A study of the readability of University of Tennessee Agricultural Extension Service publications and leaflets for boys taking vocational agriculture in high school

David Enoch McPherson

Follow this and additional works at: https://trace.tennessee.edu/utk_gradthes

Recommended Citation

This Thesis is brought to you for free and open access by the Graduate School at TRACE: Tennessee Research and Creative Exchange. It has been accepted for inclusion in Masters Theses by an authorized administrator of TRACE: Tennessee Research and Creative Exchange. For more information, please contact trace@utk.edu.
To the Graduate Council:

I am submitting herewith a thesis written by David Enoch McPherson entitled "A study of the readability of University of Tennessee Agricultural Extension Service publications and leaflets for boys taking vocational agriculture in high school." I have examined the final electronic copy of this thesis for form and content and recommend that it be accepted in partial fulfillment of the requirements for the degree of Master of Science, with a major in Agricultural and Extension Education.

George W. Weigers, Jr., Major Professor

We have read this thesis and recommend its acceptance:

John W. Gilliland, Frank F. Bell

Accepted for the Council:

Carolyn R. Hodges

Vice Provost and Dean of the Graduate School

(Original signatures are on file with official student records.)
July 11, 1957

To the Graduate Council:

I am submitting herewith a thesis written by David Enoch McPherson entitled "A Study of the Readability of University of Tennessee Agricultural Extension Service Publications and Leaflets for Boys Taking Vocational Agriculture in High School." I recommend that it be accepted for nine quarter hours of credit in partial fulfillment of the requirements for the degree of Master of Science, with a major in Agricultural Education.

[Signature]
Major Professor

We have read this thesis and recommend its acceptance:

[Signatures]

Accepted for the Council:

[Signature]
Dean of the Graduate School
A STUDY OF THE READABILITY OF UNIVERSITY OF TENNESSEE AGRICULTURAL EXTENSION SERVICE PUBLICATIONS AND LEAFLETS FOR BOYS TAKING VOCATIONAL AGRICULTURE IN HIGH SCHOOL

A THESIS

Submitted to
The Graduate Council
of
The University of Tennessee
in
Partial Fulfillment of the Requirements
for the degree of
Master of Science

by

David Enoch McPherson

August 1957
ACKNOWLEDGEMENT

The writer wishes to express his thanks to all of those who assisted and cooperated with him in the progress of this study. Appreciation is expressed to all of the students taking Vocational Agriculture in the Nicholas Blackwell High School, Bartlett, Tennessee. This study was made possible by their whole-hearted cooperation.

The author wishes to acknowledge the help provided him by Mr. A. J. Sims, Editor in Chief, and Mr. S. F. Sweet, Associate Editor, of the Department of Information, University of Tennessee Agricultural Extension Service. Their assistance and encouragement were quite valuable in the development of this study.

Grateful appreciation is extended to the members of the author’s thesis committee for their assistance, especially to Dr. George W. Weigers, Jr., who served as chairman.
# TABLE OF CONTENTS

<table>
<thead>
<tr>
<th>CHAPTER</th>
<th>PAGE</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>I. INTRODUCTION</strong></td>
<td>1</td>
</tr>
<tr>
<td>Statement of the problem</td>
<td>1</td>
</tr>
<tr>
<td>Importance of the study</td>
<td>1</td>
</tr>
<tr>
<td>Scope of the study</td>
<td>4</td>
</tr>
<tr>
<td>Definition of terms</td>
<td>4</td>
</tr>
<tr>
<td>Method of procedure and sources of data</td>
<td>6</td>
</tr>
<tr>
<td>Review of related literature</td>
<td>11</td>
</tr>
<tr>
<td>Organization of the study</td>
<td>13</td>
</tr>
<tr>
<td><strong>II. ANALYSIS OF THE ABILITY OF THE STUDENTS</strong></td>
<td>14</td>
</tr>
<tr>
<td>Reading ability</td>
<td>14</td>
</tr>
<tr>
<td>Intelligence quotient</td>
<td>19</td>
</tr>
<tr>
<td>Scholastic zeal</td>
<td>20</td>
</tr>
<tr>
<td>Farm experience</td>
<td>21</td>
</tr>
<tr>
<td>Reading habits</td>
<td>21</td>
</tr>
<tr>
<td><strong>III. READABILITY OF PUBLICATIONS AND LEAFLETS</strong></td>
<td>27</td>
</tr>
<tr>
<td>A guide to farm fencing</td>
<td>27</td>
</tr>
<tr>
<td>Plan for electricity</td>
<td>35</td>
</tr>
<tr>
<td>Beef cattle in Tennessee</td>
<td>37</td>
</tr>
<tr>
<td>Farrowing stalls save more pigs</td>
<td>38</td>
</tr>
<tr>
<td>Effects of several winter cover crops on yield of cotton</td>
<td>39</td>
</tr>
<tr>
<td>Lime, fertilizer and manure</td>
<td>42</td>
</tr>
</tbody>
</table>
### Chapter III (continued)

<table>
<thead>
<tr>
<th>Topic</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Insects and pests of field crops</td>
<td>42</td>
</tr>
<tr>
<td>Control livestock pests</td>
<td>43</td>
</tr>
<tr>
<td>Commercial tomato production in Tennessee</td>
<td>44</td>
</tr>
<tr>
<td>Your home orchard</td>
<td>45</td>
</tr>
<tr>
<td>Inheritance - your farm and family</td>
<td>46</td>
</tr>
<tr>
<td>Guideposts to successful community organizations</td>
<td>48</td>
</tr>
<tr>
<td>Farm safety</td>
<td>49</td>
</tr>
<tr>
<td>Care and feeding of baby chicks</td>
<td>50</td>
</tr>
<tr>
<td>Tennessee 40 x 40 poultry house</td>
<td>51</td>
</tr>
</tbody>
</table>

### IV. SUMMARY

<table>
<thead>
<tr>
<th>Topic</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Degree of comprehension</td>
<td>55</td>
</tr>
<tr>
<td>Areas in publications and leaflets that need interpretation in teaching</td>
<td>56</td>
</tr>
<tr>
<td>Suggestions to the writers of publications and leaflets</td>
<td>58</td>
</tr>
</tbody>
</table>

### Bibliography

<table>
<thead>
<tr>
<th>Topic</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>59</td>
</tr>
</tbody>
</table>

### Appendix

<table>
<thead>
<tr>
<th>Topic</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appendix A</td>
<td>62</td>
</tr>
<tr>
<td>Appendix B</td>
<td>65</td>
</tr>
<tr>
<td>Appendix C</td>
<td>66</td>
</tr>
<tr>
<td>Appendix D</td>
<td>69</td>
</tr>
<tr>
<td>Appendix E</td>
<td>73</td>
</tr>
<tr>
<td>Appendix F</td>
<td>77</td>
</tr>
<tr>
<td>CHAPTER</td>
<td>APPENDIX (continued)</td>
</tr>
<tr>
<td>-----------</td>
<td>----------------------</td>
</tr>
<tr>
<td>Appendix A</td>
<td>Appendix G</td>
</tr>
<tr>
<td>Appendix B</td>
<td>Appendix H</td>
</tr>
<tr>
<td>Appendix C</td>
<td>Appendix I</td>
</tr>
<tr>
<td>Appendix D</td>
<td>Appendix J</td>
</tr>
<tr>
<td>Appendix E</td>
<td>Appendix K</td>
</tr>
<tr>
<td>Appendix F</td>
<td>Appendix L</td>
</tr>
<tr>
<td>Appendix G</td>
<td>Appendix M</td>
</tr>
<tr>
<td>Appendix H</td>
<td>Appendix N</td>
</tr>
<tr>
<td>Appendix I</td>
<td>Appendix O</td>
</tr>
<tr>
<td>Appendix J</td>
<td>Appendix P</td>
</tr>
<tr>
<td>Appendix K</td>
<td>Appendix Q</td>
</tr>
<tr>
<td>TABLE</td>
<td>DESCRIPTION</td>
</tr>
<tr>
<td>-------</td>
<td>-------------</td>
</tr>
<tr>
<td>I.</td>
<td>Reading Level, Intelligence Quotient, Scholarship, Farm Residence and Project Experience of Freshman Boys Studying Vocational Agriculture in the Nicholas Blackwell High School, 1956-57</td>
</tr>
<tr>
<td>II.</td>
<td>Reading Level, Intelligence Quotient, Scholarship, Farm Residence and Project Experience of Sophomore Boys Studying Vocational Agriculture in the Nicholas Blackwell High School, 1956-57</td>
</tr>
<tr>
<td>III.</td>
<td>Reading Level, Intelligence Quotient, Scholarship, Farm Residence and Project Experience of Junior and Senior Boys Studying Vocational Agriculture in the Nicholas Blackwell High School, 1956-57</td>
</tr>
<tr>
<td>IV.</td>
<td>Reading Habits of Freshman Boys Studying Vocational Agriculture in the Nicholas Blackwell High School, 1956-57</td>
</tr>
<tr>
<td>V.</td>
<td>Reading Habits of Sophomore Boys Studying Vocational Agriculture in the Nicholas Blackwell High School, 1956-57</td>
</tr>
<tr>
<td>VI.</td>
<td>Reading Habits of Junior and Senior Boys Studying Vocational Agriculture in the Nicholas Blackwell High School, 1956-57</td>
</tr>
<tr>
<td>TABLE</td>
<td>PAGE</td>
</tr>
<tr>
<td>-------</td>
<td>------</td>
</tr>
<tr>
<td>VII. Reading Ability and Percentage Test Grade, of Freshman Boys Studying Vocational Agriculture, in the Nicholas Blackwell High School, 1956-57, on Selected Tennessee Agricultural Extension Service Publications and Leaflets</td>
<td>29</td>
</tr>
<tr>
<td>VIII. Reading Ability and Percentage Test Grade, of Sophomore Boys Studying Vocational Agriculture, in the Nicholas Blackwell High School, 1956-57, on Selected Tennessee Agricultural Extension Service Publications and Leaflets</td>
<td>30</td>
</tr>
<tr>
<td>IX. Reading Ability and Percentage Test Grade, of Junior and Senior Boys Studying Vocational Agriculture, in the Nicholas Blackwell High School, 1956-57, on Selected Tennessee Agricultural Extension Service Publications and Leaflets</td>
<td>31</td>
</tr>
<tr>
<td>X. Response of Five Selected Students, in the Freshman Class at Nicholas Blackwell High School, to Questions about their Reaction to Selected Tennessee Agricultural Extension Service Publications and Leaflets</td>
<td>32</td>
</tr>
<tr>
<td>XI. Response of Four Selected Students, in the Sophomore Class at Nicholas Blackwell High School, to Questions about their Reaction to Selected Tennessee Agricultural Extension Service Publications and Leaflets</td>
<td>33</td>
</tr>
</tbody>
</table>
TABLES

XII. Response of Ten Selected Students, in the Junior and Senior Classes at Nicholas Blackwell High School, to Questions about their Reaction to Selected Tennessee Agricultural Extension Service Publications and Leaflets ........................................... 34

XIII. Reading Ease Scores and Description of Relative Difficulty of Selected Tennessee Agricultural Extension Service Publications and Leaflets as Determined by the Flesch Readability Formula .......... 36
CHAPTER I

INTRODUCTION

Statement of the Problem

This is a study of the readability of selected University of Tennessee Agricultural Extension Service Publications and Leaflets for use with high school boys studying Vocational Agriculture. The purpose of the study embodies three elements which may be specifically stated as follows:

1. To determine the degree of comprehension that students of Vocational Agriculture have when they read Extension Service Publications and Leaflets.

2. To determine the areas of the Publications and Leaflets that require explanation by the teacher in order to get reasonable comprehension.

3. To determine the level of readability of these Publications and Leaflets which might help the writers of future publications to make them more understandable.

Importance of the Study

Departments of Vocational Agriculture in Tennessee are organized under a plan whereby each individual teacher sets up his program of instruction based in part on the Supervised Farming Programs of the boys that he teaches, and the farm enterprises found in the community. In
forming the program the teacher would also consider the needs of the community, the interests of the individuals receiving instruction and possible improvements needed in the existing farm programs in the community. This plan makes a variety of programs necessary because the agricultural situation is different in each community.

Variation of agricultural programs in different communities may be due to soil conditions, custom of the farmers, tools that are available on the farms, markets, climate, topography, knowledge that the farmers possess, and other factors.

Because this wide difference in teaching programs exists, the source of teaching materials is one of the major problems of the Teacher of Vocational Agriculture. Because of the difference that exists in the programs, a text book as such is out of the question.

Sources of information in general use are: Commercial books and publications used as reference material, farm magazines, Agricultural Education Publications, United States Department of Agriculture Farmers Bulletins, and other Federal Government Publications, Extension Service Material from adjoining states, University of Tennessee Agricultural Extension Service Publications and Leaflets, and University of Tennessee Agricultural Experiment Station Bulletins and Circulars.

University of Tennessee Agricultural Extension Service Publications and Leaflets are written to carry information to the farmers of the State. University of Tennessee Agricultural Experiment Station Bulletins and Circulars are written for research people and trained agricultural personnel. Information from both is based on findings.
from various experiments and studies carried on by the Experiment Stations under the supervision of the University of Tennessee. The Extension Service Publications and Leaflets are written for use by farmers. They are based on Tennessee findings, written for our climate and weather conditions and adapted to the general conditions of our State. Because of these reasons these publications are one of the principle sources of information being used in the teaching of Vocational Agriculture.

Reading is one of the more important learning procedures. Its importance comes from the facts that there is a wide variety of written material that is available and because it is a method of self-education. To the Teacher of Vocational Agriculture it is of considerable importance in his program because he frequently has boys working on individual problems. The success of this learning process is entirely dependent on the ability of the boy to understand the available written material on the subject. Explanations of passages are possible but are necessarily limited by the lack of time of the teacher and the likelihood that the boy will not ask for help. To be able to understand what he reads a boy must have the ability to read. Next he must have material that is understandable for a person of his reading ability. This second factor has prompted this study.
Scope of the Study

This study was limited to determining the ability of students taking Vocational Agriculture in the Nicholas Blackwell High School, Bartlett, Tennessee to read and understand the contents of selected University of Tennessee Agricultural Extension Service Publications and Leaflets.

It was not practical to test all of the publications published by the Tennessee Agricultural Extension Service so the testing was limited to one Publication and one Leaflet in each subject matter field that applied to agriculture. This was a 16\% per cent sampling of the Publications and Leaflets.

