	.74	.11	.74	.74	.21	.21	.11	100
% of office visits	0.0	12.8	16.5	13.8	14.3	8.7	11.3	2.3	3.6	.60	4.5	5.4	1.9	2.6	1.6	100
Subtotals:																
No. tobacco producers	403	--	--	507	--	--	--	--	--	--	32	--	--	--	--	942
No. of office visits	0	--	--	1194	--	--	--	--	--	--	349	--	--	--	--	1543
% of office visits	0	--	--	77.4	--	--	--	--	--	--	22.6	--	--	--	--	100
% of producers	43	--	--	53.8	--	--	--	--	--	--	3.4	--	--	--	--	100
Office visits/ producer	0	--	--	2.4	--	--	--	--	--	--	10.9	--	--	--	--	1.6

Table VII

Measures of Telephone Calls Made to the Extension Office by Burley Producers in 1978

No. of Telephone Calls	0	1	2	3	4	5	6	7	8	9	10	11	12	15	20	25	Total
No. of tobacco producers	361	174	154	72	66	30	41	3	10	1	10	1	8	6	2	3	942
Total no. of telephone calls	0	174	308	216	264	150	246	21	80	9	100	11	96	90	40	75	1880
% of producers	38	18.5	16.3	7.6	7.0	3.2	4.4	.32	1.1	.11	1.1	.11	.85	.64	.21	.32	100
% of telephone calls	0.0	9.3	16.4	11.5	14.0	8.0	13.1	1.1	.53	.05	.53	.05	.43	4.8	2.1	1.1	100
Subtotals:																	
No. of tobacco producers	361	--	--	540	--	--	--	--	--	--	--	41	--	--	--	--	942
No. of telephone calls	0	--	--	1379	--	--	--	--	--	--	--	501	--	--	--	--	1880
% telephone calls	0	--	--	73.4	--	--	--	--	--	--	--	26.6	--	--	--	--	100
% producers	38	--	--	57.3	--	--	--	--	--	--	--	4.4	--	--	--	--	100
Telephone calls/producer	0	--	--	2.6	--	--	--	--	--	--	--	12.1	--	--	--	--	2.0

made by these producers. The 942 producers made between 0 and 25 telephone calls to the Extension office. Data indicate that 361 (38.3 percent) of the 942 burley producers did not make even one telephone call to the Extension office. There were 174 (18.5 percent) burley producers that made one telephone call to the Extension office while less than 2 percent made over 6 telephone calls. In the group of producers that made between 8 and 25 telephone calls to the Extension office only 41 producers made 501 telephone calls to the Extension office for an average of 12.1 telephone calls per producer. All 942 burley producers made 1,880 telephone calls to the Extension office for an average of 2 telephone calls per producer.

Farm visits received from Extension agents. Table VIII presents data regarding the number and percent of farm visits that burley producers received from Extension agents during a 12-month period. The burley producers (942) received from 0 to 20 farm visits from Extension agents during the 12-month period. Almost half (401 or 42.6 percent) of the burley producers did not receive even one farm visit from an Extension agent. Of the 942 burley producers 216 (22.9 percent) received one farm visit from an Extension agent while less than 1 percent received over 6 farm visits. In the group of producers receiving between 1 and 9 farm visits 534 of the burley producers received 1,264 farm visits. This group averaged 2.4 farm visits per producer. In the group of producers receiving from 10 to 20 farm visits only 7 of the 942 producers received 91 farm visits from Extension agents for an average of 13.0 farm visits received per

Table VIII
Farm Visits Burley Producers Received from Extension Agents in 1978

No. Farm Visits Received from Extension Agents	0	1	2	3	4	5	6	7	8	9	10	12	15	20	Total
No. tobacco producers	401	216	133	72	57	23	21	1	9	2	2	3	1	1	942
Total no. farm visits	0	216	266	216	228	115	126	7	72	18	20	36	15	20	1355
% producers	43	22.9	14.1	7.6	6.1	2.4	2.2	.11	1.0	.21	.21	.32	.11	.11	100
% farm visits	0	15.9	16.6	15.9	16.8	8.5	9.3	.52	5.3	1.3	1.5	2.7	1.1	1.5	100
Subtotals:															
No. tobacco producers	401	--	--	--	534	--	--	--	--	--	--	--	7	--	942
No. farm visits	0	--	--	--	1264	--	--	--	--	--	--	--	91	--	1355
% farm visits	0	--	--	--	93.3	--	--	--	--	--	--	--	6.7	--	100
% producers	43	--	--	--	56.7	--	--	--	--	--	--	--	.74	--	100
Farm visits/producer	0	--	--	--	2.4	--	--	--	--	--	--	--	13.0	--	1.4

producer. All 942 producers received a total of 1,355 farm visits from Extension agents for an average of 1.4 farm visits received per producer.

III. DESCRIPTION OF LOW AND HIGH PRACTICE ADOPTION GROUPS OF BURLEY TOBACCO PRODUCERS BY THE NUMBER OF CONTACTS THEY REPORTED HAVING WITH EXTENSION AGENTS

This section presents major findings from a descriptive analysis of the number of contacts of various kinds that burley tobacco producers reported having over a 12-month period with Extension agents by low and high practice adoption groups of producers. Producers who were using less than 10 of the 15 recommended practices were classified as low practice adoption. Producers who used 10 or more practices were classified as high practice adoption. Findings were organized according to types of contacts (i.e. tobacco meetings attended, visits and telephone calls made to the Extension office and farm visits received from Extension agent.) Findings are summarized and presented in four tables. Each table is discussed in subsections.

Tobacco Meetings Attended

Table IX reported that 942 burley producers were using a total of 9,412 production practices in 1978. Those producers in the low practice adoption group attended a total of 48 meetings compared with 148 meetings attended by the producers in the high practice adoption group. Data in Table IX indicated that producers in the low practice adoption group attended less than 1 (.13) tobacco

Table IX

Descriptive Comparison Between Low and High Practice Adoption Groups of Burley Producers and the Number of Extension Tobacco Meetings They Attended in 1978

	Low Practice Adoption										High Practice Adoption						
No. practices adopted	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	Total
No. tobacco producers	1	2	3	7	22	26	50	65	91	95	140	133	135	97	42	33	942
% tobacco producers	0.1	0.2	0.3	0.7	2.3	2.8	5.3	6.9	9.7	10.1	14.9	14.1	14.3	10.3	4.5	3.5	100
Total no. practices adopted	0	2	6	21	88	130	300	455	728	855	1400	1463	1620	1261	588	495	9412
Subtotals																	
No. producers					362									580			942
No. practices					2585									6827			9412
% producers					38.4									61.6			100
% practices					27.5									72.5			100
Practices/producer					7.1									11.8			9.99
Total no. tobacco meetings attended	0	0	0	0	1	4	5	8	13	17	19	35	43	28	12	11	196
% of total meetings	0	0	0	0	.51	2.0	2.6	4.1	6.6	8.7	9.7	17.9	21.9	14.3	6.1	5.6	100
Meetings/producer	0	0	0	0	.05	.15	.1	.12	.14	.18	.14	.26	.32	.29	.29	.33	.21
Practices adopted/meetings	0	0	0	0	88	32.5	60	56.9	56	50.3	73.7	41.8	37.7	45	49	45	48
Subtotals																	
Total no. meetings					48									148			196
% of total meetings					24.5									75.5			100
Meetings/producer					.13									.26			.21
Producer practices adopted/meeting					53.9									46.1			48

meeting per producer as was also the case with the high practice adoption group who only attended an average of .26 tobacco meetings per producer. Burley producers in the low practice adoption group were using 53.9 production practices per tobacco meeting attended compared with 46.1 practices used per meeting attended by producers in the high practice adoption group. These 942 producers attended a total of 196 tobacco meetings for an average of .21 meetings per producer. The 942 burley producers were using an average of 48 production practices per tobacco meeting attended during the 12-month period.

Visits Made to the Extension Office

Table X indicated that the 362 producers in the low practice adoption group made a total of 455 visits to the Extension office compared to 1,068 visits made by the 580 producers in the high practice adoption group. Producers in the low practice adoption group made an average of only one visit to the Extension office per producer compared to two visits to the Extension office by burley producers in the high production practice adoption group. Burley producers in the low practice adoption group were using 5.7 production practices per visit to the Extension office compared to 6.4 practices per visit by producers in the high practice adoption group. The 942 burley producers made a total of 1,523 visits to the Extension office for an average of 1.6 office visit per producer. These producers were using an average of 6.2 production practices per visit to the Extension office during the 12-month period.

Table X

Descriptive Comparison Between Low and High Practice Adoption Groups of Burley Producers
and the Number of Visits Made to the Extension Office in 1978

Low Practice Adoption											High Practice Adoption						
No. practices adopted	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	Total
No. tobacco producers	1	2	3	7	22	26	50	65	91	95	140	133	135	97	42	33	942
% of producers	0.1	0.2	0.3	0.7	2.3	2.8	5.3	6.9	9.7	10.1	14.9	14.1	14.3	10.3	4.5	3.5	100
Total no. practices adopted	0	2	6	21	88	130	300	455	728	855	1400	1463	1620	1261	588	495	9412
Subtotals																	
No. producers					362									580			942
No. practices					2585									6827			9412
% producers					38.5									61.6			100
% practices					27.5									72.5			100
Practice/producer					7.1									11.8			99.9
Total no. office visits made	0	2	0	0	18	27	54	73	127	154	218	228	254	186	88	94	1523
% total office visits	0	.13	0	0	1.2	1.8	3.5	4.8	8.3	10.1	14.3	15.0	16.7	12.2	5.8	6.2	100
Office visits/producer	0	1	0	0	.81	1.0	1.1	1.1	1.4	1.6	1.6	1.7	1.9	1.9	2.1	2.8	1.6
Practices adopted/ office visits	0	1	0	0	4.9	4.8	5.6	6.2	5.7	5.6	6.4	6.4	6.4	6.8	6.7	5.3	6.2
Subtotals																	
No. office visits					455									1068			1563
% of total office visits					29.9									70.1			100
Office visits/producer					1.26									1.84			1.62
Producer practices adopted/ office visit					5.7									6.4			6.2

Telephone Calls to the Extension Office

The 362 burley producers that made up the low practice adoption group made a total of 540 telephone calls to the Extension office while the 580 producers in the high practice adoption group made 1,312 telephone calls to the Extension office reported by all tobacco producers. There was an average of 2 telephone calls to the Extension office per producer in both the low and high practice adoption group. Data show that producers in both groups were using 5 production practices per telephone call to the Extension office. (See Table XI).

Farm Visits Received from Extension Agents

The 352 producers in the low practice adoption group received 419 (33 percent) of the 1,261 farm visits from the Extension agents compared with 842 (67 percent) visits received from Extension agents by those producers within the high production practice group (see Table XII). Producers within the low practice adoption group received an average of 1.2 farm visit per producer while burley producers in the high practice adoption group received 1.5 farm visits per producer during the 12-month period. Producers in the low practice group used an average of 6.2 practices per farm visit received compared to 8.1 practices used by those in the high group.

Summary

Findings regarding characteristics of Tennessee burley producers showed that almost 80 percent of the burley producers

Table XI

Descriptive Comparison Between Low and High Practice Adoption Groups of Burley Producers and the Number of Extension Telephone Calls Made to the Extension Office in 1978

	Low Practice Adoption										High Practice Adoption						
No. practices adopted	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	Total
No. tobacco producers	1	2	3	7	22	26	50	65	91	95	140	133	135	97	42	33	942
% of producers	0.1	0.2	0.3	0.7	2.3	2.8	5.3	6.9	9.7	10.1	14.9	14.1	14.3	10.3	4.5	3.5	100
Total practice adoption	0	2	6	21	88	130	300	455	728	855	1400	1463	1620	1261	588	495	9412
Subtotals																	
No. producers					362									580			942
No. practices					2585									6827			9412
% producers					38.4									61.6			100
% practices					27.5									72.5			100
Practices/producers					7.1									11.8			9.99
Total no. telephone calls	0	0	0	3	24	44	78	68	114	209	242	300	310	201	132	127	1855
% total telephone calls	0	0	0	.16	1.3	2.4	4.2	3.7	6.2	11.3	13.1	16.2	16.7	10.9	7.1	6.9	100
Telephone calls/producer	0	0	0	1	1.1	1.7	1.6	1.0	1.3	2.2	1.7	2.3	2.3	2.1	3.1	3.8	2.0
Practices adopted/telephone call	0	0	0	21	3.7	3.0	3.8	6.7	6.4	4.1	5.8	4.9	5.2	6.3	4.5	3.9	5.1
Subtotals																	
No. telephone calls					540									1312			1852
% total telephone calls					29.2									70.8			100
Telephone calls/producer					1.5									2.3			2.0
Practices adopted/telephone call					4.8									5.2			5.1

Table XII

Descriptive Comparison Between the Low and High Practice Adoption Groups of Burley Producers and the Number of Farm Visits Received from Extension Agents in 1978

Low Practice Adoption											High Practice Adoption						
No. practices adopted	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	Total
No. tobacco producers	1	2	3	7	22	26	50	65	91	95	140	133	135	97	42	33	942
% of producers	0.1	0.2	0.3	0.7	2.3	2.8	5.3	6.9	9.7	10.1	14.9	14.1	14.3	10.3	4.5	3.5	100
Total no. practices adopted	0	2	6	21	88	130	300	455	728	855	1400	1463	1620	1261	588	495	9412
Subtotals																	
No. producers					362									580			942
No. practices					2585									6827			9412
% producers					38.4									61.6			100
% practices					27.5									72.5			100
Practices/producer					7.1									11.8			9.99
Total no. farm visits received	0	1	0	0	34	28	57	54	102	143	149	174	194	163	70	92	1261
% total farm visits	0	0.08	0	0	2.7	2.2	4.5	4.3	8.1	11.3	11.8	13.8	15.4	13.0	5.6	7.3	100
Farm visits/producer	0	0.5	0	0	1.5	1.1	1.1	.83	1.1	1.5	1.1	1.3	1.4	1.7	1.7	2.8	1.3
Practices adopted/farm visit	0	2	0	0	.64	4.6	5.3	8.4	7.1	6.0	9.4	8.4	8.4	7.7	8.4	5.4	7.5
Subtotals																	
No. farm visits					419									842			1261
% farm visits					33.2									66.8			100
Farm visits/producer					1.2									1.5			1.3
Practices adopted/farm visit					6.2									8.1			7.5

were owners, however, owners did not differ significantly from others when yield per acre was considered. On the other hand owners had a more positive feeling about the kind, amount and quality of help received from Extension when compared to producers classified as others. There are no observable shifts in use of recommended practices although there was a high (almost half) percent of producers using plant bed and harvesting and marketing practices.