It was beyond the scope of this study to question the accuracy of the Flesch Readability Formula\(^1\) for determining the reading ease of written material. In like manner accuracy and method of the Gates Reading Survey\(^2\) for determining the reading ability of students was not questioned.

Definition of Terms

The term "University of Tennessee Agricultural Extension Service" as used in this study means that branch of the University of Tennessee

---

\(^1\)Rudolph Flesch, How to Test Readability (New York: Harper and Brothers, 1951), p. 4.

whose specific duty is to collect and disseminate information, about farming, to the citizens of the State.

The term "University of Tennessee Agricultural Extension Service Publication" as employed in this study refers to those publications, issued by the University of Tennessee Agricultural Extension Service, that give a summary of research. The principle function is to interpret research and give information in such a manner that it may be applied. It is published for both agricultural leaders and farmers.

The term "University of Tennessee Agricultural Extension Service Leaflet" refers to a printed publication issued by the Extension Service. It has the same function as the Extension Service Publication except that it is short (usually four pages).

The term "Experiment Station Bulletin" as used in this study means that pamphlet, published by the University of Tennessee Experiment Station, that reports research of the Station. It states the conditions under which the experiment is set up, it's objectives, experimental methods, and results found. It is published for farm leaders and research people.

The term "Experiment Station Circular" refers to a publication, issued by the Experiment Station, that has the same function as the Experiment Station Bulletin except that it is short (usually four pages).

The term "Student of Vocational Agriculture" as used in this study is interpreted to mean those boys, between the ages of fourteen and twenty-one years, who are regularly enrolled in classes of Vocational Agriculture in High School.
The term "readability" as used in this study means the degree to which written material is interesting, may be comprehended, and the meaning understood by the reader.

The term "reading level, average grade score" refers to the school grade in which a student with the reading ability indicated would normally be enrolled.

The term "satisfactory percentage of learning" as used in this study, refers to that percentage or grade which is generally accepted as a satisfactory level of learning to warrant advancement to other material and learning situations. The minimum satisfactory learning percentage for the Nicholas Blackwell High School is 75 per cent of the material presented.

Method of Procedure and Sources of Data

There were a number of readability formulae available that were being used to determine the readability of written material. Since the methods generally used made use of either lists of most commonly used words\(^3\) or the length of sentences and the number of syllables in the words\(^4\), it was decided that it would be necessary to try this material with a group of agriculture students. This decision was reached because of the technical or semitechnical nature of most of these Publications and Leaflets.

The boys taking Vocational Agriculture in the Nicholas Blackwell High School at Bartlett, were used in the study. This group was being taught by the writer so it was available for close study.

The reading ability of the Vocational Agriculture Students was first determined by the use of the Gates Reading Survey. The tests were given according to the directions on the test. The tests were graded and the grades recorded.

The greater part of the study was to have the boys read selected Publications and Leaflets, published by the Tennessee Agricultural Extension Service, and to test the boys' understanding of them after they were read. Since all of the Publications and Leaflets could not be tested it was necessary to take a representative sample of them for this purpose.

It was decided that one Publication and one Leaflet from each of the subject matter fields, concerning agriculture, which were listed on the official list of Publications and Leaflets issued by the Tennessee Agricultural Extension Service, would be used in this study. The Publication or Leaflet was selected by recording the Publications and Leaflets that were available and taking the one in the middle of the list. The lists were arranged in numerical order using the number of the Publication or Leaflet. If an even number of Publications or Leaflets were available there were two choices for the middle of the

---

list. When this was true the one was chosen which the instructor thought would be most nearly suited to the Supervised Programs of the boys who were to read them.

The time available for reading the Publications and Leaflets and for administering the tests was the regular one-hour class period. Allowing five minutes to change classes this left fifty-five minutes of class time. It was necessary to choose the proper amount of reading material in the Publication that could be read, studied and the test completed in the class period. It was also necessary that there be sufficient time for the slowest students. Speed was not a factor in this study but simply the ability to understand. The Leaflets were short so the entire Leaflet was read in each case. The Publications were long so it was necessary to choose a section of each to be read. At first it was thought that in order to get an accurate sampling, it would be wise to take a five-page sampling at various places in the booklet. One of the tests was designed in that manner but that method was not practical because, in most cases, the material in the latter pages was, to some degree, dependent on what had been learned in the preceding pages. For that reason most of the tests were designed for the first ten pages of a Publication. It was found that ten pages of written matter was the amount that could be read and tested in the class period. If there were many illustrations and pictures additional pages were used.

The type of test that was used was that which tested the boys' ability to select true statements. The words true and false were not
used, but the boys were asked to check the statements that were true. This type of test was used for the following reasons: it could be graded accurately without the judgment of the teacher entering into the grade; the ability to remember was not as big a factor since the boys were permitted to refer to the Publication or Leaflet during the test; it could be answered quickly and it could be graded quickly.

On days when a test was to be given the boys were separated widely in the classroom. Each student was given a Publication or Leaflet and told which pages were to be read. When the most rapid readers had finished reading the material, all of the students were given the mimeographed test. They were permitted to keep the Publication or Leaflet and refer to it if they wished. The ability to read and understand, not memory, was the only factor being tested.

The writing and construction of the tests required considerable time. In forming the statements, either correct or incorrect, the exact wording of the publication was seldom used. The purpose of the writer was to phrase the statements to have the same meaning but in different words. It was thought that such a method was the better way to test understanding. On each test the same number of correct and incorrect statements was used. They were in no regular order, however, and many times statements on any one topic would be either all correct or all wrong. No attempt was made to be deceptive or to make statements that were difficult. The tests were made to include all phases of the Publication or Leaflet. Statements were made about charts, tables, drawings, and the narrative part of the publication. Most of
the tests contained either forty or fifty statements. A few leaflets had shorter tests.

The tests were graded by checking the statements that were missed. The number of mistakes was then subtracted from the number of correct statements. The percentage grade was figured from this number.

The reading and testing conditions were made like a regular class situation as nearly as possible. Tests taken on Publications and Leaflets formed a part of the grade that the boy received in Agriculture. The boys were advised of this. Knowing that a test would follow immediately, the boys probably tried harder than they would under a normal study situation. The boys were very attentive and appeared to apply themselves diligently to their work.

A group of students was selected to act as an evaluative committee to give their opinions of the Publications and Leaflets read. This committee was selected because of their average reading ability and farm experience. Ninth grade students were selected who had an average reading ability of ninth grade, and had lived on a farm all or most of their lives. On this basis, five ninth grade students were on the committee. Four tenth grade students were selected who had an average reading ability of ninth grade and had lived on a farm all or most of their lives. The same procedure was used in the Advanced Class except that they conformed to their more advanced grade level. Ten students served on the committee in the Advanced Class. In each case the number selected was all of the students, in each class, who conformed to the requirements in both reading ability and farm experience.
The judgments were obtained by a personal interview with the teacher on each Publication and Leaflet. The same committee was used for the entire series of Publications and Leaflets.

An evaluation was made of the scores that the boys made on tests, their known reading ability, and the opinions that were given by the committee to draw the conclusions that were reached.

The reading ease scores as determined by the Rudolph Flesch formula were given to show the comparison between this method and that of the Flesch formula.

Review of Related Literature

Modern textbooks are graded to the reading level of the pupils they are designed to instruct. This is done by a carefully worked out plan of vocabulary and reading difficulty studies. The first series of readers, graded in reading difficulty was produced in 1825 by Lyman Cobb. In 1836 the first two of the now famous McGuffey Eclectic Readers were published in Cincinnati. The value of these readers to education is generally recognized.

One of the first studies on adult readability was published in 1934 by Dale and Tyler. The Dale-Tyler formula was designed specifi-

---

6Rudolph Flesch, op. cit., p. 4.


8Loc. cit.
ally to evaluate materials for adults of limited reading ability.

Edgar Dale and Jeanne Chall developed a readability formula which was published in 1946. The Dale-Chall Formula⁹ uses the Dale list of 769 easiest words and is classed as the second most popular readability formula now in use.

The most popular formula in use today is that published by Rudolph Flesch¹⁰ in 1946. This formula is an improvement of an earlier formula (1943) and is classed as "the most widely used of all the readability formulae now in use."¹¹ The Flesch formula is designed to measure reading ease and has a second part designed to measure the interest of the material.

Irving Lorge¹² evaluated the readability formulae and concluded that they do not consider organization of the material. In like manner they do not evaluate conceptual difficulty. "The reader may not comprehend because Concepts in a passage may be involved and abstruse, ideas are remote from experience, ideas are not adequately explained, and the ideas may be extraordinarily abstract."

Louis Acuff¹³ made a study of the value of the Flesch Reading

---

⁹Ibid., p. 56.
¹⁰Rudolph Flesch, op. cit., p. 4.
¹¹George R. Klare and Byron Buck, op. cit., p. 61
Ease Formula in preparing material to be read by first line supervisors in industry. He concluded that the Flesch reading ease formula is of value in the preparation of material to be read by first line supervisors.

Organization of the Study

Chapter I introduces the problem and sets forth the procedure followed in solving it.

Chapter II includes an analysis of the ability of the students used in this study.

Chapter III includes data and discussion about the Publications and Leaflets that were tested. It also gives opinions of the students about the material.

Chapter IV includes a summary of the findings.
The reading ability of the students participating in this study was an important factor. It was necessary to learn as much as possible about the traits of these students which would indicate their ability to comprehend, so that the reading ability of this group would be a known factor by which the unknown element of the readability of the Publications and Leaflets could be measured. In making this analysis the ability to read, reading habits, general intelligence, scholastic zeal, experience, and interest in the subject were given consideration.

Reading Ability

To test the reading ability of the students the standard test, Gates Reading Survey\(^1\), was used. This test was chosen because it measured vocabulary, level of comprehension, and speed. It was recommended by Mrs. Annie Ward\(^2\) as the test which would probably give the widest range of information about reading ability. One limitation of the test was that it graded pupils to a maximum grade of only thirteen, or one year above high school level.


The tests were given to the students on October 17, 1956. This date was one month before the first Publication or Leaflet was read or tested. Since the lapse of time between the giving of the reading test and the last test on a Publication or Leaflet was six months, the reading ability of the pupils probably changed during that time. Since the reading and testing of the Publications and Leaflets extended over the entire six-month period, this factor was not considered in the evaluation.

It will be noted that the data in Table I is for Freshman students, Table II for Sophomore students, and Table III for Junior and Senior students. This was done because the factor of age and experience might enter into the ability to comprehend. Students were listed by number to keep identities secret. The arrangement is in the order of their ability to read.

In the Freshman Class only three students, or 16.8 per cent of the class could read at the ninth grade level or above. Three members read at the fifth grade level, while the average for the class was grade 7.8. In Table II, only one student was above the average grade level that should be attained by a Sophomore. The average for the class was grade 8.1. In the Advanced Class there were seven boys, or 38.9 per cent, who could read at the level of their school grade or above. In this Advanced Class of fourteen Junior boys and four Seniors one boy read only slightly above the sixth grade level, while the average for the class was grade 9.8.
<table>
<thead>
<tr>
<th>Student No.</th>
<th>Reading Level</th>
<th>Intelligence Quotient</th>
<th>Scholarship Average</th>
<th>Years Lived</th>
<th>Project Work</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>10.6</td>
<td>123</td>
<td>84</td>
<td>5</td>
<td>4</td>
</tr>
<tr>
<td>2</td>
<td>10.5</td>
<td>107</td>
<td>80</td>
<td>11</td>
<td>0</td>
</tr>
<tr>
<td>3</td>
<td>9.1</td>
<td>117</td>
<td>74</td>
<td>5</td>
<td>0</td>
</tr>
<tr>
<td>4</td>
<td>8.9</td>
<td>120</td>
<td>90</td>
<td>3</td>
<td>0</td>
</tr>
<tr>
<td>5</td>
<td>8.8</td>
<td>105</td>
<td>73</td>
<td>12</td>
<td>5</td>
</tr>
<tr>
<td>6</td>
<td>8.7</td>
<td>120</td>
<td>73</td>
<td>2</td>
<td>0</td>
</tr>
<tr>
<td>7</td>
<td>8.6</td>
<td>95</td>
<td>78</td>
<td>2</td>
<td>0</td>
</tr>
<tr>
<td>8</td>
<td>8.2</td>
<td>109</td>
<td>77</td>
<td>14</td>
<td>2</td>
</tr>
<tr>
<td>9</td>
<td>7.5</td>
<td>110</td>
<td>69</td>
<td>13</td>
<td>0</td>
</tr>
<tr>
<td>10</td>
<td>7.5</td>
<td>101</td>
<td>77</td>
<td>15</td>
<td>0</td>
</tr>
<tr>
<td>11</td>
<td>6.8</td>
<td>98</td>
<td>78</td>
<td>15</td>
<td>0</td>
</tr>
<tr>
<td>12</td>
<td>6.7</td>
<td>99</td>
<td>81</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>13</td>
<td>6.6</td>
<td>102</td>
<td>78</td>
<td>15</td>
<td>0</td>
</tr>
<tr>
<td>14</td>
<td>5.6</td>
<td>102</td>
<td>80</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>15</td>
<td>5.4</td>
<td>96</td>
<td>79</td>
<td>10</td>
<td>0</td>
</tr>
<tr>
<td>16</td>
<td>5.1</td>
<td>94</td>
<td>77</td>
<td>14</td>
<td>4</td>
</tr>
</tbody>
</table>
**TABLE II**

Reading level, Intelligence Quotient, Scholarship, Farm residence and project experience of Sophomore Boys studying Vocational Agriculture in the Nicholas Blackwell High School, 1956-57

<table>
<thead>
<tr>
<th>Student No.</th>
<th>Reading Level</th>
<th>Average Score</th>
<th>Average All Subjects</th>
<th>Scholarship</th>
<th>Years Lived</th>
<th>Project Work</th>
<th>Years of F.F.A.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>11.7</td>
<td>98</td>
<td>78</td>
<td>3</td>
<td>3</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>2</td>
<td>9.0</td>
<td>88</td>
<td>87</td>
<td>11</td>
<td>2</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>3</td>
<td>8.6</td>
<td>103</td>
<td>80</td>
<td>5</td>
<td>1</td>
<td>4</td>
<td>1</td>
</tr>
<tr>
<td>4</td>
<td>8.5</td>
<td>103</td>
<td>72</td>
<td>11</td>
<td>4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>7.6</td>
<td>101</td>
<td>86</td>
<td>15</td>
<td>5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>7.3</td>
<td>73</td>
<td>83</td>
<td>16</td>
<td>4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>7.0</td>
<td>62</td>
<td>79</td>
<td>6</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>6.7</td>
<td>96</td>
<td>78</td>
<td>12</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>6.5</td>
<td>94</td>
<td>85</td>
<td>3</td>
<td>3</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
TABLE III

READING LEVEL, INTELLIGENCE QUOTIENT, SCHOLARSHIP, FARM RESIDENCE AND PROJECT EXPERIENCE OF JUNIOR AND SENIOR BOYS STUDYING VOCATIONAL AGRICULTURE IN THE NICHOLAS BLACKWELL HIGH SCHOOL, 1956-57

<table>
<thead>
<tr>
<th>Student No.</th>
<th>Reading</th>
<th>Intelligence Average</th>
<th>Scholarship Average</th>
<th>Years of Project Work</th>
<th>Years Lived on a Farm</th>
<th>in 4-H and F.F.A</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>12.1</td>
<td>124</td>
<td>97</td>
<td>5</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>12.0</td>
<td>122</td>
<td>88</td>
<td>15</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>11.7</td>
<td>114</td>
<td>80</td>
<td>10</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>11.6</td>
<td>115</td>
<td>92</td>
<td>16</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>11.6</td>
<td>126</td>
<td>89</td>
<td>8</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>11.5</td>
<td>113</td>
<td>85</td>
<td>4</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>11.1</td>
<td>114</td>
<td>84</td>
<td>15</td>
<td>8</td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>10.6</td>
<td>114</td>
<td>83</td>
<td>4</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>10.3</td>
<td>111</td>
<td>83</td>
<td>16</td>
<td>8</td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>10.1</td>
<td>111</td>
<td>78</td>
<td>3</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>11</td>
<td>10.0</td>
<td>103</td>
<td>85</td>
<td>17</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>12</td>
<td>9.2</td>
<td>111</td>
<td>88</td>
<td>3</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>13</td>
<td>8.9</td>
<td>97</td>
<td>79</td>
<td>5</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td>14</td>
<td>8.4</td>
<td>91</td>
<td>81</td>
<td>17</td>
<td>8</td>
<td></td>
</tr>
<tr>
<td>15</td>
<td>8.0</td>
<td>103</td>
<td>83</td>
<td>17</td>
<td>7</td>
<td></td>
</tr>
<tr>
<td>16</td>
<td>8.0</td>
<td>98</td>
<td>85</td>
<td>16</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td>17</td>
<td>7.2</td>
<td>91</td>
<td>81</td>
<td>16</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>18</td>
<td>6.4</td>
<td>95</td>
<td>80</td>
<td>8</td>
<td>8</td>
<td></td>
</tr>
</tbody>
</table>
Intelligence Quotient

The data on intelligence quotient in Table I, was obtained from the files of the Nicholas Blackwell High School. The intelligence quotient of the members of the Freshman Class was secured from a test given by the school in September 1956. The test used was the Otis Gamma Quick-Scoring Mental Ability Test. In Table II, the intelligence quotient of the members of the Sophomore Class was obtained from the files of the Nicholas Blackwell High School. The intelligence test used for this class was the Lorge-Thorndike Intelligence Test. It was given in 1955. The intelligence quotients of the members of the Advanced Class were obtained by the use of the Otis Gamma Quick-Scoring Mental Ability Test given in January 1957. This test was also given by the administrator of the Nicholas Blackwell High School.

The intelligence quotients in Table I for the members of the Freshman Class, show that eleven members of the class have scores of one hundred or above. Only five had scores of less than one hundred, with the lowest having an intelligence quotient of ninety-four. In Table II, the Sophomore Class had three students with scores above one hundred, while 66.7 per cent of the class were below one hundred. One member of the Sophomore Class had a score of sixty-two. The intelli-

---


5Arthur S. Otis, op. cit.
gence quotients in Table III for members of the Junior-Senior Class show that thirteen members of the class, or 72.2 per cent, had scores above one hundred. Only 17.8 per cent of the class were below one hundred with the lowest score being ninety-one.

Scholastic Zeal

The reading level that a boy has attained is the result of ability, the training that he has secured, and the degree to which he has applied himself. Training and ability are important characteristics in an individual, but the degree to which he uses that training and ability is one of the determining factors of his ultimate success. A measure of the degree of application was not available, but an indication of such can be obtained from the scholastic average of the boy over the past year. The one year average was used, rather than a longer one, because this was the year during which the readability tests were given. This average includes grades of all the academic courses that he took in high school for the school year 1956-57. Of the courses taken, English and Agriculture were included on each. The other two or possibly three courses might be any of the courses that were available for a student in his class. All grades were taken from the records of the Nicholas Blackwell High School. A comparison between the reading ability, intelligence quotient, and scholastic grades will give an indication of the scholastic zeal that was manifest.

The grading system used in different schools is often a variable
factor. All of the scholastic grades in Tables I, II, and III were given in the Nicholas Blackwell High School so they may be compared to give an indication of scholastic zeal. The percentage grade used to indicate failure in the Nicholas Blackwell High School was any percentage grade below seventy-five.

There are several indications in Tables I, II, and III of students who have not taken full advantage of their ability. For example, student number three, Table I, had an intelligence quotient of 117, but made a scholastic average of 74 per cent for the year.

Farm Experience

The ability to understand farm Publications and Leaflets would possibly be influenced to some degree by previous farm experience. As an indication of farm experience, the number of years that a boy has lived on a farm was chosen. To obtain this data a survey was made and the data in Tables I, II, and III were obtained. The boys were instructed to give the complete time that they had lived on a farm. If a boy had lived on a farm all of his life, the years lived on a farm would correspond to his age.

Reading Habits

In any study of a person's ability to read, some indication usually may be gathered from the amount of reading that they have done and the type of material that was read. In the survey that was used
to determine these factors, the boys were instructed to state that they read the newspaper regularly if they read at least one article, other than the comics, with regularity. In like manner they were instructed to state that they read a magazine regularly if the magazine came to their home, or was secured regularly, and they read at least one article in practically every issue. In answering the question about the number of books that they had read in the past year, many responded that they did not remember. They were told to estimate the number, as best they could, by the average number of books that they had read per week or month. Comic books were not included in this count. The type of books read was not requested on the survey but many boys indicated that they read light fiction obtained from the school library and the community library.

In Tables IV, V, and VI, it will be noticed that the tables are arranged by classes and in the same order as they were for Tables I, II, and III. This was done so that direct comparisons could be made.

In response to the question about the pleasure of reading 81.2 per cent of the Freshmen (Table IV), 88.9 per cent of the Sophomores (Table V), and 72.2 per cent of the Advanced Class (Table VI), stated that they read for pleasure. Concerning newspaper reading, 81.2 per cent of the Freshmen, 77.8 per cent of the Sophomores, and 94.4 per cent of the Advanced Class stated that they read the newspaper regularly.

In the Freshman Class (Table IV), 87.5 per cent of the boys stated that they read magazines regularly. The number of magazines
### TABLE IV

**READING HABITS OF FRESHMAN BOYS STUDYING VOCATIONAL AGRICULTURE IN THE NICHOLAS BLACKWELL HIGH SCHOOL, 1956-57**

<table>
<thead>
<tr>
<th>Student No.</th>
<th>Read for Pleasure</th>
<th>Read Newspaper</th>
<th>Magazines Regularly</th>
<th>Books Read in Past Year</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Yes</td>
<td>Yes</td>
<td>4</td>
<td>75</td>
</tr>
<tr>
<td>2</td>
<td>Yes</td>
<td>No</td>
<td>5</td>
<td>50</td>
</tr>
<tr>
<td>3</td>
<td>Yes</td>
<td>Yes</td>
<td>6</td>
<td>150</td>
</tr>
<tr>
<td>4</td>
<td>Yes</td>
<td>Yes</td>
<td>4</td>
<td>41</td>
</tr>
<tr>
<td>5</td>
<td>Yes</td>
<td>Yes</td>
<td>6</td>
<td>125</td>
</tr>
<tr>
<td>6</td>
<td>No</td>
<td>Yes</td>
<td>6</td>
<td>12</td>
</tr>
<tr>
<td>7</td>
<td>Yes</td>
<td>Yes</td>
<td>5</td>
<td>100</td>
</tr>
<tr>
<td>8</td>
<td>No</td>
<td>Yes</td>
<td>4</td>
<td>20</td>
</tr>
<tr>
<td>9</td>
<td>Yes</td>
<td>Yes</td>
<td>0</td>
<td>5</td>
</tr>
<tr>
<td>10</td>
<td>Yes</td>
<td>No</td>
<td>5</td>
<td>0</td>
</tr>
<tr>
<td>11</td>
<td>Yes</td>
<td>Yes</td>
<td>3</td>
<td>6</td>
</tr>
<tr>
<td>12</td>
<td>Yes</td>
<td>Yes</td>
<td>2</td>
<td>6</td>
</tr>
<tr>
<td>13</td>
<td>No</td>
<td>Yes</td>
<td>3</td>
<td>5</td>
</tr>
<tr>
<td>14</td>
<td>Yes</td>
<td>Yes</td>
<td>2</td>
<td>20</td>
</tr>
<tr>
<td>15</td>
<td>Yes</td>
<td>Yes</td>
<td>0</td>
<td>50</td>
</tr>
<tr>
<td>16</td>
<td>Yes</td>
<td>No</td>
<td>4</td>
<td>14</td>
</tr>
</tbody>
</table>
TABLE V

READING HABITS OF SOPHOMORE BOYS STUDYING VOCATIONAL AGRICULTURE IN THE NICHOLAS BLACKWELL HIGH SCHOOL, 1956-57

<table>
<thead>
<tr>
<th>Student No.</th>
<th>Read for Pleasure</th>
<th>Read Newspaper Regularly</th>
<th>Magazines Read Regularly</th>
<th>Books Read in Past Year</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Yes</td>
<td>Yes</td>
<td>9</td>
<td>100</td>
</tr>
<tr>
<td>2</td>
<td>Yes</td>
<td>No</td>
<td>4</td>
<td>7</td>
</tr>
<tr>
<td>3</td>
<td>Yes</td>
<td>Yes</td>
<td>8</td>
<td>25</td>
</tr>
<tr>
<td>4</td>
<td>Yes</td>
<td>Yes</td>
<td>6</td>
<td>6</td>
</tr>
<tr>
<td>5</td>
<td>Yes</td>
<td>Yes</td>
<td>5</td>
<td>7</td>
</tr>
<tr>
<td>6</td>
<td>Yes</td>
<td>Yes</td>
<td>5</td>
<td>25</td>
</tr>
<tr>
<td>7</td>
<td>Yes</td>
<td>No</td>
<td>6</td>
<td>28</td>
</tr>
<tr>
<td>8</td>
<td>No</td>
<td>Yes</td>
<td>3</td>
<td>6</td>
</tr>
<tr>
<td>9</td>
<td>Yes</td>
<td>Yes</td>
<td>5</td>
<td>7</td>
</tr>
</tbody>
</table>
### TABLE VI

**READING HABITS OF JUNIOR AND SENIOR BOYS STUDYING VOCATIONAL AGRICULTURE IN THE NICHOLAS BLACKWELL HIGH SCHOOL, 1956-57**

<table>
<thead>
<tr>
<th>Student No.</th>
<th>Read for Pleasure</th>
<th>Read Newspaper Regularly</th>
<th>Magazines Regularly</th>
<th>Books Read in Past Year</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Yes</td>
<td>Yes</td>
<td>5</td>
<td>9</td>
</tr>
<tr>
<td>2</td>
<td>Yes</td>
<td>Yes</td>
<td>3</td>
<td>12</td>
</tr>
<tr>
<td>3</td>
<td>Yes</td>
<td>Yes</td>
<td>10</td>
<td>100</td>
</tr>
<tr>
<td>4</td>
<td>Yes</td>
<td>Yes</td>
<td>3</td>
<td>40</td>
</tr>
<tr>
<td>5</td>
<td>Yes</td>
<td>Yes</td>
<td>6</td>
<td>50</td>
</tr>
<tr>
<td>6</td>
<td>Yes</td>
<td>Yes</td>
<td>6</td>
<td>30</td>
</tr>
<tr>
<td>7</td>
<td>Yes</td>
<td>Yes</td>
<td>8</td>
<td>100</td>
</tr>
<tr>
<td>8</td>
<td>Yes</td>
<td>Yes</td>
<td>6</td>
<td>150</td>
</tr>
<tr>
<td>9</td>
<td>Yes</td>
<td>Yes</td>
<td>6</td>
<td>80</td>
</tr>
<tr>
<td>10</td>
<td>No</td>
<td>Yes</td>
<td>2</td>
<td>8</td>
</tr>
<tr>
<td>11</td>
<td>No</td>
<td>Yes</td>
<td>2</td>
<td>4</td>
</tr>
<tr>
<td>12</td>
<td>Yes</td>
<td>Yes</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>13</td>
<td>Yes</td>
<td>Yes</td>
<td>8</td>
<td>12</td>
</tr>
<tr>
<td>14</td>
<td>No</td>
<td>Yes</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>15</td>
<td>No</td>
<td>Yes</td>
<td>10</td>
<td>12</td>
</tr>
<tr>
<td>16</td>
<td>Yes</td>
<td>No</td>
<td>5</td>
<td>15</td>
</tr>
<tr>
<td>17</td>
<td>Yes</td>
<td>Yes</td>
<td>3</td>
<td>10</td>
</tr>
<tr>
<td>18</td>
<td>No</td>
<td>Yes</td>
<td>1</td>
<td>6</td>
</tr>
</tbody>
</table>
read by each boy ranged from two to six. All of the boys in the other classes, Tables V and VI, read magazines with the number ranging from one to ten.

The number of books read by the students varied widely. All of the boys in all classes, Tables IV, V, and VI, except one, had read some books. A number had read many books, some averaging about three books per week for the entire year.
CHAPTER III

READABILITY OF PUBLICATIONS AND LEAFLETS

In evaluating the readability of Publications and Leaflets it was recognized that each would require separate consideration. This was necessary because each Publication and each Leaflet was written on a different subject and in most cases by different people. The amount of technical material in each and the fact that some of the material is more difficult, made it inevitable that some of the Publications and Leaflets would contain more difficult reading than others.