Regarding contacts producers had with Extension there were an extremely high percentage of producers that had no contact with Extension.

Data show that the producers having contact with Extension were already using the majority of recommended production practices.

CHAPTER III

RELATIONSHIPS BETWEEN QUALITATIVE VARIABLES REGARDING SELECTED CHARACTERISTICS OF BURLEY TOBACCO PRODUCERS

The purpose of this chapter is to report major findings regarding the relationships between selected qualitative variables which characterize burley tobacco producers in Tennessee. Major emphasis is placed in determining the influence of selected variables upon the use of recommended practices. Results of cross tabulations and the Chi Square test are summartied in five tables.

The chapter is organized into 2 sections. Section I presents findings regarding the influence of the tenure status of the producers upon their use of individual production practices. The final section reports findings regarding the influences of burley tobacco producers' feeling regarding the kind, amount, and quality of help received from Extension agents upon the use of specific recommended practices.

I. RELATIONSHIP BETWEEN TENURE STATUS OF PRODUCERS AND THEIR USE OF RECOMMENDED PRACTICES

Data regarding the tenure status and the use of recommended practices of the years 1973 and 1978 are reported in the following subsections.

Tenure Status and Practice Use, 1973

Recommended burley tobacco practices were organized into 3 classes for purposes of this report. Findings are presented below regarding the influence of tenure status of the producers upon the use of plant bed practices, field practices and practices regarding the harvesting and marketing of burley tobacco.

Plant bed production practices. The percentages of burley producers classified as owners that did use this group of plant bed production practices ranged from a low of 73.1 percent to a high of 86.1 percent (see Table XIII). Those producers classified as others (renters, partners, shares, combination) that did use these practices had a percentage range from a low of 69.0 percent to a high of 86.1 percent. There were more owners than others controlling weeds in the plant bed, fertilizing by soil test recommendations, and sowing the recommended amount of seed. However, the χ^2 test indicated that there was no significant relationship between the use of plant bed production practices and the tenure status of burley producers.

Field production practices. Those producers classified as owners that did use field production practices had a percentage range from a low of 23.2 percent to a high of 86.5 percent (Table XIII). The percentages of those classified as others that did use this group of practices ranged from a low of 23.8 percent to a high of 82.2 percent. The χ^2 test indicated that only the practice of transplanting recommended varieties was significantly related to

Table XIII
Relationships Between Use of Recommended Practices and Tenure Status of Burley Producers in 1973

Practices		Tenure Status					
		Owner		Other		Row Total	
		No.	%	No.	%	No.	%
<u>Plant Bed Practices</u>							
Controlled weeds in plant bed	DNA*	19	1.5	4	1.2	23	1.5
	Yes	1005	81.4	246	78.3	1261	80.8
	No	210	17.0	67	20.5	277	17.7
	Total	1234	79.1	327	20.9	1561	100.0
		$\chi^2 = 2.25; d.f. = 2; p = 0.32$					
Followed plant bed fertilizer	Yes	888	73.1	223	69.0	1111	72.3
	No	326	26.9	100	31.0	426	27.7
	Total	1214	79.0	323	21.0	1537	100.0
			$\chi^2 = 1.95; d.f. = 1; p = 0.16$				
Sowed recommended amount seed	Yes	1045	86.1	267	82.7	1312	85.4
	No	169	13.9	46	17.3	225	14.6
	Total	1214	79.0	323	21.0	1537	100.0
			$\chi^2 = 2.12; d.f. = 1; p = 0.15$				
Controlled insects in plant bed	Yes	1035	85.4	279	86.1	1314	85.5
	No	177	14.6	45	13.9	222	14.5
	Total	1212	78.9	324	21.1	1536	100.0
			$\chi^2 = 0.06; d.f. = 1; p = 0.81$				
Controlled disease in plant bed	Yes	1003	82.8	271	83.6	1274	83.0
	No	208	17.2	53	16.4	261	17.0
	Total	1211	78.9	324	21.1	1535	100.0
			$\chi^2 = 0.07; d.f. = 1; p = 0.79$				
<u>Field Production Practices</u>							
Transplanted recommended variety	Yes	1062	86.5	256	79.3	1318	85.0
	No	166	13.5	67	20.7	233	15.0
	Total	1228	79.2	323	20.8	1551	100.0
			$\chi^2 = 9.9; d.f. = 1; p = 0.002$				
Tobacco followed grass sod	Yes	504	41.0	128	39.4	632	23.2
	No	726	59.0	197	60.6	923	59.4
	Total	1230	79.1	325	20.9	1555	100.0
			$\chi^2 = 0.21; d.f. = 1; p = 0.65$				
Fertilized by soil test	Yes	285	23.2	77	23.8	362	23.2
	No	943	76.8	247	76.2	1190	76.7
	Total	1228	79.1	324	20.9	1552	100.0
			$\chi^2 = 0.02; d.f. = 1; p = 0.89$				
Controlled insects in field	Yes	1008	81.8	263	80.9	1271	81.6
	No	224	18.2	62	19.1	286	18.4
	Total	1232	79.1	325	20.9	1557	100.0
			$\chi^2 = 0.08; d.f. = 1; p = 0.77$				
Topped and controlled suckers	Yes	1008	81.8	267	82.2	1275	81.9
	No	224	18.2	58	17.8	282	18.1
	Total	1232	79.1	325	20.9	1557	100.0
			$\chi^2 = 0.003; d.f. = 1; p = 0.95$				
<u>Harvesting and Marketing Practices</u>							
Followed harvesting practices	Yes	977	79.4	243	72.9	1220	78.4
	No	254	20.6	82	25.2	336	21.6
	Total	1231	79.1	325	20.9	1556	100.0
			$\chi^2 = 2.94; d.f. = 1; p = 0.09$				
Followed housing practices	Yes	921	74.8	237	74.8	1158	74.4
	No	310	25.2	88	27.1	398	25.6
	Total	1231	79.1	325	20.9	1556	100.0
			$\chi^2 = 0.39; d.f. = 1; p = 0.53$				
Used recommended marketing preparation procedures	Yes	879	71.4	199	61.2	1078	69.3
	No	352	28.6	126	38.8	478	30.7
	Total	1231	79.1	321	20.9	1556	100.0
			$\chi^2 = 12.03; d.f. = 1; p = 0.001$				

*Did not answer or does not apply.

the tenure status of burley producers. All other practices within this group were not significantly related to tenure status. A significantly higher percentage of owners than others were transplanting recommend varieties. Less than 24 percent of owners or others fertilized according to soil test recommendations.

Harvesting and marketing practices. Those producers classified as owners that did use the harvesting and marketing practices showed a percentage and range from a low of 71.4 percent to a high of 79.4 percent (Table XIII). The percentages for those producers classified as others that did use this group of practices ranged from a low of 61.2 percent to a high of 74.8 percent. Only using recommended marketing preparation procedures was significantly related to the tenure status of burley producers. No other practices within this group were significantly related to tenure status. A significantly higher number of owners than others were using the practice of using recommended marketing preparation procedures.

Tenure and Practice Use, 1978

Plant bed production practices. The percentage of burley producers classified as owners that were utilizing plant bed production practices ranged from a low of 64.8 percent to a high of 90.6 percent, see Table XIV. Those producers classified as other (renters, partners, shares, combination) had a percentage range showing a low of 66 percent and a high of 90.4 percent for those

Table XIV
Relationships Between Tenure Status and Use of Recommended Burley Production Practices in 1978

Practices		Tenure Status				Row Total	
		Owner		Other			
		No.	%	No.	%	No.	%
Plant Bed Practices							
Control weeds in plant bed	Yes	466	78.7	180	84.1	646	80.1
	No	126	21.3	34	15.9	160	19.9
	Total	592	73.5	214	26.6	806	100.0
		$\chi^2 = 2.5$; d.f. = 1; p = 0.11					
Plant bed fertilizer	Yes	386	64.8	142	66.0	528	65.1
	No	210	35.2	73	34.0	283	34.9
	Total	596	73.5	215	26.5	811	100.0
		$\chi^2 = 0.1$; d.f. = 1; p = 0.80					
Sowed recommended amount of seed	Yes	499	83.4	193	89.4	692	85.0
	No	99	16.6	23	10.6	122	15.0
	Total	598	73.5	216	26.5	814	100.0
		$\chi^2 = 3.9$; d.f. = 1; p = 0.05					
Control plant bed insects	Yes	500	90.6	178	90.4	678	90.5
	No	52	9.4	19	9.6	71	9.5
	Total	552	73.7	197	26.3	749	100.0
		$\chi^2 = 0.0$; d.f. = 1; p = 1.0					
Control plant bed disease	Yes	451	89.3	160	87.4	611	88.8
	No	54	10.7	23	12.6	77	11.2
	Total	505	73.4	183	26.6	688	100.0
		$\chi^2 = 0.31$; d.f. = 1; p = 0.5					
Field Production Practices							
Transplanted recommended variety	Yes	537	86.6	194	87.0	731	86.7
	No	83	13.4	29	13.0	112	13.3
	Total	620	73.5	223	26.5	843	100.0
		$\chi^2 = 0.0$; d.f. = 1; p = 1.0					
Tobacco followed grass sod	Yes	325	52.0	124	55.6	449	52.9
	No	300	48.0	99	44.4	399	47.1
	Total	625	73.7	223	26.3	848	100.0
		$\chi^2 = .72$; d.f. = 1; p = 0.4					
Fertilized by soil test	Yes	144	23.0	53	23.5	197	23.1
	No	481	77.0	173	76.5	654	76.9
	Total	625	73.4	226	26.6	851	100.0
		$\chi^2 = 0.001$; d.f. = 1; p = 0.97					
Limed by soil test	Yes	143	23.5	51	22.9	194	23.3
	No	465	76.5	172	77.1	637	76.6
	Total	608	73.2	223	26.8	831	100.0
		$\chi^2 = 0.26$; d.f. = 1; p = 0.61					
Controlled weeds in field	Yes	550	88.3	193	85.4	743	87.5
	No	73	11.7	33	14.6	106	12.5
	Total	623	73.4	226	26.6	849	100.0
		$\chi^2 = 1.10$; d.f. = 1; p = 0.11					
Topped at recommended time	Yes	476	75.8	183	81.3	659	77.3
	No	152	24.2	42	18.7	194	22.7
	Total	628	73.8	225	26.4	853	100.0
		$\chi^2 = 2.58$; d.f. = 1; p = 0.11					
Harvesting and Marketing Practice							
Harvested at recommended time	Yes	483	77.3	184	82.9	667	78.7
	No	142	22.7	38	17.1	180	21.3
	Total	625	73.8	222	26.2	847	100.0
		$\chi^2 = 2.75$; d.f. = 1; p = 0.1					
Housed as recommended	Yes	402	64.7	144	65.5	546	64.9
	No	219	35.3	76	34.5	295	35.1
	Total	621	73.8	220	62.2	841	100.0
		$\chi^2 = 0.01$ d.f. = 1; p = 0.91					
Marketed as recommended	Yes	487	80.0	187	85.8	674	82.1
	No	116	19.2	31	14.2	147	17.9
	Total	603	73.4	218	26.6	821	100.0
		$\chi^2 = 2.41$; d.f. = 1; p = 0.12					

using this group of practices. Only the practice of sowing the recommended amount of seed was significantly related (.05 level) to the tenure status of burley producers. Data show that there was a significantly higher percentage of others than owners using the practice of sowing the recommended amount of seed.

Field production practices. Those burley producers classified as owners that did use those practices included in the group of field production practices had a percentage range of a low of 23.0 percent to a high of 88.3 percent (Table XV). The percentages of those producers classified as others that utilized field production practices ranged from a low of 22.9 percent to a high of 87.0 percent. The χ^2 test indicated that no practice in this group was significantly related (.05 level) to the tenure status of burley producers. However, data indicated that less than 24 percent of producers (both owners and others) were fertilizing or liming according to soil test recommendations.