The lack of uniformity of the material has made it necessary to evaluate each Publication and Leaflet separately. The following individual discussions of the readability of Publications and Leaflets may be compared to obtain a more general evaluation of the group.

A Guide to Farm Fencing
(Leaflet 96)

It will be noted in Tables VII and VIII, that the average score, made on tests on this leaflet, was 71 per cent for both the Freshman and Sophomore classes. That average was below the percentage generally accepted as a satisfactory level of learning. Two members of the Freshman Class had reading ability above the tenth grade level. Their scores averaged 89 per cent which was considered satisfactory. There were individual cases of better scores than the average for their group. One student in the Freshman Class, who ranked in the group which had a reading ability of seventh grade, had a score of ninety on this test. This was
exceptional, however, so the evaluation was made on the basis of the average. In general those Freshman and Sophomore students with reading ability below ninth grade level had scores that were not satisfactory.

Table IX shows that the Advanced Class, with their greater age and more experience, generally had satisfactory scores if their reading ability was above the eighth grade. Those with reading ability below the eighth grade had scores that were not satisfactory.

The panel of students who evaluated the material listed the illustrations about woven wire fencing and bracing posts as the most difficult sections of the Leaflet to understand. Three students, 16 per cent of the panel, stated that they did not understand the tables in the Leaflet.

In Tables I, XI, and XII, the members of the panel indicated that they had had some experience in the job being described. With regard to the manner in which the Leaflet was written, the majority stated that it should be left about as it is.
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>10.6</td>
<td>80</td>
<td>68</td>
<td>80</td>
<td>100</td>
<td>85</td>
<td>64</td>
<td>90</td>
<td>82</td>
<td>90</td>
<td>75</td>
<td>88</td>
<td>100</td>
<td>95</td>
<td>90</td>
</tr>
<tr>
<td>2</td>
<td>10.5</td>
<td>90</td>
<td>72</td>
<td>80</td>
<td>100</td>
<td>90</td>
<td>80</td>
<td>90</td>
<td>83</td>
<td>95</td>
<td>76</td>
<td>80</td>
<td>100</td>
<td>95</td>
<td>90</td>
</tr>
<tr>
<td>3</td>
<td>9.1</td>
<td>60</td>
<td>60</td>
<td>80</td>
<td>100</td>
<td>70</td>
<td>70</td>
<td>70</td>
<td>77</td>
<td>70</td>
<td>60</td>
<td>70</td>
<td>100</td>
<td>95</td>
<td>80</td>
</tr>
<tr>
<td>4</td>
<td>9.0</td>
<td>70</td>
<td>60</td>
<td>80</td>
<td>100</td>
<td>70</td>
<td>80</td>
<td>80</td>
<td>75</td>
<td>70</td>
<td>60</td>
<td>70</td>
<td>100</td>
<td>95</td>
<td>80</td>
</tr>
<tr>
<td>5</td>
<td>9.5</td>
<td>60</td>
<td>60</td>
<td>60</td>
<td>100</td>
<td>70</td>
<td>70</td>
<td>70</td>
<td>70</td>
<td>70</td>
<td>60</td>
<td>70</td>
<td>100</td>
<td>95</td>
<td>80</td>
</tr>
<tr>
<td>6</td>
<td>6.5</td>
<td>50</td>
<td>50</td>
<td>50</td>
<td>100</td>
<td>50</td>
<td>50</td>
<td>50</td>
<td>50</td>
<td>50</td>
<td>50</td>
<td>50</td>
<td>100</td>
<td>50</td>
<td>50</td>
</tr>
<tr>
<td>7</td>
<td>7.5</td>
<td>60</td>
<td>60</td>
<td>60</td>
<td>100</td>
<td>60</td>
<td>60</td>
<td>60</td>
<td>55</td>
<td>55</td>
<td>55</td>
<td>55</td>
<td>100</td>
<td>55</td>
<td>55</td>
</tr>
<tr>
<td>8</td>
<td>7.5</td>
<td>60</td>
<td>60</td>
<td>60</td>
<td>100</td>
<td>60</td>
<td>60</td>
<td>60</td>
<td>55</td>
<td>55</td>
<td>55</td>
<td>55</td>
<td>100</td>
<td>55</td>
<td>55</td>
</tr>
<tr>
<td>9</td>
<td>6.0</td>
<td>50</td>
<td>50</td>
<td>50</td>
<td>100</td>
<td>50</td>
<td>50</td>
<td>50</td>
<td>50</td>
<td>50</td>
<td>50</td>
<td>50</td>
<td>100</td>
<td>50</td>
<td>50</td>
</tr>
<tr>
<td>10</td>
<td>5.5</td>
<td>50</td>
<td>50</td>
<td>50</td>
<td>100</td>
<td>50</td>
<td>50</td>
<td>50</td>
<td>50</td>
<td>50</td>
<td>50</td>
<td>50</td>
<td>100</td>
<td>50</td>
<td>50</td>
</tr>
<tr>
<td>11</td>
<td>6.8</td>
<td>55</td>
<td>55</td>
<td>55</td>
<td>100</td>
<td>55</td>
<td>55</td>
<td>55</td>
<td>55</td>
<td>55</td>
<td>55</td>
<td>55</td>
<td>100</td>
<td>55</td>
<td>55</td>
</tr>
<tr>
<td>12</td>
<td>6.7</td>
<td>55</td>
<td>55</td>
<td>55</td>
<td>100</td>
<td>55</td>
<td>55</td>
<td>55</td>
<td>55</td>
<td>55</td>
<td>55</td>
<td>55</td>
<td>100</td>
<td>55</td>
<td>55</td>
</tr>
<tr>
<td>13</td>
<td>6.6</td>
<td>55</td>
<td>55</td>
<td>55</td>
<td>100</td>
<td>55</td>
<td>55</td>
<td>55</td>
<td>55</td>
<td>55</td>
<td>55</td>
<td>55</td>
<td>100</td>
<td>55</td>
<td>55</td>
</tr>
<tr>
<td>14</td>
<td>6.6</td>
<td>55</td>
<td>55</td>
<td>55</td>
<td>100</td>
<td>55</td>
<td>55</td>
<td>55</td>
<td>55</td>
<td>55</td>
<td>55</td>
<td>55</td>
<td>100</td>
<td>55</td>
<td>55</td>
</tr>
<tr>
<td>15</td>
<td>5.4</td>
<td>75</td>
<td>75</td>
<td>75</td>
<td>100</td>
<td>75</td>
<td>75</td>
<td>75</td>
<td>75</td>
<td>75</td>
<td>75</td>
<td>75</td>
<td>100</td>
<td>75</td>
<td>75</td>
</tr>
<tr>
<td>16</td>
<td>6.4</td>
<td>75</td>
<td>75</td>
<td>75</td>
<td>100</td>
<td>75</td>
<td>75</td>
<td>75</td>
<td>75</td>
<td>75</td>
<td>75</td>
<td>75</td>
<td>100</td>
<td>75</td>
<td>75</td>
</tr>
<tr>
<td>Av.</td>
<td>7.8</td>
<td>71</td>
<td>70</td>
<td>88</td>
<td>76</td>
<td>79</td>
<td>68</td>
<td>75</td>
<td>64</td>
<td>67</td>
<td>53</td>
<td>71</td>
<td>95</td>
<td>81</td>
<td>67</td>
</tr>
<tr>
<td>Student No.</td>
<td>Student's Reading Level</td>
<td>Average Grade Score</td>
<td>Plan for Electricity, Publication 314</td>
<td>Beef Cattle in Tennessee, Publication 330</td>
<td>Rowing Skills Save More Pigs, Leaflet 129</td>
<td>Effects of Several Winter Cover Crops on Yield of Cotton, Leaflet 139</td>
<td>Lime, Fertilizer and Manure, Publication 335</td>
<td>Insects and Pests of Field Crops, Publication 360</td>
<td>Commercial Tomato Production in Tennessee, Leaflet 123</td>
<td>Inheritance: Your Farm and Family, Publication 350</td>
<td>Guideposts to Successful Community Organizations, Pub. 351</td>
<td>Farm Safety, Leaflet 80</td>
<td>Care and Feeding of Baby Chicks, Publication 155</td>
<td>Tennessee 4-H 40 Poultry House, Leaflet 105</td>
<td>Average</td>
</tr>
<tr>
<td>------------</td>
<td>------------------------</td>
<td>---------------------</td>
<td>--------------------------------------</td>
<td>------------------------------------------</td>
<td>---------------------------------</td>
<td>------------------------------------------------</td>
<td>---------------------------------</td>
<td>---------------------------------</td>
<td>---------------------------------</td>
<td>---------------------------------</td>
<td>---------------------------------</td>
<td>---------------------------------</td>
<td>---------------------------------</td>
<td>---------------------------------</td>
<td>----------------------</td>
</tr>
<tr>
<td>1</td>
<td>11.7</td>
<td>55</td>
<td>84</td>
<td>92</td>
<td>80</td>
<td>80</td>
<td>90</td>
<td>82</td>
<td>85</td>
<td>75</td>
<td>100</td>
<td>94</td>
<td>95</td>
<td>90</td>
<td>80</td>
</tr>
<tr>
<td>2</td>
<td>9.0</td>
<td>95</td>
<td>72</td>
<td>80</td>
<td>100</td>
<td>80</td>
<td>90</td>
<td>72</td>
<td>80</td>
<td>76</td>
<td>80</td>
<td>76</td>
<td>75</td>
<td>70</td>
<td>70</td>
</tr>
<tr>
<td>3</td>
<td>8.6</td>
<td>75</td>
<td>68</td>
<td>80</td>
<td>80</td>
<td>80</td>
<td>90</td>
<td>80</td>
<td>80</td>
<td>76</td>
<td>80</td>
<td>76</td>
<td>75</td>
<td>70</td>
<td>70</td>
</tr>
<tr>
<td>4</td>
<td>8.5</td>
<td>90</td>
<td>84</td>
<td>80</td>
<td>80</td>
<td>80</td>
<td>90</td>
<td>80</td>
<td>80</td>
<td>76</td>
<td>80</td>
<td>76</td>
<td>75</td>
<td>70</td>
<td>70</td>
</tr>
<tr>
<td>5</td>
<td>7.6</td>
<td>95</td>
<td>88</td>
<td>80</td>
<td>100</td>
<td>80</td>
<td>90</td>
<td>100</td>
<td>90</td>
<td>94</td>
<td>100</td>
<td>94</td>
<td>94</td>
<td>94</td>
<td>94</td>
</tr>
<tr>
<td>6</td>
<td>7.3</td>
<td>155</td>
<td>98</td>
<td>80</td>
<td>80</td>
<td>80</td>
<td>90</td>
<td>100</td>
<td>90</td>
<td>94</td>
<td>100</td>
<td>94</td>
<td>94</td>
<td>94</td>
<td>94</td>
</tr>
<tr>
<td>7</td>
<td>7.0</td>
<td>50</td>
<td>88</td>
<td>80</td>
<td>80</td>
<td>80</td>
<td>90</td>
<td>80</td>
<td>80</td>
<td>76</td>
<td>80</td>
<td>76</td>
<td>75</td>
<td>70</td>
<td>70</td>
</tr>
<tr>
<td>8</td>
<td>6.7</td>
<td>50</td>
<td>72</td>
<td>80</td>
<td>80</td>
<td>80</td>
<td>90</td>
<td>75</td>
<td>85</td>
<td>85</td>
<td>85</td>
<td>85</td>
<td>85</td>
<td>85</td>
<td>85</td>
</tr>
<tr>
<td>9</td>
<td>6.5</td>
<td>60</td>
<td>72</td>
<td>80</td>
<td>80</td>
<td>80</td>
<td>90</td>
<td>85</td>
<td>70</td>
<td>70</td>
<td>80</td>
<td>70</td>
<td>94</td>
<td>100</td>
<td>100</td>
</tr>
<tr>
<td>Av.</td>
<td>8.1</td>
<td>71</td>
<td>64</td>
<td>80</td>
<td>87</td>
<td>76</td>
<td>76</td>
<td>86</td>
<td>75</td>
<td>79</td>
<td>69</td>
<td>87</td>
<td>96</td>
<td>76</td>
<td>74</td>
</tr>
</tbody>
</table>
### TABLE IX

**Reading Ability and Percentage Test Grades, of Junior and Senior Boys Studying Vocational Agriculture in the Nicholas Blackwell High School, 1956-57, on Selected Tennessee Agricultural Extension Service Publications and Leaflets**

<table>
<thead>
<tr>
<th>Student No.</th>
<th>Average Grade Score</th>
<th>( \Delta ) Ode to Farm Reading, ( \Delta )</th>
<th>Plan for Electricity, ( \Delta )</th>
<th>Beef Cattle in Tennessean, ( \Delta )</th>
<th>Farming Saksi Save More, ( \Delta )</th>
<th>Pigs, ( \Delta ) Leaflet 129</th>
<th>Pigs, ( \Delta ) Leaflet 129</th>
<th>Pork, Fertilizer and Management, ( \Delta )</th>
<th>Beans and Plants of Field, ( \Delta )</th>
<th>Grapes, ( \Delta ) Leaflet 360</th>
<th>Turkeys Production, ( \Delta )</th>
<th>Your Root Gardens, ( \Delta )</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>12.1</td>
<td>90</td>
<td>100</td>
<td>96</td>
<td>80</td>
<td>90</td>
<td>100</td>
<td>80</td>
<td>90</td>
<td>100</td>
<td>95</td>
<td>95</td>
</tr>
<tr>
<td>2</td>
<td>12.0</td>
<td>95</td>
<td>72</td>
<td>96</td>
<td>100</td>
<td>80</td>
<td>100</td>
<td>96</td>
<td>90</td>
<td>100</td>
<td>94</td>
<td>94</td>
</tr>
<tr>
<td>3</td>
<td>11.7</td>
<td>75</td>
<td>76</td>
<td>88</td>
<td>100</td>
<td>80</td>
<td>100</td>
<td>80</td>
<td>100</td>
<td>75</td>
<td>84</td>
<td>93</td>
</tr>
<tr>
<td>4</td>
<td>11.6</td>
<td>80</td>
<td>88</td>
<td>88</td>
<td>100</td>
<td>80</td>
<td>100</td>
<td>80</td>
<td>100</td>
<td>80</td>
<td>94</td>
<td>94</td>
</tr>
<tr>
<td>5</td>
<td>11.5</td>
<td>88</td>
<td>88</td>
<td>96</td>
<td>100</td>
<td>80</td>
<td>100</td>
<td>80</td>
<td>100</td>
<td>80</td>
<td>94</td>
<td>94</td>
</tr>
<tr>
<td>6</td>
<td>11.1</td>
<td>95</td>
<td>88</td>
<td>88</td>
<td>100</td>
<td>80</td>
<td>100</td>
<td>80</td>
<td>100</td>
<td>80</td>
<td>94</td>
<td>94</td>
</tr>
<tr>
<td>7</td>
<td>10.6</td>
<td>85</td>
<td>88</td>
<td>96</td>
<td>100</td>
<td>80</td>
<td>100</td>
<td>80</td>
<td>100</td>
<td>80</td>
<td>94</td>
<td>94</td>
</tr>
<tr>
<td>8</td>
<td>10.6</td>
<td>85</td>
<td>88</td>
<td>96</td>
<td>100</td>
<td>80</td>
<td>100</td>
<td>80</td>
<td>100</td>
<td>80</td>
<td>94</td>
<td>94</td>
</tr>
<tr>
<td>9</td>
<td>10.3</td>
<td>85</td>
<td>88</td>
<td>96</td>
<td>100</td>
<td>80</td>
<td>100</td>
<td>80</td>
<td>100</td>
<td>80</td>
<td>94</td>
<td>94</td>
</tr>
<tr>
<td>10</td>
<td>10.1</td>
<td>65</td>
<td>76</td>
<td>60</td>
<td>90</td>
<td>70</td>
<td>85</td>
<td>72</td>
<td>88</td>
<td>85</td>
<td>75</td>
<td>82</td>
</tr>
<tr>
<td>11</td>
<td>10.0</td>
<td>65</td>
<td>76</td>
<td>60</td>
<td>90</td>
<td>70</td>
<td>85</td>
<td>72</td>
<td>88</td>
<td>85</td>
<td>75</td>
<td>82</td>
</tr>
<tr>
<td>12</td>
<td>9.2</td>
<td>65</td>
<td>68</td>
<td>68</td>
<td>100</td>
<td>80</td>
<td>100</td>
<td>90</td>
<td>100</td>
<td>90</td>
<td>100</td>
<td>80</td>
</tr>
<tr>
<td>13</td>
<td>8.9</td>
<td>65</td>
<td>68</td>
<td>68</td>
<td>100</td>
<td>80</td>
<td>100</td>
<td>90</td>
<td>100</td>
<td>90</td>
<td>100</td>
<td>80</td>
</tr>
<tr>
<td>14</td>
<td>8.9</td>
<td>65</td>
<td>68</td>
<td>68</td>
<td>100</td>
<td>80</td>
<td>100</td>
<td>90</td>
<td>100</td>
<td>90</td>
<td>100</td>
<td>80</td>
</tr>
<tr>
<td>15</td>
<td>8.0</td>
<td>75</td>
<td>92</td>
<td>76</td>
<td>95</td>
<td>80</td>
<td>100</td>
<td>90</td>
<td>100</td>
<td>90</td>
<td>100</td>
<td>80</td>
</tr>
<tr>
<td>16</td>
<td>8.0</td>
<td>75</td>
<td>92</td>
<td>76</td>
<td>95</td>
<td>80</td>
<td>100</td>
<td>90</td>
<td>100</td>
<td>90</td>
<td>100</td>
<td>80</td>
</tr>
<tr>
<td>17</td>
<td>7.2</td>
<td>70</td>
<td>72</td>
<td>64</td>
<td>100</td>
<td>80</td>
<td>100</td>
<td>90</td>
<td>100</td>
<td>90</td>
<td>100</td>
<td>80</td>
</tr>
<tr>
<td>18</td>
<td>6.4</td>
<td>70</td>
<td>72</td>
<td>64</td>
<td>100</td>
<td>80</td>
<td>100</td>
<td>90</td>
<td>100</td>
<td>90</td>
<td>100</td>
<td>80</td>
</tr>
</tbody>
</table>

**Average**: 9.9 84 80 82 90 86 87 83 90 94 83 87 97 93 88
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Did you understand what you read?</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Perfectly</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Almost everything</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>1</td>
<td>2</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Reasonably well</td>
<td>2</td>
<td>3</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>1</td>
<td>4</td>
<td>1</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>Poorly</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Not at all</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>How interesting was the material?</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Highly interesting</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>2</td>
<td>1</td>
<td>1</td>
<td>3</td>
<td>1</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Interesting</td>
<td>1</td>
<td>2</td>
<td>1</td>
<td>3</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>1</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Mildly interesting</td>
<td>3</td>
<td>1</td>
<td>2</td>
<td>4</td>
<td>1</td>
<td>3</td>
<td>1</td>
<td>4</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>Dull</td>
<td>2</td>
<td>2</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Forced reading</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>How much experience have you had in the job described?</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Much experience</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>2</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Have done the job</td>
<td>4</td>
<td>3</td>
<td>4</td>
<td>3</td>
<td>5</td>
<td>3</td>
<td>5</td>
<td>4</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Have seen the job done</td>
<td>2</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>4</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>None</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>What is your opinion of the illustrations?</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Did not look at them</td>
<td>4</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>3</td>
<td>5</td>
<td>4</td>
<td>5</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>Helped make it more interesting</td>
<td>1</td>
<td>2</td>
<td>1</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>1</td>
<td>2</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Did not see connection</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Did the illustrations help you understand the meaning of the passage?</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Very much</td>
<td>1</td>
<td>1</td>
<td>4</td>
<td>2</td>
<td>1</td>
<td>4</td>
<td>2</td>
<td>4</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>Slightly</td>
<td>3</td>
<td>1</td>
<td>3</td>
<td>1</td>
<td>2</td>
<td>1</td>
<td>2</td>
<td>1</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>No help</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Confusing</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Did the tables help you to understand the passage?</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Very much</td>
<td>2</td>
<td>1</td>
<td>3</td>
<td>4</td>
<td>4</td>
<td>1</td>
<td>3</td>
<td>4</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>Slightly</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No help</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Did not read them</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Did not see connection</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Should the information in this pamphlet be written in a manner that is?</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>More simple</td>
<td>2</td>
<td>2</td>
<td>1</td>
<td>2</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>More difficult</td>
<td>3</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>2</td>
<td>1</td>
<td>2</td>
<td>1</td>
<td>3</td>
<td>5</td>
</tr>
<tr>
<td>Left about as it is</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Given in more detail</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

TABLE X
RESPONSE OF FIVE SELECTED STUDENTS, IN THE FRESHMAN CLASS AT NICHOLAS BLACKWELL HIGH SCHOOL, TO QUESTIONS ABOUT THEIR REACTION TO SELECTED TENNESSEE AGRICULTURAL EXTENSION SERVICE PUBLICATIONS AND LEAFLETS
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Did you understand what you read?</td>
<td>Perfectly</td>
<td>2</td>
<td>1</td>
<td>2</td>
<td>1</td>
<td>1</td>
<td>2</td>
<td>2</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Almost everything</td>
<td>1</td>
<td>1</td>
<td>2</td>
<td>2</td>
<td>3</td>
<td>2</td>
<td>3</td>
<td>2</td>
<td>3</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Reasonably well</td>
<td>1</td>
<td>3</td>
<td>1</td>
<td>2</td>
<td>2</td>
<td>1</td>
<td>3</td>
<td>2</td>
<td>3</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Poorly</td>
<td>1</td>
<td>3</td>
<td>1</td>
<td>2</td>
<td>2</td>
<td>1</td>
<td>3</td>
<td>2</td>
<td>3</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Not at all</td>
<td>1</td>
<td>3</td>
<td>1</td>
<td>2</td>
<td>2</td>
<td>1</td>
<td>3</td>
<td>2</td>
<td>3</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>How interesting was the material?</td>
<td>Highly interesting</td>
<td>3</td>
<td>2</td>
<td>3</td>
<td>1</td>
<td>1</td>
<td>3</td>
<td>2</td>
<td>2</td>
<td>3</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Interesting</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Mildly interesting</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Dull</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>How much experience have you had in the job described?</td>
<td>Much experience</td>
<td>1</td>
<td>1</td>
<td>3</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Have done the job</td>
<td>3</td>
<td>3</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Have seen the job done</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>None</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>What is your opinion of the illustrations?</td>
<td>Did not look at them</td>
<td>1</td>
<td>1</td>
<td>3</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Helped make it more interesting</td>
<td>3</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>Did not see connection</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Did the illustrations help you understand the meaning of the passage?</td>
<td>Very much</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>2</td>
<td>2</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>Slightly</td>
<td>1</td>
<td>1</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>No help</td>
<td>1</td>
<td>1</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Confusing</td>
<td>1</td>
<td>1</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Did the tables help you to understand the passage?</td>
<td>Very much</td>
<td>4</td>
<td>2</td>
<td>3</td>
<td>2</td>
<td>3</td>
<td>3</td>
<td>2</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>Slightly</td>
<td>1</td>
<td>1</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>1</td>
<td>1</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>No help</td>
<td>1</td>
<td>1</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>1</td>
<td>1</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>Did not read them</td>
<td>1</td>
<td>1</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>1</td>
<td>1</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>Did not see connection</td>
<td>1</td>
<td>1</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>1</td>
<td>1</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Should the information in this pamphlet be written in a manner that is:</td>
<td>More simple</td>
<td>3</td>
<td>3</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>More difficult</td>
<td>3</td>
<td>3</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>Left about as it is</td>
<td>3</td>
<td>3</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>Given in more detail</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
</tbody>
</table>
### Table XII

RESPONSE OF TEN SELECTED STUDENTS, IN THE JUNIOR AND SENIOR CLASSES AT NICHOLAS BLACKWELL HIGH SCHOOL, TO QUESTIONS ABOUT THEIR REACTION TO SELECTED TENNESSEE AGRICULTURAL EXTENSION SERVICE PUBLICATIONS AND LEAFLETS

|----------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|---------------------|--------------------------------|--------------------------------------|

**Did you understand what you read?**
- Perfectly: 2 3 5 2 3 1 2 1 3 9 3 1
- Almost everything: 8 5 6 4 8 6 8 5 7 8 1 7 1 6 7
- Reasonably well: 2 3 1 1 1 1 3 2 7
- Poorly: 1
- Not at all: 1

**How interesting was the material?**
- Highly interesting: 1 4 4 3 2 2 3 2 2 1 1 1 3 1
- Interesting: 6 3 2 4 1 6 6 3 4 1 6 4 9 3 3
- Mildly interesting: 3 3 4 3 6 2 4 4 3 7 6 2 3 5
- Dull: 1
- Forced reading: 1

**How much experience have you had in the job described?**
- Much experience: 2 4 3 1 1 1
- Have done the job: 8 8 4 5 6 10 9 8 9 8 1 10 5 6
- Have seen the job done: 2 2 1 4
- None: 1

**What is your opinion of the illustrations?**
- Did not look at them: 10 10 9 10 1 7 2 1
- Helped make it more interesting: 10 10 9 10 2 1 9 4
- Did not see connection: 10 10 9 10 2 1 9 4

**Did the illustrations help you understand the meaning of the passage?**
- Very much: 5 7 2 7 1 3 2 3
- Slightly: 1 3 3 2 2 6 2 8
- No help: 1 5 1 8 3 5
- Confusing: 1

**Did the tables help you to understand the passage?**
- Very much: 6 2 5 7 5 3 6 1 9
- Slightly: 3 7 3 7 5 4 3 8
- No help: 1 1
- Did not read them: 1 1

**Should the information in this pamphlet be written in a manner that is:**
- More simple: 1
- More difficult: 2 1 2 1 1
- Left about as it is: 9 7 8 10 8 10 6 5 7 8 3 5 6 6 4
- Given in more detail: 3 2 1 4 5 1 1 5 5 4 3 5
Plan for Electricity

(Publication 318)

This Publication is rather technical in nature. It discusses some of the engineering problems involved in planning, wiring, and servicing different buildings about the farm for electricity. It has numerous illustrations and drawings.

Only three members of the Freshman Class, Table VII, had scores above 75 per cent. The average for the class was 60 per cent. A comparison of average scores shows that for this class only one Publication or Leaflet ranked lower.

In Table VIII, the Sophomore Class had an average grade on this Publication of 64 per cent. All members of the class had grades below the acceptable mark except three. The average grade on this Publication, as compared to other Publications and Leaflets in this test, was the lowest for the Sophomore Class.

Scores in the Junior-Senior Class, Table IX, show that students with a reading ability of eighth grade or above generally had satisfactory scores. Most of the students in the group with reading ability at the eighth and ninth grade level had scores near the minimum. A comparison between the average score on this and other Publications and Leaflets shows this one to be the lowest of any for the Advanced Class. The average score for this class was 80 per cent.

The reading difficulty, Table XIII, as determined by the Flesch
### TABLE XIII

**READIN{ EASE SCORES AND DESCRIPTION OF RELATIVE DIFFICULTY OF SELECTED TENNESSEE AGRICULTURAL EXTENSION SERVICE PUBLICATIONS AND LEAFLETS AS DETERMINED BY THE FLESCH READABILITY FORMULA**

<table>
<thead>
<tr>
<th>Publication or Leaflet</th>
<th>Reading</th>
<th>Description of Publication or Leaflet</th>
<th>Ease</th>
<th>Relative Difficulty*</th>
</tr>
</thead>
<tbody>
<tr>
<td>A Guide to Farm Fencing, Leaflet 96</td>
<td>61.5</td>
<td>Standard</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Plan for Electricity, Publication 318</td>
<td>53.0</td>
<td>Fairly Difficult</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Beef Cattle in Tennessee, Publication 330</td>
<td>57.5</td>
<td>Fairly Difficult</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Farrowing Stalls Save More Pigs, Leaflet 129</td>
<td>76.2</td>
<td>Fairly Easy</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Effects of Several Winter Cover Crops on Yield of Cotton, Leaflet 109</td>
<td>51.7</td>
<td>Fairly Difficult</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lime, Fertilizer and Manure, Publication 336</td>
<td>45.3</td>
<td>Difficult</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Insects and Pests of Field Crops, Publication 360</td>
<td>52.7</td>
<td>Fairly Difficult</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Control Livestock Pests, Leaflet 90</td>
<td>55.1</td>
<td>Fairly Difficult</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Commercial Tomato Production in Tennessee, Leaflet 123</td>
<td>46.6</td>
<td>Difficult</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Your Home Orchard, Publication 353</td>
<td>72.3</td>
<td>Fairly Easy</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Inheritance - Your Home and Family, Publication 350</td>
<td>46.9</td>
<td>Difficult</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Guideposts to Successful Community Organizations, Publication 351</td>
<td>35.1</td>
<td>Difficult</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Farm Safety, Leaflet 80</td>
<td>55.1</td>
<td>Fairly Difficult</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Care and Feeding of Baby Chicks, Publication 155</td>
<td>63.2</td>
<td>Standard</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tennessee <em>40 X 40</em> Poultry House, Leaflet 105</td>
<td>60.6</td>
<td>Standard</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Rudolph Flesch, How to Test Readability (New York: Harper and Brothers, 1951), pp. 4-6.*

<table>
<thead>
<tr>
<th>Score Range</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>90-100</td>
<td>Very easy</td>
</tr>
<tr>
<td>80-90</td>
<td>Easy</td>
</tr>
<tr>
<td>70-80</td>
<td>Fairly easy</td>
</tr>
<tr>
<td>60-70</td>
<td>Standard</td>
</tr>
<tr>
<td>50-60</td>
<td>Fairly difficult</td>
</tr>
<tr>
<td>30-50</td>
<td>Difficult</td>
</tr>
<tr>
<td>0-30</td>
<td>Very difficult</td>
</tr>
</tbody>
</table>
Readability Formula\(^1\) shows the Publication to be fairly difficult. The technical nature of the material probably makes it more difficult than the formula indicates.