Harvesting and marketing practices. The percentage of burley producers classified as owners that were using the group of practices dealing with harvesting and marketing ranged from a low of 64.7 percent to a high of 80.8 percent (Table XIV). The percentages of producers classified as others using these practices ranged from a low of 65.5 percent to a high of 85.8 percent. The χ^2 test indicated that there was no significant relationship between the use of the group of harvesting and marketing practices and the tenure status of burley producers.

Table XV

Relationship Between the Use of Recommended Burley Production Practices and the Kind of Help Received from Extension in 1978

Burley Production Practices		Feeling about kind of help received					
		DNA*		No		Yes	
		No.	%	No.	%	No.	%
Plant Bed Practices							
Controlled weeds in plant bed	No	64	26	5	50	110	18
	Yes	182	74	5	50	515	82
	Total	246	28	10	1.1	625	71
$\chi^2 = 13.2$; d.f. = 2; p = 0.001							
Fertilized plant bed	No	110	45	5	50	194	31
	Yes	134	55	5	50	439	69
	Total	244	28	10	1.1	633	71
$\chi^2 = 17.60$; d.f. = 2; p = 0.001							
Sowed recommended amount of seed	No	58	23	3	30	79	12
	Yes	190	77	7	70	552	87
	Total	248	28	10	1.1	631	71
$\chi^2 = 17.4$; d.f. = 2; p = 0.001							
Controlled plant bed insect	No	31	14	2	20	47	8
	Yes	188	86	8	80	543	92
	Total	219	27	10	1.2	590	72
$\chi^2 = 8.14$; d.f. = 2; p = 0.02							
Controlled plant bed disease	No	31	15	2	22	45	8
	Yes	172	85	7	78	501	92
	Total	203	27	9	1.2	546	72
$\chi^2 = 9.3$; d.f. = 2; p = 0.009							
Field Production Practices							
Transplant recommended variety	No	45	18	2	20	78	12
	Yes	210	82	8	80	577	88
	Total	255	28	10	1.1	655	71
$\chi^2 = 5.50$; d.f. = 2; p = 0.06							
Tobacco followed grass sod	No	129	49	5	50	314	48
	Yes	133	51	5	50	342	52
	Total	262	28	10	1.1	656	71
$\chi^2 = 0.20$; d.f. = 2; p = 0.93							
Fertilized by soil test	No	230	88	8	89	486	73
	Yes	30	11	1	11	178	27
	Total	260	28	9	1.0	664	71
$\chi^2 = 25.70$; d.f. = 2; p = 0.001							
Limed by soil	No	222	89	8	80	474	72
	Yes	26	10	2	20	180	27
	Total	248	27	10	1.1	654	72
$\chi^2 = 29.70$; d.f. = 2; p = 0.001							
Controlled insects in field	No	86	33	3	30	130	20
	Yes	72	67	7	70	522	80
	Total	258	28	10	1.1	652	71
$\chi^2 = 19.5$; d.f. = 2; p = 0.001							
Controlled weeds in field	No	23	9	1	10	88	13
	Yes	239	91	9	90	569	87
	Total	262	28	10	1.1	657	71
$\chi^2 = 3.8$; d.f. = 2; p = 0.15							
Topped at time recommended	No	87	33	6	60	131	20
	Yes	175	67	4	40	531	80
	Total	262	28	10	1.1	662	71
$\chi^2 = 25.7$; d.f. = 2; p = 0.001							
Harvesting and Marketing Practices							
Harvested at time recommended	No	74	29	5	50	128	19
	Yes	183	71	5	50	532	81
	Total	257	28	10	1.1	660	71
$\chi^2 = 13.9$; d.f. = 2; p = 0.001							
Housed as recommended	No	119	47	3	30	208	32
	Yes	137	54	7	70	446	69
	Total	256	28	10	1.1	654	71
$\chi^2 = 17.4$; d.f. = 2; p = 0.001							
Marketed as recommended	No	74	29	2	22	84	13
	Yes	180	71	7	78	547	87
	Total	254	28	9	1.0	631	71
$\chi^2 = 30.9$; d.f. = 2; p = 0.001							

II. RELATIONSHIPS BETWEEN PRODUCERS' FEELINGS ABOUT HELP RECEIVED FROM EXTENSION AGENTS AND THEIR USE OF RECOMMENDED PRACTICES

Data regarding the feelings of burley producers about help received from Extension agents were available only for the year 1978. Data regarding feelings were organized and summarized in three tables as to the nature of their feelings about the kind, amount and quality of help received. Recommended practices also were classified as to plant bed and field production practices and practices concerning the harvesting and marketing of burley tobacco in 1978.

Kind of Help Received and Practice Use

Plant bed practices. Among those burley producers that said they did receive the kind of help they wanted from Extension a low of 69 percent and a high of 92 percent were using the plant bed practices (see Table XV). A significant relationship was found between the use of the group of plant bed practices and the feeling that burley producers had about the kind of help received from Extension. Those producers that had positive feeling about the kind of help they received from Extension used a significantly higher percentage of plant bed practices than those having a negative feeling about the help received from Extension.

Field production practices. Among producers using the group of field production practices a low of 27 percent and a high of

88 percent said they did receive the kind of help they wanted from Extension. A significant relationship was shown between the use of the group of field production practices and the feeling about the kind of help received from Extension in all practices except transplanting recommended varieties, tobacco following grass sod and controlling weeds in the field. These practices were not significantly related (.05 level) to the feeling about the kind of help wanted from Extension. A higher percentage of those producers that had a positive feeling about the kind of help they received from Extension used a higher percentage of field production practice than those not receiving the kind of help they wanted from Extension. This was true in all cases except for the practice of controlling weeds in the field.

Harvesting and marketing practices. The percentages of those producers that did use the group of harvesting and marketing practices and did receive the "kind" of help wanted from Extension ranged from a low of 68 percent to a high of 87 percent. The X^2 test indicated a significant relationship between the use of harvesting and marketing practices and the feeling about "kind" of help received from Extension. Those producers that had a positive feeling about the kind of help received from Extension used a higher percentage of harvesting and marketing practices than those having a negative feeling about the kind of help received from Extension.

Amount of Help Received and Practice Use

Plant bed practice. The percentage of burley producers using plant bed practices and having a positive feeling about the amount

of help received from Extension ranged from a low of 69 percent to a high of 92 percent (see Table XVI). A significant relationship was found between the percent of producers having a positive feeling about the amount of help received from Extension and the use of plant bed practices. A significantly higher percent of producers that had a positive feeling about the amount of help received from Extension were using plant bed practices than those having a negative feeling.

Field production practices. The percentages of producers using field production practices and having a positive feeling about the amount of help received from Extension ranged from a low of 27 percent to a high of 88 percent (Table XVI). Only 178 (27 percent) of the 664 producers having a positive feeling about the amount of help received from Extension were using the practice of fertilizing according to soil test recommendations. Data indicates, however, that they still had a positive feeling about the amount of help received from Extension. There was a significant relationship between the feeling about the amount of help received from Extension and the use of 4 out of 7 of the group of field production practices. Those practices not significantly related to the feeling about the amount of help received from Extension were controlling weeds in the field, tobacco following grass sod, and transplanting recommended variety. Those producers having a positive feeling about the amount of help received from Extension used a higher percentage of field production practices than those having a negative feeling. This was true in all cases except for the practice of tobacco following grass sod.

Table XVI

Relationships Between the Use of Recommended Production Practices and the Amount of Help Received from Extension in 1978

Burley Production Practices		Feeling about amount of help received					
		DNA*		No		Yes	
		No.	%	No.	%	No.	%
Plant Bed Practices							
Controlled weeds in plant bed	No	64	26	5	90	110	18
	Yes	182	74	5	90	515	82
	Total	246	28	10	1.1	625	71
$\chi^2 = 13.2$; d.f. = 2; p = 0.001							
Fertilized plant bed	No	110	45	5	45	194	31
	Yes	133	55	6	54	439	69
	Total	253	27	11	1.2	633	71
$\chi^2 = 17.09$; d.f. = 2; p = 0.001							
Sowed recommended amount of seed	No	58	23	3	27	79	12
	Yes	189	76	8	73	552	87
	Total	247	28	11	1.2	631	71
$\chi^2 = 17.19$; d.f. = 2; p = 0.0001							
Controlled plant bed insects	No	31	15	2	22	45	8
	Yes	172	85	7	78	501	92
	Total	203	27	9	1.2	546	72
$\chi^2 = 6.54$; d.f. = 2; p = 0.04							
Controlled plant bed diseases	No	31	15	2	22	45	8
	Yes	172	85	7	78	501	92
	Total	203	27	9	1.2	546	72
$\chi^2 = 9.33$; d.f. = 2; p = 0.009							
Field Production Practices							
Transplanted recommended variety	No	45	18	2	18	78	12
	Yes	209	82	9	82	577	88
	Total	254	28	11	1.2	655	71
$\chi^2 = 5.46$; d.f. = 2; p = 0.07							
Tobacco followed by grass sod	No	128	49	5	45	315	48
	Yes	133	51	6	54	341	52
	Total	261	28	11	1.2	656	71
$\chi^2 = 0.11$; d.f. = 2; p = 0.94							
Fertilized by soil test	No	229	88	9	90	486	73
	Yes	30	12	1	10	178	27
	Total	259	28	10	1.1	664	71
$\chi^2 = 25.74$; d.f. = 2; p = 0.001							
Limbed by soil test	No	222	89	58	80	474	72
	Yes	26	10	2	20	180	27
	Total	259	28	10	1.1	664	71
$\chi^2 = 29.70$; d.f. = 2; p = 0.001							
Controlled insects in the field	No	86	33	4	36	129	20
	Yes	171	66	7	64	523	80
	Total	257	28	11	1.2	652	71
$\chi^2 = 20.0$; d.f. = 2; p = 0.001							
Controlled weeds in field	No	23	9	2	18	87	13
	Yes	238	91	9	82	570	87
	Total	261	28	11	1.2	657	71
$\chi^2 = 3.9$; d.f. = 2; p = 0.15							
Topped at time recommended	No	87	33	6	54	131	20
	Yes	174	67	5	45	531	80
	Total	261	28	11	1.2	662	71
$\chi^2 = 24.5$; d.f. = 2; p = 0.001							
Harvesting and Marketing Practices							
Harvested at time recommended	No	74	29	4	36	129	19
	Yes	182	71	7	64	531	80
	Total	256	28	11	1.2	660	71
$\chi^2 = 10.6$; d.f. = 2; p = 0.005							
Housed at time recommended	No	119	47	5	45	206	31
	Yes	136	53	6	54	448	68
	Total	255	28	11	1.2	654	71
$\chi^2 = 18.8$; d.f. = 2; p = 0.001							
Marketed as recommended	No	74	29	1	11	85	13
	Yes	179	71	8	89	547	87
	Total	253	28	9	1.0	632	71
$\chi^2 = 31.0$; d.f. = 2; p = 0.001							

*DNA-Did not answer or does not apply.

Harvesting and marketing practices. The percentages of burley producers using the group of harvesting and marketing practices and having a positive feeling about the amount of help received from Extension ranged from a low of 68 percent to a high of 87 percent (Table XVI). A significant relationship was found between the percent of producers having a positive feeling about the amount of help received from Extension and the use of the group of practices concerned with harvesting and marketing. A higher percent of producers who had a positive feeling about the amount of help received from Extension were using harvesting practices than those having a negative feeling. This was not true, however, for the practice of marketing as recommended.

Quality of Help Received and Practice Use

Plant bed practices. Almost 70 percent of the burley producers using the group of plant bed practices rated the quality of help received from Extension as "good" to "excellent" (see Table XVII). The percentages of those producers using plant bed practices ranged from a low of 68 percent to a high of 93 percent for "good" quality help received and a low of 71 percent to a high of 93 percent for "excellent" quality help received from Extension. A significant relationship was shown between the use of recommended plant bed practices and the feeling about the quality of help received from Extension. A significantly higher percentage of producers using plant bed practices had a better feeling about the quality of help received from Extension than those producers not using plant bed practices.

Table XVII

Relationships Between The Use Of Recommended Burley Production Practices and the Quality of Help Received from Extension In 1978

Burley Production Practices		Feeling about quality of help received									
		*DNA		Poor Quality		Fair Quality		Good Quality		Excellent Quality	
		No.	%	No.	%	No.	%	No.	%	No.	%
Plant Bed Practices											
Controlled weeds in plant bed	No	64	26	1	100	5	42	60	16	49	19
	Yes	180	74	0	0	7	58	310	84	205	81
	Total	224	28	1	0.1	12	1.4	370	42	254	29
$\chi^2 = 16.58; d.f. = 4; p = 0.002$											
Fertilized plant bed	No	109	45	0	0	6	50	120	32	74	29
	Yes	132	55	2	100	6	50	255	68	183	71
	Total	241	27	2	.2	12	1.4	375	42	257	29
$\chi^2 = 19.21; d.f. = 4; p = 0.001$											
Sowed recommended amount of seed	No	58	24	0	0	4	33	48	13	30	12
	Yes	187	76	2	100	8	67	326	87	226	88
	Total	245	28	2	0.2	12	1.3	374	42	256	29
$\chi^2 = 20.30; d.f. = 4; p = 0.001$											
Controlled plant bed insects	No	31	14	1	100	1	9	29	8	18	7
	Yes	186	86	0	0	10	91	318	92	225	93
	Total	217	27	1	0.1	11	1.3	347	42	243	30
$\chi^2 = 16.59; d.f. = 4; p = 0.002$											
Controlled plant bed disease	No	31	15	1	100	1	10	23	7	22	10
	Yes	170	85	0	0	9	90	294	93	207	90
	Total	201	27	1	0.1	10	1.3	317	42	229	30
$\chi^2 = 17.73; d.f. = 4; p = 0.001$											
Field Production Practices											
Transplanted recommend variety	No	45	18	0	0	2	17	36	9	42	16
	Yes	208	82	2	100	10	83	349	91	226	84
	Total	253	28	2	0.2	12	1.3	385	42	268	29
$\chi^2 = 11.09; d.f. = 4; p = 0.03$											
Tobacco followed grass sod	No	127	49	1	50	7	58	186	51	117	44
	Yes	133	51	1	50	5	42	191	49	150	56
	Total	260	28	2	0.2	12	1.3	387	42	267	29
$\chi^2 = 3.52; d.f. = 4; p = 0.48$											
Fertilized by soil test	No	228	88	2	100	9	82	286	73	199	74
	Yes	30	12	0	0	2	18	106	27	71	26
	Total	258	28	2	0.2	11	1.2	392	42	270	29
$\chi^2 = 25.13; d.f. = 4; p = 0.001$											
Limed by soil test	No	221	89	1	100	9	79	282	73	191	72
	Yes	26	10	0	0	3	25	106	27	73	28
	Total	247	27	1	0.1	12	1.3	388	43	264	29
$\chi^2 = 29.5; d.f. = 4; p = 0.001$											
Controlled insects in field	No	85	33	1	50	4	33	72	19	57	21
	Yes	171	67	1	50	8	67	312	81	209	79
	Total	256	28	2	0.2	12	1.3	384	41	271	29
$\chi^2 = 20.1; d.f. = 4; p = 0.001$											
Controlled weeds in field	No	23	9	0	0	1	8	54	14	34	12
	Yes	237	91	2	100	11	92	330	86	237	87
	Total	260	28	0	0.2	12	1.3	384	41	271	29
$\chi^2 = 4.50; d.f. = 4; p = 0.35$											
Topped at time recommended	No	87	33	0	0	5	42	87	22	45	17
	Yes	173	66	2	100	7	58	303	78	225	83
	Total	260	28	2	0.2	12	1.3	390	42	270	29
$\chi^2 = 24.0; d.f. = 4; p = 0.001$											
Harvesting and Marketing Practices											
Harvested at time recommended	No	75	29	0	0	4	33	72	19	56	21
	Yes	180	71	2	100	8	67	315	81	215	79
	Total	225	28	2	0.2	12	1.3	387	42	271	29
$\chi^2 = 12.3; d.f. = 4; p = 0.02$											
Housed as recommended	No	199	57	0	0	4	33	114	30	93	35
	Yes	135	53	2	100	8	67	269	70	176	65
	Total	254	28	2	0.2	12	1.3	383	42	269	29
$\chi^2 = 20.9; d.f. = 4; p = 0.001$											
Marketed as recommended	No	74	29	0	0	3	25	39	10	44	17
	Yes	178	71	1	100	9	75	333	89	213	83
	Total	252	28	1	0.1	12	1.3	372	42	257	29
$\chi^2 = 37.2; d.f. = 4; p = 0.001$											

*DNA = Did not answer, or does not apply

Field production practices. More than 70 percent of all burley producers using the group of field production practices rated the quality of help received from Extension as "good" or "excellent" (see Table XVII). The percentage of those producers using field production practices ranged from a low of 27 percent to a high of 91 percent for "good" quality help received and low of 26 to a high of 87 percent for those rating the quality of help received as "excellent." Data indicate that although producers did not fertilize according to soil test recommendations the majority of them still rated the quality of help received from Extension as "good" or "excellent." The use of field production practices was significantly related (.05 level) to the feeling burley producers had about the quality of help received from Extension in all cases except the practices of tobacco following grass sod and controlling weeds in the field.

Harvesting and marketing practices. A total of over 70 percent of the burley producers using the group of harvesting and marketing practices rated the quality of help received from Extension as "good" or "excellent." Over 70 percent of those producers utilizing harvesting and marketing practices rated the quality of help received from Extension as "good" (see Table XVII). Over 65 percent of all producers that did use the group of harvesting and marketing practices rated the quality of help received from Extension as "excellent." A significant relationship was found between the use of the group of harvesting and marketing practices and the feeling burley producers

had concerning the quality of help received from Extension. A significantly higher percentage of producers using harvesting and marketing practices had a more positive feeling about the quality of help received from Extension than those producers not utilizing the group of harvesting and marketing practices.

III. SUMMARY

Findings regarding relationships between qualitative variables regarding selected characteristics of burley tobacco producers showed that only in the use of two practices did owners differ significantly from those classified as others in 1973. In 1978 there was no significant difference between tenure status groups and their use of plant bed, field production practices and harvesting and marketing practices.

Data show that those burley producers that were utilizing the groups of plant bed, field production practices and harvesting and marketing practices were better satisfied with the kind, amount and quality of help received from Extension.

CHAPTER IV
RELATIONSHIPS BETWEEN QUANTITATIVE VARIABLES REGARDING
SELECTED CHARACTERISTICS OF BURLEY TOBACCO
PRODUCERS

This chapter reports results of one-way analysis of variance test to determine the strength of relationships between variables characterizing or describing the situation regarding burley tobacco producer in Tennessee. Significance of relationships were determined by the F -test. The yield per acre of burley tobacco, the number of contacts of various types (i.e. meetings, office visits, telephone calls and farm visits) producers had with Extension Agents and the total number of recommended practices used were the quantitative variables analyzed in this chapter. Practice use and the producers' feelings about the kind, amount and quality of help received from Extension were qualitative variables.

Data were organized, analyzed and summarized in five tables. Findings also are reported in 5 sections. Section I deals with the mean yield per acre in 1973 and in 1978 by producers who were and were not using each recommended practice. Practices were organized into 3 classes (i.e. plant bed practices, field practices and practices regarding harvesting and marketing) for purposes of this report.

Section II reports findings regarding yield per acre and the number of contacts producers had with Extension Agents. Section III summarizes findings regarding total number of practices used,

yield per acre and producers' response regarding feelings about the kind, amount and quality of help received from Extension Agents.

Section IV deals with the mean number of contacts producers had over a 12-month period with Extension Agents and whether or not the producers were using each of the recommended practices. The final section (i.e. Section V) reports findings regarding the number of contacts producers had with Extension Agents and their feelings about the kind, amount and quality of help they received from Extension Agents.

I. PRACTICE USE AND YIELD PER ACRE IN 1973 AND 1978

The purpose of the analysis presented in Section I was to compare the mean yield per acre of producers who were and were not using each of the recommended practices in 1973 and in 1978. Findings are summarized in subsections according to practice group (i.e. plant bed practices, field practices and practices regarding the harvesting and marketing of burley tobacco).

Plant Bed Practices

The mean yield range for those producers that did use the group of practices dealing with the plant bed average from a low or 2147 pounds per acre to a high of 2234 pounds per acre in 1973 as compared to a low of 2259 pounds per acre to a high of 2307 pounds per acre in 1978 (see Table XVIII). A significant relationship was shown between use of all plant bed production practices and yield

Table XVIII

Relationships Between the Use of Recommended Practices
and Yield Per Acre, 1973 And 1978

		Yield Per Acre			
		1973		1978	
		No. Producers	Mean Lbs/acre	No. Producers	Mean Lbs/acre
<u>Plant bed practices</u>					
Controlled weeds in plant bed	No	277	1983	162	2103
	Yes	1186	2218	653	2307
		F=19.9, d.f.=1, p<0.001		F=23.8, d.f.=1, p<0.001	
Fertilizer plant bed	No	401	2016	279	2204
	Yes	1063	2234	542	2295
		F=41.0, d.f.=1, p<0.001		F=6.63, d.f.=1 p=0.01	
Sowed recommended amount of seed	No	224	1948	119	2139
	Yes	1240	2214	704	2292
		F=40.26, d.f.=1, p<0.001		F=10.45, d.f.=1 p=0.001	
Controlled plant bed insects	No	223	2043	66	2112
	Yes	1241	2196	687	2278
		F=12.86, d.f.=1 p<0.001		F=6.97, d.f.=1 p=0.009	
Controlled disease plant bed	No	263	1608	76	2189
	Yes	1201	2147	618	2259
		F=11.15, d.f.=1 p<0.001		F=1.39, d.f.=1, p=0.238	
<u>Field Production Practices</u>					
Transplanted recom- mended variety	No	229	2020	116	2268
	Yes	1247	2199	738	2264
		F=18.02, d.f.=1 p<0.001		F=0.01, d.f.=1 p=0.938	
Tobacco followed grass sod	No	864	2110	404	2166
	Yes	617	2254	458	2349
		F=21.87, d.f.=1, p<0.001		F=30.34, d.f.=1 p<0.001	
Fertilized by soil test	No	1128	2139	665	2252
	Yes	350	2271	655	2305
		F=13.69, d.f.=1 p<0.001		F=3.07, d.f.=1 p=0.080	
Controlled insects in the field	No	278	1993	199	2116
	Yes	1204	2211	655	2305
		F=31.35, d.f.=1 p<0.001		F=23.24, d.f.=1 p=0.001	
Controlled weeds in the field*	No	--	--	107	2111
	Yes	--	--	756	2284
				F=11.74, d.f.=1 p=0.001	
Topped at time recommended	No	275	2212	204	2143
	Yes	1207	1986	665	2304
		F=33.61, d.f.=1 p<0.001		F=16.94, d.f.=1 p<0.001	
<u>Harvesting and Marketing Practices</u>					
Harvested at time recommended	No	299	2022	179	2049
	Yes	1182	2209	683	2319
		F=24.55, d.f.=1 p<0.001		F=44.49, d.f.=1 p<0.001	
Housed as recommended	No	377	2061	292	2202
	Yes	1104	2209	564	2297
		F=17.96, d.f.=1 p<0.001		F=7.11, d.f.=1 p=0.008	
Marketed as recommended	No	442	2186	145	2060
	Yes	1039	2143	685	2303
		F=2.40, d.f.=1 p=0.122		F=29.70, d.f.=1 p<0.001	

*Not included in 1973 survey

per acre except the practice of controlling disease in the plant bed in 1978. There was no significant relationship between those controlling disease in the plant bed in 1978 and yield per acre. Data does, however, indicate that those burley producers that utilized plant bed practices had a significantly higher yield than those who were not using these practices.

Field Production Practices

Those producers that did use those practices dealing with field production had a mean yield range from a low of 1986 pounds per acre to a high of 2271 pounds per acre in 1973 compared to a low of 2264 pounds per acre to a high of 2349 pounds per acre in 1978 (see Table XVIII). The F-test indicated a significant relationship between the use of each field production practice and yield per acre. In 1978, the use of each field production practice was significantly related to yield except transplanting recommend varieties and fertilizing according to soil test recommendations. Producers that utilized field production practices had significantly higher yield per acre than those not using the practices. There was an increase in the yield per acre from 1973 to 1978.

Harvesting and Marketing Practices

The mean yield range for those producers using the group of practices dealing with harvesting and marketing in 1973 went from a low of 2143 pounds per acre to a high of 2209 pounds per acre. In 1978, the range went from a low of 2297 pounds per acre to a high

of 2319 pounds per acre (see Table XVIII). The practice of marketing as recommended was not significantly related to yield per acre in 1973. All other practices within this group were significantly related (.05 level) to the yield per acre. The use of all harvesting and marketing practices were significantly related (.05 level) to the yield per acre in 1978. Those producers that utilized harvesting and marketing practices had significantly higher yield than those not using the practices.

II. NUMBER OF CONTACTS PRODUCERS HAD WITH EXTENSION AGENTS AND YIELD PER ACRE IN 1978

Findings are summarized in Section II regarding the relationships between yield per acre and the number of contacts of various types (i.e. meetings, office visits, telephone calls and farm visits) burley tobacco producers reported having with Extension Agents. Results of one-way analysis of variance are summarized for each type of contact in Table XIX. Major findings are presented below in subsections regarding each type of contact.

Tobacco Meetings Attended

About 82 percent of all the producers had not attended an Extension tobacco meeting within the past 12 months. The mean yield per acre for those producers was 2274 pounds. One hundred and fifty producers attended 1 tobacco meeting and had a mean yield of 2219. Seven producers had a mean yield of 2519 and attended only 2 tobacco meetings. Only three producers attended three or more meetings.