All of this Publication could not be tested because of its length. The boys on the panel indicated that the explanation about circuits on page 7 of the Publication, and that about remote control on page 9, were the most difficult for them to understand. The drawing showing the floor plan of a house, page 12, was difficult for them, especially the wiring symbols.

In Tables X, XI, and XII, the members of the panel indicated that most of them had had some experience in this job. The majority stated that the illustrations helped very much.

Beef Cattle in Tennessee

(Publication 330)

The grades by members of the Freshman Class, Table VII, were generally not acceptable on this Publication. The boys with tenth grade reading ability had acceptable scores. About half of the boys with a reading ability at the eighth and ninth grade level had scores that were acceptable. The students who had reading ability below the eighth grade level generally had scores that were not acceptable. The average grade for the Freshman Class was 70 per cent.

The members of the Sophomore Class, Table VIII, with reading ability of eighth grade or above had acceptable scores. Those who had reading ability below eighth grade level had scores that were generally not acceptable, but they were not far below the minimum. Two members of the below eighth grade group had acceptable scores. The average grade for this class was 80 per cent.

In Table IX the members of the Advanced Class had satisfactory scores if their reading ability was eighth grade or above. Those below eighth grade reading ability had scores that were not satisfactory. The average for the class was 82 per cent.

The majority of the members of the panel, Tables X, XI, and XII, stated that the material in this Publication was highly interesting. Most of the panel, 90 per cent, had had experience with the enterprise.

Two members of the panel stated they could not understand the Gestation Table on page 13 of the Publication.

Farrowing Stalls Save More Pigs

(Leaflet 129)

Practically all of the scores were satisfactory according to Table VII, for Freshman boys who took this test. The average grade for the entire class was 88 per cent. Only one boy had a score below the minimum.

From the scores in Table VIII, it may be seen that all the boys in the Sophomore Class had scores that were satisfactory. There was
little difference in grades between the low reading level group and the high. The average score for the class was 87 per cent.

All members of the Advanced Class, except one, had satisfactory scores, Table IX, on this Leaflet. The average for the class was 90 per cent. There was little difference in scores between students with a high reading ability and those with low.

From Table XIII, it may be determined that the reading difficulty of this Leaflet was classed as fairly easy. A comparison of the reading ease scores in Table XIII shows that this Leaflet ranked higher than any Publication or Leaflet in this test according to this formula.

The panel of boys did not list any section of this Leaflet as being difficult to understand. In Tables I, XI, and XII, the panel indicated that the illustrations were very beneficial in helping to understand the meaning that was intended. With reference to the way the Leaflet was written, a big majority stated that it should be left about as it is.

Effects of Several Winter Cover Crops on Yield of Cotton

(Leaflet 109)

According to Table XIII, the reading ease score of this Leaflet is 51.7. This gave it a reading description of fairly difficult. According to the formula this is the lowest reading ease score of any Publication or Leaflet evaluated up to this point.
The Freshman Class, in Table VII, had an average score of 76 per cent. Generally speaking, those students who had average reading ability above the eighth grade level had acceptable scores on this Leaflet. Those with reading ability below the eighth grade level had unsatisfactory scores except for one student who had a perfect score.

In Table VIII, no definite pattern of scores could be determined on the Sophomore Class. Three members of the class had unsatisfactory scores but no connection could be made between this and their ability to read. Six members of the class had satisfactory grades. The average score for the class was 76 per cent.

Practically all of the Advanced Class, Table IX, had satisfactory grades on the tests about this Leaflet. Only two members of the class had grades that did not come up to the minimum. One of these was the student with the poorest reading ability in the class. The average score for the class was 86 per cent.

Tables X, XI, and XII, show that nine members of the panel considered this Leaflet to be mildly interesting. Three members thought it was dull. This was surprising in light of the fact that the community is in a cotton growing section.

The members of the panel listed the paragraph on methods of procedure, on page 4 of the Leaflet, as the most difficult section to understand. Five students listed the description of yields, on page 4, as being difficult. In addition the chart and tables were listed as being hard to understand.
Lime, Fertilizer and Manure

(Publication 336)

The Freshman Class had generally satisfactory scores, Table VII, on tests about this Publication. None of the grades were outstanding but in general they were acceptable. Only two members of the class had grades below the acceptable mark. The average score for the class was 79 per cent.

The Sophomore Class did not show any definite pattern as may be noted from the scores in Table VIII. There were five students who had satisfactory scores and four with grades below the minimum. The difference in reading ability did not seem to give the complete answer. The three students with the lowest reading ability, seventh grade and below, did have rather uniform low scores. The average score for the class was 78 per cent.

The Junior-Senior Class had generally acceptable grades, as shown in Table IX. All of the students had satisfactory scores except the one student with reading ability at the sixth grade level. The average score for this class was 87 per cent.

The students who evaluated the material stated that the statistical table on page 5 of the Publication was difficult to understand. Five students, 26 per cent of the panel, stated that the chemical symbols used made it so that they could not understand the table. The section on mixed fertilizer, on page 19, was pointed out as being difficult.

In Tables X, XI, and XII, the data indicated that all of the members of the panel had had experience in this job except two. A big
majority stated that the illustrations helped make it more interesting.

According to the reading ease score, Table XIII, this Publication was classed as difficult. The organization of the material and the manner in which it was explained is probably the reason it was understood as well as it was.

Insects and Pests of Field Crops

(Publication 360)

This Publication deals with the identification and control of many of the insects that are pests in this State. It is a series of short articles about different insects. The relationship between the different articles is small. There is little continuity except that it is about insects and the control measures may be similar.

The Freshman Class, Table VII, had generally unsatisfactory grades on tests given on this Publication. Only four members of the class had above minimum scores. Two of these satisfactory scores were made by boys who had ninth and tenth grade reading ability. The average score for the class was 68 per cent.

In Table VIII, the Sophomore Class had an average grade of 76 per cent. The boys with the poorest reading ability in the class, grade seven and below, had scores that were not satisfactory. Those above the seventh grade level generally had scores which were acceptable. The two boys with the best reading ability in the class had scores barely below the minimum.

In the Advanced Class, Table IX, those students who had reading
ability below ninth grade level generally had grades below the minimum. Those with reading ability above ninth grade level had scores that were acceptable. There were some exceptions to this pattern.

The students who evaluated the Publication stated that the insecticide dilution table on page 38 in the Publication, was the most difficult section for them to understand. Twelve members of the panel, 63 per cent, stated that they could not understand the table. Six members of the panel stated they were confused by the names of the insecticides. Three panel members stated they did not know the meaning of the term lodge.

Practically all of the members of the panel, Tables X, XI, and XII, stated they had had some experience in the control of insects.

Control Livestock Pests
(Leaflet 90)

The results of tests on this Leaflet, in Table VII, show that Freshman Class students who had eighth grade reading ability or better generally had satisfactory scores. Those with seventh grade reading ability or below had unsatisfactory grades. The average for the class was 75 per cent.

All of the members of the Sophomore Class except one, had satisfactory scores on tests about this Leaflet according to Table VIII. The student who had the unsatisfactory score had a sixth grade reading ability. The average for the class was 86 per cent.
Only one member of the Advanced Class had an unsatisfactory score on this test. He had a seventh grade reading ability. In this class the scores were usually well above the minimum with the average for the class being 87 per cent.

The panel stated in Tables X, XI, and XII, that the illustrations helped make the Leaflet more interesting. The majority said the illustrations were very beneficial in helping them to understand the meaning of the material. Practically all of the panel had had some experience with the job discussed in this Leaflet. Nine members of the panel, 47 per cent, stated that it should be given in more detail.

The panel named the chemical and other technical terms as the most confusing part of the Leaflet. The profusion of such terms made it difficult for them to understand.

Commercial Tomato Production in Tennessee

(Leaflet 123)

As shown in Table XIII, the readability of this Leaflet was classed as difficult. It had a reading ease score of 46.6. According to this formula this was one of the four most difficult Publications or Leaflets used in this study.

As shown in Table VII, the results of the tests show that all of the scores are relatively low in the Freshman Class. Generally speaking, those students who had reading ability of eighth grade or better made acceptable scores. Those with reading ability of seventh grade or lower made grades that were not satisfactory. The average for the class was
64 per cent.

The test results for the Sophomore Class, Table VIII, show that the grades are relatively low in this class also. Those students who had reading ability in the upper part of the seventh grade or better, had satisfactory scores. Those below seventh grade level did not have acceptable scores. The average for the class was 75 per cent.

In the Advanced Class, Table IX, the test grades show that the understanding was satisfactory for all the members of this class except one. That one had a reading ability below the seventh grade. The average for this class was 90 per cent.

The panel of boys who gave their opinions about the Publications and Leaflets indicated that they did not know the meaning of some of the words used. Ten members of the panel stated they did not know the meaning of the word detrimental. Other terms they did not know were: physiological, mosaic, pH, and fungous.

Your Home Orchard
(Publication 353)

The Freshman Class was rather erratic in the pattern of their response to the test on this Publication. The scores as shown in Table VIII reveal that most of the students with reading ability at the eighth grade level or above, had satisfactory scores. Most of those with reading ability seventh grade or below had scores that were not satisfactory. The average score for the Freshman Class was 67 per cent.
The Sophomore Class had generally satisfactory grades on the test on this Publication, Table VIII. The grades were not high, however, so the understanding was probably not outstanding. Two members of the class had unsatisfactory marks. These unacceptable grades were scattered in such a way that no trends could be detected. The average grade for the class was 79 per cent.

By referring to Table IX, it may be seen that the Junior-Senior Class had satisfactory grades on this test. There were no students who had grades which were unsatisfactory. The average grade for this class was 94 per cent.

Tables X, XI, and XII show that eleven members of the panel had carried out some phase of the orcharding enterprise. The remaining eight members reported that they had not had any personal experience, other than to have observed the work. With regard to the way this Publication is written, most of the panel members stated that it should be left about as it is.

Inheritance - Your Farm and Family

(Publication 350)

This Publication was not written in Tennessee but is a reprint of the Southern Farm Management Publication number Five. It was issued by the Tennessee Agricultural Extension Service under the name and number given above. It explains the legal aspects of inheritance. It deals with many of the legal terms generally in use on this subject.

As shown in Table VII, the Freshman Class had serious difficulty
with the test on this Publication. There was only one satisfactory grade made in the class, and that grade was barely up to the satisfactory level of learning. That one satisfactory grade was made by the student with the highest reading ability in the class. The average score for the class was 53 per cent.

Table VIII shows that the Sophomore Class had generally satisfactory scores on this Publication but that all of the grades were relatively low. The two boys in the class with sixth grade reading ability had unsatisfactory scores. The other scores were acceptable except for one boy near the top of the list in reading ability. The average score for the class was 69 per cent.

The data in Table IX show that the Junior-Senior Class had rather erratic scores. Except for occasional unsatisfactory scores scattered throughout, they were generally satisfactory. The two boys with sixth grade reading ability had unsatisfactory grades.

Table XIII shows that this Publication was classed as difficult in readability according to the formula used. It is one of the four Publications and Leaflets which received this low a classification.

Most of the panel of students stated that the legal terms tended to confuse them and made it difficult for them to understand.

Tables X, XI, and XII, show that six members of the panel, 32 per cent, classed this material as dull or forced reading. Very few rated it higher than mildly interesting. A big majority of the panel stated that they had not had any experience with this type of situation. A big majority stated that they thought that the Publication should be
written in a manner that gave more detail, or made it simpler.

Guideposts to Successful Community Organizations

(Publication 351)

Table XIII shows that this Publication had the lowest reading ease score of any Publication or Leaflet used in this study. The subject matter presented was not of a technical or legalistic nature, however.

As shown in Table VII, the Freshman Class had a very erratic reaction to the test on this Publication. Half of the scores show a satisfactory level of understanding, but they show very little relation to the ability of the students to read. With the students ranked in the order of their reading ability, three of the unsatisfactory marks were in the upper half of the class and five in the lower half. The average for the class was 71 per cent.

Table VIII shows that the Sophomore Class had generally acceptable scores on this test. Most of the scores were comparatively high which shows a reasonable rate of understanding. Two boys had unsatisfactory marks but this seemed to show no definite trend concerning their ability to read. The average score for the class was 87 per cent.

The Junior-Senior Class, as shown in Table IX, had generally acceptable grades on the test on this Publication. The only two grades not satisfactory were near the minimum. The average for this class was 87 per cent.
The members of the panel listed one word in this Publication that they could not define. That word was divergent.

Farm Safety
(Leaflet 80)

This Leaflet is a brief summary of the importance of farm safety. It gives a number of safety precautions that should be taken on the farm. Most of the safety measures are illustrated.

Tables VII, VIII, and IX show that all of the students in the Freshman, Sophomore, and Advanced Classes made satisfactory scores on the test given on this Leaflet. All of the scores were relatively high which shows that the Leaflet was well understood. The average score for the Freshman Class was 95 per cent. The Sophomore Class had an average of 96 per cent, and the Junior-Senior Class averaged 97 per cent.