Table XIX

Relationships Between The Number Of Contacts Burley Producers
Had With Extension Agents And Yield Per Acre In 1978

Number and Types of Extension Contacts	Number of Producers	Yield (lbs.) Per Acre
Tobacco Meeting Attended		
0	716	2274
1	150	2219
2	7	2519
3	1	2150
6	1	2100
9	1	2916
Total	876	2267
	F=1.07	p=0.38
Office Visits Made		
0	375	2257
1	185	2301
2	124	2286
3	63	2163
4	51	2332
5	22	2314
6	28	2224
7	5	2776
8	6	2072
9	1	1848
10	6	1771
12	7	2262
15	1	2000
20	1	2700
25	1	2575
Total	876	2267
	F=1.43	p=0.13

Table XIX (cont'd)

Number and Types of Extension Contacts		Number of Producers	Yield (lbs.) Per Acre
Telephone Calls Made			
	0	343	2228
	1	160	2333
	2	141	2276
	3	68	2273
	4	61	2246
	5	26	2434
	6	38	2308
	7	3	2474
	8	8	1867
	9	1	1848
	10	9	2220
	11	1	2809
	12	7	2224
	15	5	2403
	20	2	1600
	25	3	2450
Total		876	2267
		F=1.4	p=0.14
Farm Visits Received			
	0	370	2252
	1	202	2286
	2	123	2345
	3	66	2293
	4	55	2255
	5	21	2241
	6	20	2178
	7	1	2462
	8	9	1725
	9	2	2475
	10	2	1950
	12	3	2374
	15	1	1475
	20	1	1200
Total		876	2267
		F=1.9	p=0.03

There was not a significant relationship between the number of tobacco meetings attended by burley producers and their yield per acre.

Visits Made to the Extension Office

Almost 43 percent of the producers had not visited the Extension office within the past year. Although the data suggested a slight increase in yield per acre among producers who made a larger number of visits to the Extension office, these observed differences were not significant at the .05 probability level.

Telephone Calls Made to the Extension Office

Just over 39 percent of the burley tobacco producers had not made any telephone calls to the Extension office within the last year. The number of calls made per producer ranged from none to a high of 25 and average yield per acre by contact groups ranged from 1600 pounds to just over 2800 pounds. Data indicated no significant relationship between the number of telephone calls to the Extension office and the yield per acre. The mean yield did not consistently increase as the number of telephone calls increased.

Farm Visits Received from Extension Agents

Over 42 percent of the producers had not received a farm visit from an Extension Agent during the past 12 months. At least 1 producer reported receiving 20 farm visits. A significant relationship was found between farm visits received and yield per acre.

III. USE OF RECOMMENDED PRACTICES, YIELD PER ACRE AND PRODUCERS' FEELINGS ABOUT HELP RECEIVED FROM EXTENSION AGENTS

Findings are presented in this section regarding the number of recommended practices used and yields per acre as influenced by the producers' feelings about the kind, amount and quality of help received over the past 12 months from Extension Agents. The analysis of variance F-test was used to test the significance of difference in mean yield and mean number of practices used among various classes of producers in regard to their feelings about help received from Extension Agents. Findings were organized and are presented below in three subsections regarding feelings about the kind, amount and quality of help received.

Kind of Help Received

Burley tobacco producers who reported receiving the kind of help wanted were using a significantly larger number of the recommended practices than those who had no contact or felt they did not receive the kind of help wanted from Extension Agents (see Table XX). However, yield per acre did not differ significantly as to producers' feelings about kind of help.

Amount of Help Received

Producers who reported receiving the amount of help wanted from Extension Agents were using a significantly larger number of the recommended practices than those who were not receiving the amount of help wanted. Yield per acre, however, was not influenced by their feelings about the amount of help received (see Table XX).

Table XX

Relationships Between Producers' Feelings About The Help Received
from Extension Agents and The Number Of Recommended Practices
Used And Yields Per Acre In 1978

Feeling about Help Received from Extension	No. of Practices Used		Yield/Acre Pounds	
	N	Mean	N	Mean
Received kind of help wanted				
*DNA	265	0.98	251	2245
No	10	5.3	10	2268
Yes	667	8.1	615	2276
	F=106.3 d.f.=2	p=0.001	F=0.37 d.f.=2	p=0.69
Received amount of help wanted				
*DNA	264	0.98	250	2247
No	11	4.4	11	2255
Yes	667	8.1	615	2276
	F=106.4 d.f.=2	p=0.001	F=0.32 d.f.=2	p=0.73
Received quality of help wanted				
*DNA	263	0.98	249	2248
Poor	2	2.0	2	2086
Fair	12	2.10	12	2345
Good	392	6.6	362	2295
Excellent	273	10.4	251	2244
	F=71.4 d.f.=4	p=0.001	F=0.66 d.f.=4	p=0.62

*Did not answer or does not apply.

Quality Help Received

The producers' feelings about the quality of help received from Extension Agents were measured in terms of poor, fair, good and excellent. Producers who did not have any contacts or who did not respond were classified as "does not apply." Data analysis indicated that producers who had a more positive feeling about the quality of help received from Extension were using a significantly larger number of practices than those producers who felt that they received lower quality of help from Extension Agents. As was true with the producers' feelings about the kind and amount of help received, their feelings about the quality of help received did not influence yield per acre of tobacco produced.

IV. USE OF RECOMMENDED PRACTICES AND NUMBER OF CONTACTS PRODUCERS HAD WITH EXTENSION AGENTS

Section IV presents data regarding the relationship between the use of the 15 recommended burley tobacco production practices and the number of contacts the burley producers had with Extension. In this section, burley producers are classified as users and non-users of each of the 15 recommended practices and compared to the number of tobacco meetings attended, the number of Extension office visits made, the number of telephone calls made to the Extension office, the number of farm visits received from Extension Agents and the total number of contacts made during the year.

Controlled Weeds in Plant Bed

Seven hundred and two of the 881 burley tobacco producers used this recommended practice in the production of their 1978 burley crop. Producers using the practice attended a significantly larger number of tobacco meetings, made a larger number of office visits and telephone calls and received a larger number of farm visits from Extension Agents than those not using the practice (see Table XXI). However, the total number of farm visits received from Extension Agents did not differ significantly among producers who were and those who were not using this practice.

Fertilized Plant Bed

Five hundred and seventy-six of the 885 producers who responded followed the recommended practice regarding the fertilization of plant beds. Those producers following this practice attended more tobacco meetings, made more office visits and telephone calls to the Extension office and received more farm visits from Extension personnel than those producers not using the practice. The number of tobacco meetings, office visits, telephone calls made to the Extension office and farm visits made by Extension differed significantly among those using this practice as compared to those not using the practice. Producers who were using the practice made significantly more contacts with the Extension Agents.

Used Recommended Amount of Seed

Seven hundred and forty-nine of the 889 producers who responded planted the recommended amount of seed. The producers using this

Table XXI

Relationship Between Use of Recommended Burley Production Practices and Number of Extension Contacts in 1978

Name of Recommended Practice	Type of Extension Contacts							
	Tobacco Meetings		Visits to Office		Telephone Calls		Farm Visits	
	N	Mean	N	Mean	N	Mean	N	Mean
Controlled weeds in plant bed								
No	179	.12	179	1.23	179	1.58	179	1.35
Yes	702	.25	702	1.77	702	2.11	702	1.49
	$F=7.51$	$p=0.01$	$F=6.64$	$p=.01$	$F=4.54$	$p=.03$	$F=.76$	$p=.38$
Fertilized plant beds								
No	309	.16	309	1.44	309	1.64	309	1.20
Yes	576	.25	576	1.79	576	2.24	576	1.60
	$F=5.94$	$p=0.02$	$F=3.90$	$p=.05$	$F=6.10$	$p=.005$	$F=6.14$	$p=.004$
Sowed recommended amount of seed								
No	140	.12	140	1.37	140	1.60	140	1.15
Yes	749	.24	749	1.71	749	2.09	749	1.48
	$F=4.93$	$p=0.03$	$F=2.23$	$p=.14$	$F=3.14$	$p=.08$	$F=3.44$	$p=.06$
Controlled plant bed insects								
No	80	.18	80	1.15	80	1.24	80	1.39
Yes	739	.24	739	1.76	739	2.11	739	1.44
	$F=.80$	$p=.37$	$F=4.17$	$p=.04$	$F=5.87$	$p=.02$	$F=.05$	$p=.82$
Controlled disease in plant bed								
No	78	.33	78	1.12	78	1.47	78	1.32
Yes	680	.22	680	1.73	680	2.05	680	1.43
	$F=2.62$	$p=0.11$	$F=4.44$	$p=.04$	$F=2.72$	$p=.10$	$F=.22$	$p=.64$
Transplanted Recommended variety								
No	125	.22	125	1.28	125	1.64	125	1.27
Yes	795	.21	795	1.68	795	2.04	795	1.47
	$F=.05$	$p=.83$	$F=3.08$	$p=.08$	$F=2.09$	$p=.15$	$F=1.03$	$p=.31$
Tobacco followed grass sod								
No	448	.18	448	1.45	448	1.71	448	1.40
Yes	480	.24	480	1.80	480	2.25	480	1.47
	$F=3.30$	$p=0.07$	$F=4.34$	$p=.04$	$F=7.92$	$p=.01$	$F=.31$	$p=.58$
Fertilized by soil test								
No	724	.20	724	1.50	724	1.77	724	1.30
Yes	209	.30	209	2.11	209	2.83	209	1.89
	$F=2.80$	$p=0.10$	$F=10.5$	$p=.001$	$F=21.2$	$p=.001$	$F=15.2$	$p=.001$
Limed by soil test								
No	704	.20	704	1.52	704	1.74	704	1.30
Yes	208	.30	208	2.09	208	2.96	208	1.96
	$F=3.90$	$p=0.05$	$F=8.4$	$p=.004$	$F=27.9$	$p=.001$	$F=18.5$	$p=.001$
Controlled insects in field								
No	219	.12	219	1.16	219	1.29	219	1.19
Yes	701	.24	701	1.78	701	2.20	701	1.50
	$F=8.1$	$p=.005$	$F=10.5$	$p=.001$	$F=16.4$	$p=.001$	$F=4.18$	$p=.04$
Controlled weeds in field								
No	112	.13	112	1.55	112	1.92	112	1.67
Yes	817	.22	817	1.66	817	2.01	817	1.40
	$F=2.7$	$p=.10$	$F=.18$	$p=.68$	$F=0.10$	$p=.75$	$F=1.78$	$p=.18$
Topped at recommended time								
No	224	.13	224	1.20	224	1.52	224	1.10
Yes	710	.24	710	1.80	710	2.15	710	1.54
	$F=5.9$	$p=.02$	$F=9.3$	$p=.002$	$F=7.93$	$p=0.01$	$F=8.24$	$p=.004$
Harvested at recommended time								
No	207	.16	207	1.52	207	2.00	207	1.30
Yes	720	.23	720	1.68	720	2.01	720	1.47
	$F=.05$	$p=.11$	$F=.67$	$p=.41$	$F=.01$	$p=.94$	$F=1.16$	$p=.28$
Housed at recommended time								
No	330	.19	330	1.52	330	1.96	330	1.29
Yes	590	.23	590	1.70	590	2.03	590	1.51
	$F=1.1$	$p=.30$	$F=1.03$	$p=.31$	$F=.11$	$p=.74$	$F=2.60$	$p=.11$
Marketed at recommended time								
No	160	.20	160	1.26	160	1.46	160	.98
Yes	734	.21	734	1.72	734	2.13	734	1.55
	$F=.05$	$p=.82$	$F=4.44$	$p=.04$	$F=6.58$	$p=.01$	$F=10.7$	$p=.001$

*The degree of freedom was one for all statistical tests shown in this table.

practice attended a larger number of tobacco meetings, made more office visits and telephone calls to the Extension office and had more farm visits from Extension agents than those producers not using the practice. However, the number of office visits and telephone calls to the Extension office and the number of farm visits by Extension Agents did not differ significantly from those using the practice as compared to those not using this practice.

Controlled Plant Bed Insects

Only 80 percent of the 819 producers surveyed indicated they did not control plant bed insects. The producers that used this recommended practice (i.e. 739 of them) attended more tobacco meetings, made more visits and telephone calls to the Extension office and received a larger number of farm visits from Extension Agents than those not using the practice. The number of tobacco meetings and the total number of farm visits by Extension Agents did not differ significantly from those using the practice compared to those not using this practice. However, the number of office visits and telephone calls to the Extension office did differ significantly for those using the practice when compared to those not using this same practice. Producers that used this recommended production practice made significantly more visits and telephone calls to the Extension office.

Controlled Plant Bed Disease

Over 80 percent (680) of the 758 producers indicated that they controlled disease in the plant bed. Seventy-eight of the

producers did not use this practice. The producers who used this recommended practice attended more tobacco meetings, made more visits and telephone calls to the Extension office and received a larger number of farm visits from Extension personnel than did those not using the practice. The mean number of Extension tobacco meetings attended was higher for those producers not using this recommended production practice. However, the number of tobacco meetings attended by producers, the number of telephone calls made to the Extension office, the number of farm visits received from Extension agents, and the use of the practice was not significantly related. Producers that controlled disease in the plant bed made significantly more visits to the Extension office.

Used Recommended Variety

Seven hundred and ninety-five of the 920 producers interviewed indicated they transplanted a recommended variety. The producers using the practice attended more tobacco meetings, made more visits and telephone calls to the Extension office and received more farm visits from Extension personnel than those that did not use the practice. The mean number of Extension tobacco meetings attended was higher for those not using the practice. The number of contacts producers had with Extension, tobacco meetings, office visits, telephone calls or farm visits were not significant at the .05 probability level for those using the practice as compared to those not using the practice.

Tobacco Followed Grass Sod

Of the 928 producers, 480 of the respondents planted their tobacco following grass sod. Those producers using this recommended practice attended more tobacco meetings, made more visits and telephone calls to the Extension office and received more farm visits from Extension Agents than those not using the practice. The number of Extension tobacco meetings attended and the number of farm visits received from Extension Agents did not differ significantly for those using the practice compared to those not using the practice. However, the number of visits and telephone calls made to the Extension office were significantly higher for the producers who were using this practice.

Fertilized by Soil Test

Less than 25 percent (209) of the 933 tobacco producers used the recommended production practice of fertilizing according to a soil test. The producers (209) who used the practice attended more tobacco meetings, made more visits and telephone calls to the Extension office and received more farm visits from Extension personnel than those not using the practice. Producers who fertilized according to soil test, compared to those who did not, made significantly more visits and telephone calls to the Extension office and received significantly more farm visits from Extension Agents. Tobacco meetings attended by producers was the only Extension contact method not significantly related to fertilizing tobacco as recommended by soil test.

Limed by Soil Test

Two hundred and eight of the 912 producers responding used the practice of liming according to soil test. The 208 producers that used this practice attended significantly more tobacco meetings, made more visits and telephone calls to the Extension office and received more farm visits from Extension Agents than did those not using this practice.

Controlled Insects in Field

Seven hundred and one of the 920 producers used the recommended production practice of controlling insects in the field. Producers who used the practice attended significantly more tobacco meetings, made more visits and telephone calls to the Extension office and received more farm visits than those producers not using the practice.

Controlled Weeds in the Field

A majority (817) of the tobacco producers used the recommended production practice of controlling weeds in the field in their 1978 tobacco crop. Only 112 of the 929 producers had not controlled weeds. Although a large number of producers used the practice, they received less farm visits on the average from Extension Agents than those not using the practice. Producers using the practice attended more tobacco meetings and made more visits and telephone calls to the Extension office than those not using the practice. However, none of the Extension contact methods were significantly related to the use of this production practice.

Topped at Recommended Time

Seven hundred and ten of the producers responding topped their 1978 tobacco crop at the recommended time as compared to 224 of the 934 producers that did not follow this practice. Those producers using this practice attended more tobacco meetings, made more visits and telephone calls to the Extension office and received more farm visits from Extension Agents than those not using the practice. These differences were significant for all contact methods.

Harvested at Recommended Time

Seven hundred and twenty of the 927 producers harvested their 1978 tobacco crop at the recommended time, whereas 207 producers did not. Those producers using this practice attended more tobacco meetings, made more visits and telephone calls to the Extension office and received more farm visits from Extension Agents than those not using this practice. However, none of the Extension contact methods were significantly related to the use of this recommended production practice.

Housed at Recommended Time

Less than 50 percent (590) of the 920 producers indicated they had housed their 1978 tobacco crop at the recommended time. Three hundred and thirty of the producers did not use this practice. The producers who used this practice attended more tobacco meetings, made more visits and telephone calls to the Extension office and received more farm visits from Extension Agents than those not using the practice. However, none of the contact methods were significantly related to the use of this recommended production practice.

Marketed at Recommended Time

A vast majority (734) of the 894 producers indicated that they followed the practice of marketing their 1978 tobacco crop at the recommended time. One hundred and sixty producers did not follow this practice. The number of visits and telephone calls and the number of farm visits received from Extension Agents was significantly related (.05 level) to marketing at the recommended time. However, the number of tobacco meetings attended was not significantly related to the use of this practice.

V. FEELINGS ABOUT HELP RECEIVED FROM EXTENSION AND THE NUMBER OF CONTACTS THE PRODUCERS HAD WITH THE AGENTS

This section presents findings regarding the number of contacts producers reported having over a 12-month period with Extension Agents and the producers' feelings about the kind, amount and quality of help received from the Agents. These findings presented in Table XXII were organized into 3 subsections presenting findings regarding each of the 4 types of contacts.

Contacts and Kind of Help

Received the kind of help wanted from tobacco meetings. Burley producers who indicated "no" they did not receive the kind of help wanted from tobacco meetings attended a higher mean number than those indicating "yes." Those indicating "no" attended a mean of .3 tobacco meetings and those producers indicating "yes" attended .28 tobacco

Table XXII

Relationships of the Responses Burley Producers Made Regarding the Kind, Amount and Quality of Help They Received through Extension Contacts in 1978

Feeling About Help Received From Extension	Tobacco Meetings		Office Visits		Telephone Calls		Farm Visits		Total Contacts	
	N	Mean	N	Mean	N	Mean	N	Mean	N	Mean
Received kind of help wanted										
*DNA (no contact)	265	.04	265	.19	265	1.10	265	.32	265	8.9
No	10	.30	10	1.0	10	2.42	10	1.60	10	8.7
Yes	667	.28	667	2.2	667	3.17	667	1.88	667	10.5
	**F=18.7	p=.001	F=73.9	p=.001	F=70.6	p=.001	F=66.2	p=.001	F=34.9	p=.001
Received amount of help wanted										
DNA (no contact)	264	.39	264	.59	264	1.10	264	1.02	264	8.9
No	11	.50	11	1.04	11	2.48	11	1.33	11	8.6
Yes	667	.59	667	2.71	667	3.17	667	2.12	667	10.5
	**F=18.5	p=.001	F=73.8	p=.001	F=70.3	p=.001	F=66.4	p=.001	F=35.1	p=.001
Received quality of help wanted										
DNA (no contact)	263	.04	263	.59	263	.30	263	.31	263	2.8
Poor	2	.50	2	.71	2	.50	2	.50	2	0.7
Fair	12	.08	12	.67	12	1.25	12	1.00	12	2.9
Good	392	.19	392	2.46	392	2.22	392	1.49	392	2.6
Excellent	273	.41	273	2.93	273	3.35	273	2.48	273	2.6
	***F=16.8	p=.001	F=47.6	p=.001	F=43.8	p=.001	F=47.8	p=.001	F=17.9	p=.001

*DNA = did not answer or does not apply.

**Degrees of freedom for kind and amount of help were 2 for each contact method.

***Degrees of freedom for quality of help were 4 for each contact method.

meetings. The kind of help received was significantly related to the number of tobacco meetings burley tobacco producers attended during 1978.

Received the kind of help wanted from office visits. The 667 producers (71 percent) who indicated they received the kind of help wanted made an average of 2.2 visits to the Extension office over a 12-month period. Those who said they did not receive the help wanted made an average of 1.0 visits to the Extension office during the 12-month period. The kind of help received was significantly related to the number of visits producers made to the Extension office during the 12-month period.

Received the kind of help wanted from telephone calls. Burley producers (71 percent) who felt they received the kind of help they wanted also made the highest number of telephone calls to the Extension office. These producers made a mean of 3.2 telephone calls compared to 2.4 telephone calls for those that did not receive the help they wanted. These difference were significant at the .05 level. Producers who made more telephone calls to the Extension office were more highly pleased with the kind of help they received.

Received the kind of help wanted from farm visits. Extension Agents made a mean of 1.9 visits to those producers who said they received the kind of help they wanted compared to 1.6 visits to those that indicated they did not receive the help they wanted from farm visits. The kind of help received was significantly related to the

number of farm visits received from Extension Agents. Producers who received more farm visits were better satisfied with the kind of help they received.

Received the kind of help wanted from total contacts. Burley producers receiving the kind of help they wanted had a mean of 10.5 contacts with Extension during the 12-month period. Those producers indicating they did not receive the kind of help wanted had 8.7 contacts with Extension. A significant relationship was found between the total number of contacts producers had with Extension and their satisfaction with the kind of help they received.

Contacts and Amount of Help

Received the amount of help wanted from tobacco meetings. Burley producers who indicated "yes" they received the amount of help they wanted from tobacco meetings attended a higher mean number of tobacco meetings than those indicating "no." Those indicating "yes" attended a mean of .6 tobacco meetings and those producers indicating "no" attended a mean of .5 tobacco meetings. The amount of help received was significantly related to the number of tobacco meetings burley tobacco producers attended in 1978.

Received the amount of help wanted from office visits. Producers receiving the amount of help wanted made an average of 2.7 visits to the Extension office during the 12-month period. Those producers not receiving the amount of help wanted made a average of 1.0 office visits.

The amount of help received was significantly related to the number of visits made to the Extension office. Producers who received the amount of help wanted had made significantly more visits to the Extension office than producers who wanted more help than they received.

Received the amount of help wanted from telephone calls. Producers indicating "yes" they received the amount of help wanted made 3.2 telephone calls to the Extension office during the 12-month period. Those producers indicating "no" they did not receive the amount of help wanted made 2.5 telephone calls to the Extension office. A significant relationship was found between producers receiving the amount of help wanted and the number of telephone calls they made to the Extension office. Producers who received the amount of help wanted made significantly more telephone calls to the Extension office than those who wanted more help.

Received the amount of help wanted from farm visits. Burley producers who said they received the amount of help wanted received an average of 2.1 farm visits from Extension Agents compared to 1.3 farm visits received by those who said "no" they did not receive the amount of help they wanted. The amount of help producers received from Extension was significantly related to the number of farm visits they received from Extension Agents. Producers who received more farm visits from Extension Agents were better satisfied with the amount of help they received.

Received the amount of help wanted from total contacts. Burley producers receiving the amount of help wanted had a mean of 10.5 total contacts with Extension during the 12-month period. Producers not receiving the amount of help wanted had a mean of 8.6 total contacts with Extension. Producers' satisfaction with the amount of help received was significantly related to the total number of contacts they had with Extension. Producers who had more total contacts with Extension tended to be better satisfied with the amount of help they received from Extension.

Contacts and Quality of Help

Received quality of help wanted from tobacco meetings. Twenty-nine percent of the burley producers indicated the quality of help they received from Extension meetings as excellent. Those producers attended an average of .4 tobacco meetings during the 12-month period. Producers who rated the quality of help received as good attended an average of .2 tobacco meetings. Only 12 producers rated the quality of help received as fair and they attended an average of .1 tobacco meetings. Those producers rating the quality of help received as poor attended an mean of .5 tobacco meetings. Producers' rating of quality of help received was significantly related to the number of tobacco meetings they attended.

Received the quality of help wanted from office visits. Burley producers who indicated receiving the quality of help wanted as "excellent" made an average of 2.9 visits to the Extension office

during the 12-month period. Those rating the quality of help wanted as "good" visited the Extension office an average of 2.5 times. Producers rating the quality of help wanted as "fair" made an average of .7 visits. Those producers indicating "poor" for the quality of help wanted made an average of .7 visits to the Extension office. A significant relationship was found between producers receiving the quality of help wanted and the number of visits made to the Extension office. Producers who rated the quality of help received as being low (i.e. fair, poor) made fewer visits to the Extension office than those who rated the quality of help received as "good" or "excellent".

Received the quality of help wanted from telephone calls. Producers who rated the quality of help received from Extension as "excellent", "good," "fair" and "poor" made 3.4, 2.2, 1.3 and 0.5 telephone calls respectively to the Extension office. A significant relationship was found between the quality of help wanted and the number of telephone calls they made to the Extension office. Producers who rated the quality of help they received from Extension as being low generally did not telephone the Extension office very often whereas those who felt they received good or excellent quality of help telephoned the Extension office from 2 to 3 time a year.

Received the quality of help wanted from farm visits. Burley producers who indicated receiving the quality of help wanted as "excellent", "good," "fair" and "poor" received 2.5, 1.5, 1.0 and 0.5 farm visits from Extension Agents, respectively. A significant

relationship was shown between the number of farm visits received by producers and the quality of help they felt they received. Those producers who received fewer farm visits from Extension Agents tended to rate the quality of help received lower than those producers receiving a larger number of farm visits.

Received quality of help wanted from total contacts. Burley producers who indicated receiving the quality of help wanted as "excellent," "good," "fair" and "poor" had a total mean number of contacts with Extension of 2.6, 2.6, 2.9 and 0.7, respectively, during the 12-month period. The F-test showed significant relationship between producers having received the quality of help wanted from Extension and the total number of contacts they had with Extension during the year. Producers who rated the quality of help received as high also had a larger number of total contacts with Extension during the 12-month period.

VI. SUMMARY

Findings regarding relationship between quantitative variables regarding selected characteristics of burley tobacco producers showed that a significantly higher yield was achieved by those producers that utilized nearly all of the production practices. This was true for both 1973 and 1978. In all but three cases (topping at recommended time in 1973, marketing as recommended in 1973, transplanting recommended varieties in 1978) those burley producers that

utilized the recommended production practices had higher yields than those not using the practice.

Yield per acre was not significantly related to the number of contacts producers had with Extension. Data indicate that those producers using a higher average number of practices had a better feeling about the kind, amount and quality of help received from Extension. There also was a trend toward those producers receiving the kind, amount and quality of help wanted to have higher yields. In a majority of cases the burley producers that utilized recommended production practices had more contact (tobacco meetings, visits and telephone calls to the Extension office and farm visits received from Extension) with Extension. Also, those producers that had more contact with Extension were more satisfied with the kind, amount and quality of help received.

CHAPTER V
SUMMARY OF MAJOR FINDINGS, IMPLICATIONS
AND RECOMMENDATIONS

The major purpose of the study was to characterize Tennessee burley tobacco producers as to their farm tenure status, their use of recommended production practices, yields per acre of tobacco produced, contacts they had with Extension Agents and their feelings about the kind, amount and quality of help they received from Extension Agents. Another purpose was to determine the relationships between variables used to characterize the producers and selected producers and Extension contact variables.