The panel of students did not list any words or sections of the Leaflet that they could not understand.

In Tables X, XI, and XII, the majority of the panel listed the Leaflet as interesting. A large majority stated that they had carried out safety measures. A majority stated that the illustrations helped to make the leaflet more interesting. A majority also said that the illustrations were very beneficial in bringing out the meaning that was intended.
The Freshman Class, as shown in Table VII, had generally acceptable scores on this Publication. Three members of the class did not have satisfactory scores, but those were scattered throughout the class so showed no definite trend. The boy with the fifth grade reading ability, who made the score of 40 per cent, evidently did not understand. The average for the class was 81 per cent.

Table VIII shows that the Sophomore Class generally had unsatisfactory scores on the test on this Publication. There was no definite pattern based on reading ability. Only four members of the class had satisfactory scores. The average for the class was 76 per cent.

All of the members of the Advanced Class had satisfactory scores on this test, except one, as shown in Table IX. All of the scores were comparatively high which indicated reasonably good understanding. The average score for the class was 93 per cent.

The panel listed one item they did not understand about this Publication. They could not understand, from the illustration on page 7, where the wire should be put.

Tables X, XI, and XII show that the majority of the committee considered this material to be either interesting or highly interesting. Most of the committee had had some experience with the job.
This Leaflet deals with some of the problems that would be faced in the construction of a poultry house. About half of the Leaflet is taken up with a detailed drawing of the house.

As shown in Table VII, the Freshman Class generally had unsatisfactory scores on the test given on this Leaflet. The boys with reading ability from the upper eighth grade up had satisfactory scores. Those with reading ability in the lower eighth grade level and below had scores that were acceptable. The average for the Freshman Class was 67 per cent.

Table VIII shows that the Sophomore Class had five boys who made satisfactory marks and four who made unsatisfactory grades. The distribution of those grades was such that there was no definite trend. Apparently there were other factors that determined the amount of understanding besides reading ability. The average grade for the class was 74 per cent.

Table IX shows that the Junior-Senior Class had generally satisfactory grades on this test. Only one member of the class had a score lower than the minimum. All of the scores were comparatively high which indicates a reasonable understanding of the material. The average score for this class was 88 per cent.

The boys who evaluated the material listed several items that were difficult for them to understand. Two members of the panel stated that they could not understand the drawings. Seven members of the panel
or 37 per cent, stated that they did not know the meaning of the abbreviations used on the drawings. The plans referred to [bars in one place, and six members of the panel said they did not know what bars were.

It is shown in Tables I, XI, and XII that a majority of the panel had had some experience in construction of buildings. All of the panel stated that the illustrations were very helpful in making the information understandable.
CHAPTER IV

SUMMARY

The purpose of this investigation was to study the readability of selected University of Tennessee Agricultural Extension Service Publications and Leaflets for boys taking Vocational Agriculture.

All of the boys taking Vocational Agriculture in the Nicholas Blackwell High School, Bartlett, Tennessee, were used in this study. These boys were investigated closely for their reading ability and other traits and experiences that would contribute to their ability to understand what they had read. The Publications and Leaflets were later read by the boys and tests were given to determine the degree of understanding that had been reached.

A committee of students was selected to give their opinions about the material that they had read. This panel was selected from boys who had normal reading ability, and had lived on farms most of their lives.

It is not known whether the boys taking Vocational Agriculture in the Nicholas Blackwell High School had typical or average reading ability for a group of Vocational Agriculture students. This might be a subject for further study. In this case, however, only 18.8 per cent of the Freshman Class, 11.1 per cent of the Sophomore Class, and 36.8 per cent of the Junior-Senior Class could read at a level equal to or above the grade in which they were enrolled. Reading ability of students ran as low as fifth grade in the Freshman Class. It was as low as sixth
grade in the Sophomore and Advanced Classes.

The University of Tennessee Agricultural Extension Service

Publications and Leaflets used in this study are as follows:

1. A Guide to Farm Fencing (Leaflet 96)
2. Plan for Electricity (Publication 318)
3. Beef Cattle in Tennessee (Publication 330)
4. Farrowing Stalls Save More Pigs (Leaflet 129)
5. Effects of Several Winter Cover Crops on Yield of Cotton (Leaflet 109)
6. Lime, Fertilizer and Manure (Publication 336)
7. Insects and Pests of Field Crops (Publication 360)
8. Control Livestock Pests (Leaflet 90)
9. Commercial Tomato Production in Tennessee (Leaflet 123)
10. Your Home Orchard (Publication 353)
11. Inheritance - Your Farm and Family (Publication 350)
12. Guideposts to Successful Community Organizations (Publication 351)
13. Farm Safety (Leaflet 80)
14. Care and Feeding of Baby Chicks (Publication 155)
15. Tennessee 40 X 40 Poultry House (Leaflet 105)

A detailed analysis of the results obtained from tests on each Publication and Leaflet was given in Chapter III. A summary of the conclusions about individual Publications and Leaflets was made to arrive at the average readability of the group.
Degree of Comprehension

No definite line can be drawn to show exactly where Publications and Leaflets may be read and understood and where they may not be. Some Publications and Leaflets are more difficult than others. The particular experience that a boy has had might give him the ability to understand a Publication or Leaflet that another boy with equal reading ability could not understand. The general trends shown in this study do give some indication about what may be expected on the average.

The Freshman Class had more difficulty in understanding the Publications and Leaflets than either the Sophomore or Advanced Classes. On four Publications and Leaflets, 26 per cent of the cases, only 20 per cent of the class members had satisfactory understanding of the material they read. On the other hand, in only two instances, 13.3 per cent, did most of the Freshman Class have satisfactory understanding. In general, those students with eighth grade reading ability or better seemed to have reasonable understanding of the remaining 60 per cent of the Publications and Leaflets. This would place the readability of most of the Publications and Leaflets at a level of eighth grade reading ability or better for Freshman Boys. It is also important to note that approximately one-fourth of the Publications and Leaflets could not be understood satisfactorily by the Freshman group, except for those with unusual reading ability.

The Sophomore Class showed more uncertainty and was more unpredictable than either of the other classes. On one Publication a big majority of the class had unsatisfactory understanding. Over 80
per cent of the class had satisfactory understanding in only three cases or 20 per cent of the Publications or Leaflets. Results of tests in two cases indicated that boys with seventh grade reading ability or better could understand satisfactorily. In four cases it took eighth grade reading ability to get acceptable understanding. In three cases the scores on tests were so mixed that no definite trends could be determined. From this information it seems that a Sophomore student with eighth grade reading ability could read all but about 27 per cent of the Publications and Leaflets with reasonable satisfaction.

Tests with the Junior-Senior Class showed that in many cases understanding was satisfactory for the full class. On ten Publications and/or Leaflets, 66 per cent, a big majority of the class had satisfactory understanding. In three cases, 20 per cent, only those students with eighth grade reading ability or better had satisfactory understanding. In one instance at least ninth grade reading ability was essential. In general, it seems from these findings that Junior and Senior boys with eighth grade reading ability or better can get satisfactory understanding from most of the Publications and Leaflets.

Areas in Publications and Leaflets that Need Interpretation in Teaching

In the process of the study nineteen boys served on a committee to give their opinions of the Publications and Leaflets. They were asked to give the areas in the Publications and Leaflets that were difficult
for them to understand. It was assumed that if additional information and explanation about those difficult areas was given by the teacher that the learning situation would be improved.

The area that was described most often as not understandable and difficult to understand was the statistical tables. This area was mentioned for about 40 per cent of the Publications and Leaflets. In addition, a big majority of the students stated that their reading habit was such that when they came to a table they skipped it. According to their statement, they only referred to a table when a specific problem was presented which required that the table be read to secure the answer.

Other areas that were mentioned as being difficult were: mechanical drawings and charts. This type of material did not appear in the Publications and Leaflets as often as statistical tables but they were mentioned very frequently when they did appear.

Individual items that were mentioned frequently by the students as not being understood were: technical terms, chemical symbols, and abbreviations. In some instances students stated that it was the abbreviations on statistical tables and charts that made it difficult for them to understand.
Suggestions to the Writers of Publications and Leaflets

It is understood that the Publications and Leaflets considered in this study were written primarily for the farmers of the State. The farmers have the advantage of considerable experience which the students used in this study did not have. It is probable, however, that some of the points of difficulty indicated by this study would also be applicable when read by farmers.

The reading level that was indicated as necessary for understanding the majority of the Publications and Leaflets was approximately eighth grade. In some cases a better reading ability was required to get satisfactory understanding. The average reading ability of ninth grade students in this study was between seventh and eighth grade. For tenth grade students in this study the average reading ability was eighth grade. The Junior and Senior students in this study had an average reading ability of tenth grade.

The general areas of these Publications and Leaflets that were not well understood by the students have been pointed out. In like manner some of the individual items that were causing trouble have been indicated. It is hoped that this information will be of assistance to the writers of Publications and Leaflets in making their future works more readable.
BIBLIOGRAPHY


APPENDIX

APPENDIX A

Name ___________________________ Grade _____ Age _____

Name of Publication _______________________________________________________

Student's Evaluation of Material Read

1. Did you understand what you read?
   _____ a. Perfectly
   _____ b. Almost everything
   _____ c. Reasonably well
   _____ d. Poorly
   _____ e. Not at all

2. Which parts did you fail to understand?

3. Which words in the passage are you unable to define?

4. Do you consider the material you have read to be:
   _____ a. Highly interesting
   _____ b. Interesting
   _____ c. Mildly interesting
   _____ d. Dull
   _____ e. Forced reading
5. How much experience have you had in the job described in this pamphlet?
   _____ a. Much experience
   _____ b. Have done the job
   _____ c. Have seen the job done
   _____ d. None

6. Which passages had to be re-read?

7. Why was it necessary to re-read them?
   _____ a. Did not know the meaning of words
   _____ b. Was not clear
   _____ c. Outside interference
   _____ d. Not interested

8. What is your opinion of the illustrations?
   _____ a. Did not look at them
   _____ b. Helped make it more interesting
   _____ c. Did not see the connection

9. In your opinion did the illustrations help you to understand the meaning of the passage?
   _____ a. Very much
   _____ b. Slightly
   _____ c. No help
   _____ d. Confusing
10. Did the tables help you to understand the passage?

____ a. Very much
____ b. Slightly
____ c. No help
____ d. Did not read them
____ e. Did not see any connection between the body of the material and the tables

11. In your opinion should the information in this pamphlet be written in a manner that is:

____ a. More simple
____ b. More difficult
____ c. Left about as it is
____ d. Given in more detail
APPENDIX B

Name ___________________________________________ Age _______
Address __________________________________________

Farm Experience

1. Do you live on a farm?  Yes _____  No _____
2. How much farm experience have you had?
   _____ I have lived on a farm all my life.
   I have lived on a farm for _____ years.
   I have carried projects in the 4-H Club and F.F.A.
   for _____ years.

Reading Habits

1. Do you read for pleasure?  Yes _____  No _____
2. Do you read the newspaper regularly?  Yes _____  No _____
3. I read _______ magazines regularly.
4. I have read ______ books in the past year.
A Guide to Farm Fencing
(Check statements that are correct)

1. Livestock in Tennessee
   a. Importance grows greater each year.
   b. It is needed to improve balance of farming operations.
   c. Beef cattle are detrimental to the land.
   d. Good pasture is our most expensive feed.
   e. Pasture is largely wasted without good fencing.

2. Facts about farm fences
   a. Main purpose is to keep livestock on or off the land.
   b. Cost and strength of the fence will be determined by the livestock it is built to hold.
   c. Temporary fences are cheaper to construct.
   d. If it is used all the time a temporary fence costs less per year of its life.
   e. Burning fence rows is a good practice if fences are of non-inflammable materials.

3. The following are good fence posts if not treated
   a. Hickory
   b. Maple
   c. Beech
   d. Osage Orange
   e. Birch
4. Steel posts are preferred for the following reasons
   a. They furnish more resistance to the pressure of stock.
   b. They may be easily bent.
   c. They resist fire.
   d. The fence is safer during lightning storms.
   e. It costs less to set them in the ground.

5. About concrete posts
   a. They are being widely used.
   b. It is not practical to make them at home.
   c. Reinforcement steel is not necessary in the post.
   d. Concrete posts become weaker with age.
   e. Concrete posts are attractive in appearance.

6. In making concrete posts
   a. You would need cement, sand, gravel and reinforcement steel.
   b. Seven foot posts with tops 3 inches square and bottoms 5 inches square would require 2 bags of cement for 20 posts.
   c. The 7 foot posts described in the table would require 6 cubic feet of sand for 20 posts.
   d. The 8 foot posts described in the table would require 6 cubic feet of gravel for 20 posts.
   e. The 9 foot corner posts would require 6½ bags of cement for 4 posts.
7. Electric fences
   a. They are usually temporary fences.
   b. Approval of Underwriters Laboratories is considered satisfactory by this writer.
   c. The label "Approved in Wisconsin" means that they are recommended only for dairy men.
   d. Farmers may construct electric fence controllers that are safe.

8. Woven Wire Fences
   a. Woven wire fence numbered 1155 has 6 line wires.
   b. Woven wire fence numbered 1155 is 36 inches high.
   c. Wires that run vertically are called the stay wires.
   d. Smaller wire is usually used in poultry fencing, than for other livestock.
   e. The heavier the wire the longer the service.

9. Barbed Wire
   a. A spool of barbed wire usually has 80 rods in it.
   b. Barbed wire makes the best fences for small animals.
   c. The wounds caused by barbed wire make a good point of entry for screw worms.
   d. Barbed wire usually has either two or four points.
APPENDIX D

Planning for Electricity
(Check statements that are correct)

1. Planning for electricity
   a. We must know what appliances and lighting we will need when we plan the wiring system.
   b. Wiring should be adequate for the possible addition of electrical appliances in the future.
   c. This bulletin recommends that placement of lights and equipment be left up to the electrician.
   d. Improvement in electrical appliances has made them use less power so the overall load is less.
   e. Families are using much greater amounts of electrical power today than the same family did a number of years ago.

2. Effect of wiring on operation of equipment
   a. Voltage loss on a circuit is the result of overloading the circuit.
   b. Appliances operate properly on an overloaded circuit but such operation is too expensive.
   c. The use of larger wire in the original wiring will help to prevent over loaded circuits.
   d. When a circuit is over loaded the voltage is reduced in that circuit.
   e. Electric lamps give more light on low voltage.