Data regarding the above mentioned characteristics of burley tobacco producers were obtained through random sample surveys (i.e. the nth number techniques was used) conducted by County Extension Agents in 1973 and 1978. A total of 1577 burley tobacco producers in 56 Tennessee counties was interviewed in 1973 and 942 producers from 39 counties were interviewed in 1978.

Data were computerized and computations were made by The University of Tennessee, Knoxville Computing Center. Both descriptive and inferential statistics were used in the analysis and summary of data. The Chi Square test was used to test associations between qualitative variables. One-way analysis of variance statistic was used to test the association between two quantitative variables and between one qualitative variable and a quantitative variable. Chi

Square values and F values which achieved the 0.5 level were considered to be significant.

I. MAJOR FINDINGS

Major findings were classified and presented under headings related to the objectives of the study.

Tenure of Burley Tobacco Producers

1. In 1978, over 70 percent of the burley producers were producing burley tobacco on land that they owned. Classes of tenure studied included that of owner, renter, share of crop or partner.

2. An average of 13 percent of the burley tobacco producers grew burley tobacco by combinations of 2 or more tenure status.

3. Only minor changes were found in the tenure status of burley producers between 1973 and 1978.

Contacts Burley Producers Had with Extension Agents in 1978

1. Eighty-one percent of the burley producers did not attend even 1 tobacco meeting and less than 1 percent of the producers attended 2 or more tobacco meetings whereas all burley producers attended an average of less than 1 tobacco meeting per producer.

2. Forty-two percent of the producers did not make any visits to the Extension office although among the producers 1543 visits were made to the Extension office for an average of 1.6 visits per producer.

3. Thirty-eight percent of the producers did not make any telephone calls to the Extension office although all burley producers made an average of 2 telephone calls to the Extension office.

4. Forty-two percent of the burley tobacco producers did not receive any farm visits from an Extension Agent whereas all producers received an average of 1.4 farm visits.

Number and Percent of Burley Producers Using Recommended Burley Production Practices in 1973 and 1978

1. Over 70 percent of the burley producers utilized plant bed practices in both 1973 and 1978.

2. Fewer producers fertilized the plant bed according to recommendations. A higher proportion of producers controlled plant bed diseases and were growing tobacco following grass sod in 1978 than in 1973.

3. In both test years, less than 25 percent of the producers were fertilizing or liming according to soil test recommendations.

4. A higher portion of producers were using the recommended market preparation procedures and fewer producers housed their tobacco crop at the recommended time in 1978 than in 1973.

Low and High Practice Adoption Groups of Burley Producers Compared as to the Number of Contacts Made with Extension Agents in 1978

1. Among the 942 burley producers a total of 196 tobacco meetings were attended for an average of less than 1 meeting per producer. These producers were using an average of 48 production practices per tobacco meeting attended.

2. Among producers a total of 1523 visits to the Extension office was made for an average of 1.6 visits per producer. These producers were using an average of 6.2 production practices per visit made to the Extension office.

3. Among burley tobacco producers a total of 1852 telephone calls was made to the Extension office for an average of 2 telephone calls per producer. These producers were using an average of 5 production practices per telephone call made to the Extension office.

4. Among producers a total of 1261 farm visits was received from Extension Agents for an average of 1.3 per producer. These producers were using an average of 7.5 production practices per farm visit received.

Tenure Status and Use of Recommended Burley Production Practices in 1978

1. There was a significantly higher proportion of owners than others controlling weeds in the plant bed, fertilizing by soil test, sowing the recommended amount of seed, transplanting recommended varieties and using recommended marketing preparation procedures.

2. No practice within the groups of field production practices or harvesting and marketing practices were considered to be significantly related to tenure status.

3. Less than 24 percent of the producers (both owners and others) fertilized or limed according to soil test recommendations.

Tenure Status and Yield Per Acre

1. In 1973, 1160 (79 percent) of the burley producers were classified as owners and had a mean yield of 2146 pounds per acre compared to 310 (21 percent) burley producers classified as other (renter, shares, partner, combination) that had a mean yield of 2263 pounds per acre.

2. The 1978 survey showed that 608 (73 percent) of the burley producers were classified as owners and 221 were classified as other. The owners had a mean yield of 2257 pounds per acre while the others had a mean yield of 2296 pounds per acre.

3. There was a significant relationship between tenure status and yield per acre in 1973 but not in 1978 (owners tended to have higher yields).

Tenure Status and Feeling about Help Received from Extension

There was a significant relationship between burley producers receiving the kind, amount and quality of help wanted and their tenure status. A higher proportion of the owners than others receiving the kind, amount and quality of help they wanted from Extension.

Use of Recommended Burley Tobacco Production Practices and Yield Per Acre

1. Although the proportion of producers using recommended practices decreased from 1973 to 1978, there was an increase in yield per acre.

2. In a majority of cases, those producers who were using the groups of plant bed practices, field production practices and harvesting and marketing practices had significantly higher yields per acre than those not using these practices. However, producers' use of the practices of controlling disease in the plant bed, transplanting recommended varieties, fertilizing according to soil test recommendations and marketing as recommended were not significantly related to yield per acre.

Use of Recommended Practices and Number an Contacts Producers Had with Extension Agents in 1978

1. Producers using the recommended practices generally attended more tobacco meetings, made more visits and telephone calls to the Extension office and received more farm visits from Extension Agents than producers not using the practices. This was true in all cases except for the practices of fertilizing and liming according to soil test recommendations.

2. Only 112 of the 929 producers reportedly did not control weed in the field. Although a large number of producers used the practice, they received fewer farm visits from Extension Agents than those not using the practice.

3. Over 65 percent of the producers followed the production practice of topping at the recommended time. These producers had a larger number of contacts with Extension through all contact methods than those not using the practice.

4. Less than 50 percent of the burley producers housed their tobacco at the recommended time. No Extension contact method was significantly related to the use of this production practice.

5. Over 80 percent of the producers marketed their burley crop at the recommended time. All Extension contact methods were significantly related to marketing at the recommended time except the number of tobacco meetings attended.

Burley Producers' Feeling Regarding the Kind, Amount and Quality of Help Received from Extension and Number of Contacts with Extension

Burley producers that had more contact with Extension were generally better satisfied with the help received from Extension. This

was true in all cases except from producers receiving the kind of help wanted from tobacco meetings.

Number of Practices Used, Yield Per Acre and Producers' Feeling about Help Received from Extension

There was not a significant difference in yield per acre for those receiving the kind, amount and quality of help wanted from Extension as compared to those that did not receive the kind, amount and quality of help wanted. However, burley producers that received the kind, amount and quality of help wanted from Extension were using a significantly larger number of practices than those producers not receiving the kind, amount and quality of help wanted.

Extension Contacts and Yield Per Acre

1. Yield per acre did not consistently increase as the number of Extension contacts (tobacco meetings attended, visits and telephone calls to the Extension office and farm visits from Extension Agents) increased.

2. A total of 716 (81.7 percent) burley producers did not attend any tobacco meetings and had a mean yield of 2274 pounds per acre compared with all 876 producers that had a mean yield of 2267 pounds per acre. Data indicated that there was no significant relationship between the number of tobacco meetings attended and yield per acre. There were relatively few tobacco meetings held by Extension.

3. There were 375 (42.8 percent) producers that did not make any visits to the Extension office and had a mean yield of 2257 pounds per acre. There was no significant relationship between the number

of visits to the Extension office and yield per acre. Relatively few producers made the majority of visits that were made to the Extension office.

4. Almost 40 percent of the burley producers made no telephone calls to the Extension office and had a mean yield of 2228 pounds per acre. There was no significant relationship between the number of telephone calls to the Extension office and yield per acre.

5. There were 370 (42 percent) that received no farm visits from Extension Agents but had a mean yield of 2252 pounds per acre. There was no significant relationship between the number of farm visits producers received from Extension Agents and yield per acre.

Use of Recommended Practices and Feelings about the Kind, Amount and Quality of Help Received from Extension

1. Those burley producers who used a larger number of the recommended practices generally had a more positive feeling about the kind of help received from Extension than those producers using fewer practices. This was true in all cases except for the practice of controlling weeds in the field.

2. Burley producers who used a larger number of the recommended practices had a more positive feeling about the amount of help received from Extension than those producers using fewer of the practices. This was not true, however, for the practice of tobacco following grass sod.

3. Burley producers who used a larger number of the recommended practices had a more positive feeling about the quality of help received from Extension than those producers using fewer of the practices.

4. Even though less than 25 percent of the burley producers fertilized or limed according to soil test recommendations they still had a more positive feeling about the quality of help received from Extension than those not using these practices.

II. IMPLICATIONS

Data indicated that the majority of producers were producing burley tobacco on land they owned. Those producers classified as owners had more total contact with Extension and were better satisfied about the kind, amount and quality of help received from Extension than producers classified as others.

Tenure

Tenure status did not, however, differ as to yield per acre or use of recommended practices. Tenure may not be a good variable to characterize producers. It may be that there is a need for more categories that would help to separate producers as to need.

Contacts

A high percentage of Extension contacts was made by a relatively small percentage of producers that were already utilizing a high percentage of the recommended practices. Producers who had a relatively high contact with Extension generally had a positive feeling about the kind, amount and quality of help received from Extension Agents.

Yield

Findings from this study show that yield was neither influenced by the number of contacts burley producers had with Extension nor by the feeling producers had about the help they received. However, those producers that utilized a majority of recommended practices had higher yields than those who used only a few of the practices. Because of per acre quotas being changed to poundage quotas it is difficult to obtain reliable data regarding yield per acre. There seems to be a need to find better ways to get more valid and reliable methods of determining levels of production.

Practice Use

The majority of burley producers were using recommended production practices. As the use of recommended practices increased so did the satisfaction producers had about the kind, amount and quality of help received from Extension as well as the number of contacts they had with Extension and yield. There is, however, difficulty in accurately measuring the degree to which recommended practices are being used.

III. RECOMMENDATIONS

The following recommendations are based upon the belief that the findings of this study indicate that at least part of the data did not achieve the degree of reliability needed to adequately reflect the existing relationship between variables included in this study. The lack of significant relationships between yield per acre and use of

some of the recommended practices for example seem to suggest low reliability of data regarding yield and/or practice use. In view of these findings, the following recommendations are made for improving quality of data from tobacco surveys to be completed in later years.

Instrument for Measuring the Use of Recommended Practices, Yield Per Acre and Other Variables

The instrument for measuring practice use could be improved by:

1. Using the "yes" or "no" questions to measure practice use only when the practice in question is a true dichotomy (i.e. must be used completely on all the tobacco or not used at all).
2. Measure degrees of practice use in terms of the proportions of the tobacco crop upon which the practice was applied.

Yield per acre seems to be very difficult to measure accurately under conditions where the tobacco land often is not measured (i.e. allotments are presently on a poundage rather than the acreage basis. In view of this, it is recommended that Extension tobacco specialists be encouraged to search for new and acceptable indicators of returns from tobacco production.

It would appear that in order to be most useful to county staffs for planning educational programs and for measuring clientele progress the tobacco survey should seek to obtain more data regarding the producers' personal and family characteristics, the nature of the major farm enterprise and some data regarding future farming plans of the producers.

Survey Techniques for Obtaining Data

Findings regarding quality of the data seemed to indicate that at least some Extension Agents may not have followed acceptable interview procedures. This seems to suggest the desirability of placing increased emphasis upon training of county staffs regarding the philosophy, purposes and procedures for conducting clientele surveys as well as training regarding the utilization of data for planning and evaluating educational programs.

RELATED LITERATURE

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RELATED LITERATURE

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APPENDIX



THE AGRICULTURAL EXTENSION SERVICE, UNIVERSITY OF TENNESSEE
KNOXVILLE, TENNESSEE

1973 TENNESSEE BURLEY TOBACCO PRODUCTION SURVEY

Leave this column blank.

(1) _____
County (Use TEMIS code number)
(2) (3) (4) _____
Name of Producer _____
Address _____

A. General

(5) _____ 1. Tenure status (1=owner; 2=renter; 3=shares; 4=partner;
5=combination; and 6=other)
(6) (7) (8) (9) (10) _____ 2. 1973 burley tobacco quota (record actual pounds allotted)
(11) (12) (13) (14) (15) _____ 3. Pounds of burley tobacco harvested in 1972 (record actual
pounds)
(16) (17) (18) (19) _____ 4. 1972 burley tobacco yeild per acre (record estimated
pounds per acre yield for 1972)
_____ 5. Percent of 1972 harvested quota which was owned (record
(20) (21) (22) _____ estimated percent of total shown in #3 above)
_____ 6. Percent of 1972 harvested quota which was cash rented
(23) (24) (25) _____ (record estimated percent of total shown in #3 above)
_____ 7. Percent of 1972 harvested quota which was share rented
(26) (27) (28) _____ (record estimated percent of total shown in #3 above)

B. Practice Checklist

RECOMMENDED PRACTICE: (See corresponding number on Guide Sheet)
Practices are for the 1972 burley crop.
Directions: For each of the 13 practices listed below use the
following code: 0=does not apply or no response;
1=yes; 2=no. If 0 is used, please explain.

(29) _____ 1. Weeds were effectively controlled in the plant bed.
(30) _____ 2. Followed plant bed fertilization recommendations.

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RECOMMENDED PRACTICES (Continued)

3. Sowed recommended amount of seed.
(31)
 4. Controlled insects in the plant bed.
(32)
 5. Controlled diseases in the plant bed.
(33)
 6. Transplanted a recommended variety.
(34)
 7. Tobacco grown following grass or grass-legume sod.
(35)
 8. Fertilizer (including lime) applied according to soil
(36) test recommendations.
 9. Controlled insects effectively in the field.
(37)
 10. Tobacco topped at the appropriate time and suckers
(38) effectively controlled.
 11. Followed recommended harvesting practices.
(39)
 12. Followed recommended housing practices.
(40)
 13. Used recommended procedures in preparing tobacco for
(41) market and marketing.

C. Other Questions:

1. Total number of practices used (count and record the
(42) (43) number of yes answers to the 13 practices).
 2. Would you be interested in learning more about:
 a. Recommended tobacco production techniques (1=yes, 2=no)?
(44)
 b. Recommended handling and storage techniques (1=yes, 2=no)?
(45)
 c. Recommended tobacco marketing techniques (1=yes, 2=no)?
(46)
 d. Other (please specify) _____ (1=yes, 2=no)?
(47)

POSSIBLE LEAD QUESTIONS FOR BURLEY TOBACCO PRODUCTION SURVEY

(Questions Are Related to Corresponding Practice Number)

Plant Beds

1. A. What weed control material did you use? _____
 B. If methyl bromide, when did you apply? _____ fall _____ spring
2. A. How much fertilizer did you apply? (Calculate in terms of a standard plant bed 9 x 100 ft. or 100 sq. yds.) _____
 B. What kind of analysis was used (N-P-K)? _____
3. How much seed do you sow (9 x 100 ft. bed)? _____
4. A. What insects did you have problems with? _____
 B. What insecticide did you use? _____
5. A. What diseases did you have problems with? _____
 B. What fungicides did you have problems with? _____

Field Practices

6. What variety of tobacco did you grow last year? _____
7. What was the preceding crop? _____
8. A. How much fertilizer did you use per acre? _____ lbs.
 B. What kind of analysis was used (N-P-K)? _____
 C. Did you lime and how much per acre was used? _____
 D. Did you take a soil sample for tobacco production? _____ If yes, when was last sample taken? _____
 E. What were the soil test recommendations (N-P₂O₅, K₂O)? _____
 _____ Lime _____
 F. Who tested your soil (check soil test records in your office before interview and then confirm)? _____
 G. What rate of nitrogen did you use per acre? _____

- 2 -

9. A. What insects did you have problems with? _____
B. What insecticide did you use? _____
10. A. What percent bloom stage was tobacco when it was topped? _____
B. What method did you use to control suckers? _____ pulled with hand or
_____ controlled with chemicals?
C. If chemical, give name of material _____ and rate applied
per acre _____.
11. How did you decide when to start harvesting? _____
12. How soon was tobacco housed after harvesting? _____ hrs.
13. A. How did you decide when your tobacco was ready to strip? _____

B. How many grades did last year's crop have? _____
C. How did you store your tobacco from the time it was stripped until it was
placed on the market floor? _____
D. Were you satisfied with the grades placed on your tobacco by the Government
Inspector and price received? Yes _____ No _____ If no, why? _____

TENNESSEE AGRICULTURAL EXTENSION SERVICE

1978 Tennessee Burley Tobacco Production Survey
(See Instructions on Last Page)

Name of Respondent _____ Address _____

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

Part A - General Information *

- (5) 1. Tenure status (1=owner; 2=renter; 3=shares; 4=partner; 5=combination; and 6=other)
- (6) (7) (8) (9) (10) 2. 1978 burley tobacco quota (record actual pounds allotted)
- (11) (12) (13) (14) (15) 3. Pounds of burley tobacco harvested in 1978 (record actual pounds)
- (16) (17) (18) (19) 4. 1978 burley tobacco yield per acre (record pounds per acre yield for 1978)
- (20) (21) (22) (23) (24) 5. Pounds of 1978 harvested quota which were owned (record actual pounds)
- (25) (26) (27) (28) (29) 6. Pounds of 1978 harvested quota which were cash rented (record actual pounds)
- (30) (31) (32) (33) (34) 7. Pounds of 1978 harvested quota which were share rented (record actual pounds)

Part B - Lead Questions and Practice ChecklistPlant Beds - 1978 Crop

1. Lead Questions: a) What weed control material did you use? _____
b) If methyl bromide, when did you apply? _____
Fall _____, Spring _____ d) What percent of weeds were controlled? _____
e) What major weeds were not controlled? _____

(35) Recommended Practice #1: Weeds were effectively controlled in plant bed. (1 = no; 2 = yes)

* Coding Instructions:

1. All entries are right justified.
2. Fill each blank column.
3. A zero (0) = none
4. A nine (9) in each column = do not know, does not apply, or no response.

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2. Lead Questions: a) How much fertilizer did you apply? (Note: Calculate in terms of a standard plant bed 9x100 ft. or 100 sq.yds.)
 _____ b) What analysis was used (N-P-K)?
 _____.

(36) Recommended Practice #2: Followed plant bed fertilization recommendations (1 = no; 2 = yes)

3. Lead Question: How much seed did you sow (9 x 100 ft. bed)?
 _____.

(37) Recommended Practice #3: Sowed recommended amount of seed. (1 = no; 2 = yes)

4. Lead Questions: a) What insects did you have problems with? _____
 _____ b) What insecticide(s) did you use? _____.

(38) Recommended Practice #4: Controlled insects in plant bed (1 = no; 2 = yes)

5. Lead Questions: a) What disease(s) did you have problems with? _____
 _____ b) What fungicide(s) did you use? _____.

(39) Recommended Practice #5: Controlled disease in plant bed. (1 = no; 2 = yes)

Field Practices - 1978 Crop

6. Lead Question: What variety(s) did you grow in 1978? _____
 _____.

(40) Recommended Practice #6: Grew a recommended variety. (1 = no; 2 = yes)

7. Lead Questions: a) How long has it been (years) since a crop other than tobacco was grown on the land where you raised tobacco in 1978? _____
 _____ b) What crop preceded tobacco? _____.

(41) Recommended Practice #7: Tobacco grown following grass or grass-legume sod. (1 = no; 2 = yes)

8. Lead Questions: a) How much fertilizer did you use per acre? _____
 _____ b) What analysis was used (N-P-K)? _____
 c) Did you lime? Yes _____, No _____ d) If limed, how much per acre was used? _____
 _____ d) Did you take a soil sample? Yes _____, No _____
 e) If sample was taken, what were the soil test recommendations (N-P₂O₅ - K₂O)? #N _____, #P₂O₅ _____, #K₂O _____ f) Who tested your soil? _____
 _____ g) What rate of nitrogen (N) did you use per acre? _____.

(42) Recommended Practice #8A: Fertilizer (excluding lime) applied according to soil test recommendations. (1 = no; 2 = yes)

(43) Recommended Practice #8B: Lime applied according to soil test recommendations. (1 = no; 2 = yes)

9. Lead Questions: a) What insect(s) did you have problems with? _____ b) What insecticide(s) did you use? _____.

(44) Recommended Practice #9: Controlled insects effectively in the field. (1 = no; 2 = yes)

10. Lead Questions: a) What preplant and/or preemergence herbicide(s) did you use? _____ b) Rate per acre? _____ c) What overtop postemergence herbicide(s) did you use? _____ d) Rate per acre? _____ e) What directed postemergence herbicide(s) did you use? _____ f) Rate per acre? _____ g) Did you cultivate? Yes _____, No _____ h) If so, how many times? _____.

(45) Recommended Practice #10: Controlled weeds. (1 = no; 2 = yes)

11. Lead Questions: a) What percent bloom stage was tobacco when topped? _____ b) Was a chemical used to control suckers? Yes _____, No _____ c) If yes, what chemical was used? _____ d) Rate applied per acre? _____.

(46) Recommended Practice #11: Tobacco topped at the appropriate time and suckers effectively controlled. (1 = no; 2 = yes)

12. Lead Question: How many days after topping did you wait before cutting the tobacco? _____.

(47) Recommended Practice #12: Harvested at recommended stage of maturity. (1 = no; 2 = yes)

13. Lead Question: How soon was tobacco housed after cutting? _____ (hours).

(48) Recommended Practice #13: Followed recommended housing practice. (1 = no; 2 = yes)

14. Lead Questions: a) How did you decide when tobacco was ready to strip? _____ b) How many grades did you make from the 1978 crop? _____ c) How did you store tobacco between stripping and marketing? _____ d) Were you satisfied with the grades placed on your tobacco? Yes _____, No _____ e) Were you satisfied with the price received? Yes _____, No _____.

(49) Recommended Practice #14: Used recommended procedures in preparing tobacco for market and marketing. (1 = no; 2 = yes)

Agent's Comment: What is this farmer's biggest problem regarding tobacco production?

Part C - Additional Information

1. Over the past 12 months:

- (50) (51) a) How many Extension meetings (any subject) did you attend?
- (52) (53) b) How many Extension meetings on tobacco production did you attend?
- (54) (55) c) How many visits did you make to the Extension office?
- (56) (57) d) How many telephone calls did you make to the Extension office?
- (58) (59) e) How many visits did you receive from Extension Agents?

(60) 2. Would you be interested in attending Extension meetings this winter regarding burley tobacco production? (1 = no; 2 = yes)

3. The remaining questions deal with the kind, amount and quality of help you received from Extension meetings, office visits, telephone calls and/or farm visits over the past 12 months:

- (61) a) Did you get the kind of help you wanted? (0 = did not have any contact; 1 = no, definitely not; 2 = no, not really; 3 = yes, generally; 4 = yes, definitely)
- (62) b) Did you get the amount of help you wanted? (0 = did not have any contact; 1 = no, definitely not; 2 = no, not really; 3 = yes, generally; 4 = yes, definitely)
- (63) c) How would you rate the quality of service you received? (0 = did not have any contact; 1 = poor, 2 = fair, 3 = good, 4 = excellent)

Reference List for Tobacco Practice Recommended in 1978

Practices #1-#2 - See Publication 358, "Tobacco Production in Tennessee" and Burley Tobacco Facts for County Extension Agents

Practice #3 - See Publication 358.

Practice #4 - See SP 91, "Tobacco Pest Control."

Practice #5 - See SP 91 and Publication 358.

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- Practice #6 - See current bulletin "Performance Trials of Field Crop Varieties" by C. R. Graves, current mimeograph, "Recommended Burley Tobacco Varieties and Hybrids in Tennessee."
- Practice #7 - See Publication 358.
- Practice #8 - See current mimeograph, "Tentative Recommendations for Nitrogen, Phosphate and Potash Applications," current Publication 381, "Fertilizer Recommendations" and Publication 358.
- Practice #9 - See SP 91 and Publication 358.
- Practices #10-#11-#12 - See Publication 358.
- Practice #13 - See Publication 358 and Tobacco Facts for County Extension Agents.
- Practice #14 - See Publication 358.

General Instructions for 1978 Burley Tobacco Survey

1. Date Due: Completed survey forms are due on or before January 15, 1979.
2. Disposition: Mail completed survey forms to the Associate District Supervisors of Agricultural Programs.
3. Counties to be Surveyed:
 - A. Counties with 100 or more producers who grew burley tobacco in 1978.
 - B. Other counties may want to conduct the survey. However, counties with less than 100 producers may not be included in the state summary.
4. Sample Size:
 - A. Counties with 100 to 299 burley producers - interview 10 producers.
 - B. Counties with 300 to 499 burley producers - interview 20 producers.
 - C. Counties with 500 to 999 producers - interview 30 producers
 - D. Counties with 1000 to 3000 producers - interview 40 producers
 - E. Counties with over 3000 producers - interview 50 producers
5. Survey Population: All producers who grew burley tobacco in 1978.
6. Sampling Procedures:
 - A. Make a list of all producers who grew burley tobacco in 1978.
 - B. Apply the Nth number technique to identify those to be interviewed. Select alternates to replace producers who for some good reason cannot be interviewed or who did not raise burley tobacco in 1978.
7. Interview Procedure: The farmer's response to each lead question should be recorded in the space provided following the question. In view of the farmer's response to the lead question(s), the Agent makes the decision as to whether or not the farmer used the recommended practice. Then, the appropriate code number (e.g. 1 = no; 2 = yes) is entered in the card column blank provided for that practice.

VITA

Roger Dale Robinson was born in Buncombe County, North Carolina on July 23, 1955. He is the son of Mr. and Mrs. Kenneth D. Bowlin. He attended public schools in Buncombe and Gaston Counties and graduated from Ashbrook High School in Gastonia, North Carolina in June 1973.

He entered Gaston Community College in August 1973. After completing one year of Liberal Arts he transferred to Catawba Valley Technical Institute in Hickory, North Carolina where he completed four quarters in the Landscape Technology program. In August 1975 he entered Tennessee Technological University. He completed requirements for a Bachelor of Science degree in Agriculture in August 1977. He took the position of Assistant Extension Agent for the Agriculture Extension Service in Sumner County in October 1977. In 1978 he began graduate study in Agricultural Extension Education.

He is married to the former Catherine Elaine McRae of Clinton, Tennessee and they are expecting their first child in the Spring of 1982.