3. Importance of proper planning
   a. Heavy, well planned wiring is more safe from fire hazard.
   b. It will make possible the addition of more equipment without the cost of rewiring.
c. A well planned wiring system will have a disconnect switch for each building.

d. A properly planned wiring system may be expanded in the future if necessary.

4. Service entrance and meter

a. The location of the meter is of little importance except to find a convenient place.

b. The size of the meter and service entrance equipment may be determined from the electrical load that you have to start with. It is not likely that this will be increased.

c. Sometimes the meter and service entrance is located on a pole in the yard. This is a safety measure in case of fire.

d. The size of feeder wires is determined by the distance from the meter center and the maximum load that will operate from it.

e. If the farm service entrance and meter are placed on a pole in the yard no service entrance is necessary for other buildings.

5. Electrical circuits

a. Circuits start at the farmstead service entrance.

b. A properly wired farm dwelling normally would contain only one circuit.

c. One 15 ampere circuit will serve up to 10 lighting or small appliance outlets.

d. A 15 ampere general lighting circuit should be wired with No. 20 wire.

e. Refrigerators, washing machines and freezers should be connected to the regular 15 ampere general purpose circuit.

6. Electrical terms

a. A single pole switch is normally used on a pole in the yard and gets its name from this application.
**b.** A 3-way switch is one of 2 switches controlling one or more lights from 2 places.

**c.** A convenience outlet is a place in the wiring system where it is convenient for the electrician to make connections for additional wiring.

**d.** A power outlet is a 230 volt connection for motors of 1/2 horsepower and larger.

**e.** A remote control wiring system is an arrangement to control lights. It was designed so as to eliminate 3- and 4-way switches.

### 7. Locating outlets

**a.** The location of outlets should be left entirely to the electrician.

**b.** A convenient method for marking the spot where outlets are wanted is to paste gummed paper or tack a shipping tag to the spot.

**c.** Outlets should be placed after a careful plan has been made about the location of each piece of equipment.

**d.** Normally the convenience outlet should be placed 6 inches above the floor in the living room.

### 8. Things to remember when planning

**a.** Get good technical assistance in planning.

**b.** Place wall switches on the side of the door away from the lock.

**c.** Switches controlling lights should be located to turn lights on ahead of you.

**d.** In living rooms and bedrooms no point along a usable wall space should be more than 6 feet from a convenience outlet.

**e.** We may use No. 16 rubber covered wire for inside work.
9. Floor plan of home
   a. This plan shows ceiling lights in every room in the house except the bathroom.
   b. The ceiling light in the kitchen has a single pole switch controlling it.
   c. Both bedrooms have ceiling lights controlled by 3-way wall switches.
   d. The water heater is located in the laundry room.

10. Kitchen
   a. They do not recommend a ceiling light for a modern kitchen.
   b. The range and water heater will require special purpose outlets.
   c. A convenience outlet should be provided for each 4 linear feet of work area.
   d. Lighting should be arranged so that it will not be necessary to work in shadows.

11. Dining room
   a. Convenience outlets are not recommended for the dining room, they will not be needed.
   b. The ceiling light should be controlled by a 3-way switch if there are 2 doors.
   c. The ceiling fixture above the table should hang at least 5 feet above the table.
   d. The lighting fixture should be of such a nature that the bulbs are in plain view.
APPENDIX E

Name ___________________________ Grade __________

Beef Cattle in Tennessee
(Check the statements that are correct)

1. Reasons for the growing beef cattle industry in Tennessee

   a. Grain feeding makes beef cattle profitable even though good pastures are almost impossible to grow in Tennessee.
   b. Mild winters are helpful in making production less expensive.
   c. Beef cattle production helps to keep the soil fertile.
   d. Long grazing seasons in Tennessee make production of beef cheaper.
   e. Increased industrial development in Tennessee has had a tendency to crowd out beef cattle production and reduce the demand at local markets.

2. Kind of Cattle produced

   a. Present trends among farmers is to sell their cattle at an older age than they did formerly. This is to give them time to get them in better condition.
   b. The packers want heavier carcasses now than they did a number of years ago.
   c. Farmers like to produce cattle with greater age because it gives them time to pick a high price time to sell them.
   d. Most farmers in Tennessee are buying steers to finish on grass rather than grow their own calves. This plan is increasing in popularity.
   e. Success usually depends more on good management, feeding and marketing than on the breed produced.
3. Breeds of Beef Cattle

   a. The angus breed is black in color and are naturally polled.
   b. Hereford cattle are noted for their ability to take rough conditions, develop quickly and the fact that they do well on pasture.
   c. Shorthorn cattle are liked for their ability to give a large amount of milk to raise fat, heavy calves.
   d. There are two types of shorthorns. They may either have horns or they may be without horns.
   e. Brahman cattle have the ability to sweat. This makes it possible for them to withstand heat better than the other common breeds which cannot sweat.

4. Selection of the Herd

   a. If the farmer starts his herd with open heifers, he has the advantage of being able to expect a quick return on his money.
   b. The purchase of open heifers to start a herd has the advantage of giving the farmer time to gain experience in handling them before they start producing calves.
   c. The spring season is the best time to purchase cattle for a new herd according to this publication.
   d. The first cost of bred cows or cows with calves at their side is cheaper because the cows are older.
   e. If calves are to be sold at weaning time, it is most important that the brood cows be free of any dairy breeding.

5. Selection of the herd sire

   a. If a farmer has a grade herd of cows, it is not desirable for him to have a purebred bull.
   b. It is sometimes possible to get a good purebred bull at the slaughter market.
   c. A good quality, purebred herd sire is essential if a farmer hopes to be successful in the beef business.
6. Feeds and feeding

   a. In addition to the proper amount of food nutrients, economy is of great importance in determining a good ration.

   b. A balanced ration is one that furnishes all of the food nutrients required to properly nourish an animal for a 24-hour period.

   c. Proteins supply heat, energy and fat to the animal.

   d. Carbohydrates are present in large quantities in starches and sugar.

   e. Fats are used in the animal's body for about the same purpose that proteins are used.

   f. Common salt is the mineral that is needed in greatest quantity by beef cattle that are being fed the usual rations in Tennessee.

7. Management at breeding time

   a. Most commercial cattle growers breed their cows to produce calves in February and March.

   b. Cows that drop their calves in the fall require less attention from the farmer than spring calves.

   c. Pasture mating is the method practiced by most beef cattle growers in the state.

   d. One good bull is sufficient for a cow herd of 50 – 60 cows.

   e. The heat period in cattle usually lasts at least 3 days.

8. The gestation period of cows

   a. The average gestation period for cows is 283 days.

   b. It is possible for a cow to have a gestation period of as low as 245 days.
c. If a cow is bred on April 10, we would normally expect the calf on January 27.

d. If a cow is bred on August 8, we would normally expect the calf on May 22.

e. If a cow is bred on December 6, we would normally expect her calf on September 30.

9. Summer management

a. Shade is of no importance to beef cattle in summer.

b. Beef cattle seldom are affected by screw worms so this can largely be forgotten.

c. Cattle properly sprayed with DDT will be essentially free of horn flies for 2 – 3 weeks.

d. We cannot expect profit from commercial beef cattle without an abundance of productive pastures.

e. About 1-1/2 acres of good permanent pasture plus 1/2 acre of improved supplementary summer and winter pasture are needed for each cow.

10. Problems with beef cattle in summer

a. Good pastures should be developed before we get the beef cattle.

b. We should not give cattle too much salt in the summer as it will cause them to suffer from the heat.

c. Bloat is an accumulation of gas in the paunch of a cow.

d. Bloat is not dangerous to the cow so the grower may forget about it.

e. Walking or exercising the animal should never be done as it may cause a rupture.
Appendix F

Name ___________________________ Grade ____________

Farrowing Stalls Save More Pigs
(Check statements that are correct)

1. Advantages of farrowing stalls

   a. At the University of Tennessee, farrowing stalls have proved superior to any other methods tried.

   b. Losses due to crushing by sows have been greatly reduced.

   c. Pig losses due to chilling and being eaten by the sow have increased in farrowing stalls.

   d. University of Kentucky experimental results show just the opposite of those by the University of Tennessee. They report greater losses in farrowing stalls.

2. Where and how should farrowing stalls be built

   a. Farrowing stalls are quite expensive and can be constructed only in new farrowing houses.

   b. It is practical to make the partitions removable so that the space may be used for other things when not needed for farrowing.

   c. It is not practical to build farrowing stalls on the farm. They should be purchased from an equipment dealer.

   d. Normally the stall is built 8 feet long.

   e. Stalls should be so planned that there is space behind the sow for pigs to go from side to side.

3. Construction of farrowing stalls

   a. The bottom of the partition should be 2 inches from the floor so that the pigs cannot get out.

   b. Panels may be built of light 1-inch or 3/4-inch material because sows do not try to escape at farrowing time.
c. There should be at least a 12-inch space on either side of the partition panel.

d. It is not necessary to make provision to keep pigs from being mixed as baby pigs will not leave their mother.

e. Sows are so closely confined in farrowing stalls that heat lamps will not be needed even in cold weather.

4. Using farrowing stalls

a. One sow will need to stay in a stall about 8 to 10 days.

b. You will need one farrowing stall for each sow that is bred to farrow at the same time.

c. It is recommended that sows should be placed in the farrowing stalls at least a week before they are due to farrow.

d. Some farmers think that it is best to feed and water the sow in the stall. Others think it is best to let her out of the stall to feed and water.

e. If the sow is turned out for feed and water the pigs should be turned out with her so they can get exercise.

f. It will be necessary to vary the space between the bottom of the partition and the floor depending on the size of the sows.
Effects of Several Winter Cover Crops on the Yield of Cotton
(Check statements that are correct)

1. Management of Cotton
   __ a. Many farmers in Tennessee plant cotton on the same land each year and leave the soil bare in winter.
   __ b. Continuous cropping with cotton and leaving the soil bare in winter tend to cause the soil to lose its organic matter and help to cause it to lose soluble plant nutrients.
   __ c. By growing winter cover crops the danger of erosion is made less; it helps build up organic matter and cuts down the amount of commercial fertilizer needed.
   __ d. This circular was put out to encourage farmers to plant their cotton on the same land each year.

2. Method of Procedure
   __ a. The experiment was set up to try to determine the amount of erosion that would take place if the ground was left bare.
   __ b. These tests ran from 1936 through the crop year 1944.
   __ c. The cover crops were seeded in the cotton after all of the cotton was picked.
   __ d. The cotton was grown in a regular 4-year rotation.
   __ e. No fertilizer was added to the soil that was used for the test.
   __ f. The trials were grown in plots with every third plot left without a cover crop to act as a check.
3. Rate of Seeding

   a. Ryegrass and vetch mixture was 15 pounds of ryegrass and 20 pounds of vetch.

   b. Austrian winter peas 40 pounds.

   c. The rye and vetch mixture was 56 pounds of rye and 20 pounds of vetch.

   d. Bur clover 40 pounds.

   e. The rye and crimson clover mixture was 56 pounds of rye and 10 pounds of crimson clover.

4. Effects of Green-manure Crops on Yield of Cotton

   a. Rye and hairy vetch produced the greatest increase in yield of cotton the following year.

   b. Ryegrass alone as a cover crop increased the yield of cotton 7 per cent.

   c. Rye produced a greater increase in yield of cotton than crimson clover.

   d. All of the mixtures of grasses and legumes produced a greater yield than the legumes did alone.

   e. The fact that the cover crops of grasses alone rotted slowly is probably the reason that they did not improve the yield of cotton that followed them.
Lime, Fertilizer and Manure
(Check statements that are correct)

1. Plant Nutrient Requirements
   a. Carbon, hydrogen, and oxygen enter the plant mostly through the soil and roots of the plant.
   b. Nitrogen, magnesium, and sulphur enter the plant from the air.
   c. Boron, copper, and zinc are used by the plant in large amounts.
   d. Nitrogen, phosphorus and potassium are the elements that are usually lacking in Tennessee soils.
   e. It is necessary that plant food elements be present in the soil in proper proportion if good growth is to be obtained.

2. Nutrient Losses from the Soil
   a. Harvesting and removal of a crop does not take plant food from the soil.
   b. The climate has no effect on the nutrient content of the soil.
   c. The greatest loss of plant food nutrients on most soils is from erosion.
   d. Nitrogen and potassium may be removed by drainage water that seeps through the soil.
   e. When you harvest and remove 50 bushels of corn from a field, you take off 20 pounds of nitrogen, 11 pounds of phosphorus, and 47 pounds of potassium.
3. Determining the Fertility of the Soil
   a. Plant tissue tests are helpful.
   b. It is not possible to get any indication from the appearance of the plant.
   c. It is important to have a knowledge of the crops that have been grown in the past and what fertilization has been done in the past.
   d. Chemical soil testing is quite useful and is recommended.
   e. If the chemical soil test is to be accurate, we must have representative samples.

4. Lime
   a. On most Tennessee farms lime is not used as a fertilizer but is used to improve the physical condition of the soil.
   b. Lime is needed on only a small percentage of the land in Tennessee.
   c. It is best to apply the lime to plowed ground and mix with the soil during seedbed preparation.
   d. Ground limestone is higher in neutralizing value than dolomitic limestone.
   e. Calcium silicate slag is higher in neutralizing value than ground limestone.
   f. It is possible to apply too much lime but it seldom occurs.

5. Mixed Fertilizers
   a. About three-fourths of the commercial fertilizer sold in Tennessee in recent times has been mixed fertilizers.
   b. A mixed fertilizer that contains all three of the major plant food elements is known as a complete fertilizer.
   c. In a mixed fertilizer that has a 4-12-4 grade the first number represents the percentage of phosphoric acid, the second number the percentage of nitrogen and the third number the percentage of potash.
d. Fillers are used so that the definite grade which is desired may be obtained.

e. If a mixed fertilizer contains 20% plant food nutrients the remaining 80% is filler.

6. Methods of applying fertilizer

a. It makes little difference where the fertilizer is placed as long as the right kind and amount are used.

b. Placing fertilizer at varying depths in rows is known as broadcasting.

c. Placing fertilizer in bands beside the row slightly deeper than the seed has been found to be very effective.

d. Broadcasting fertilizer on crops that are already growing is known as Top-dressing.

e. Side dressing is placing the fertilizer at the bottom of the furrow beside the plow when the soil is turned.

7. Crop fertilization

a. All crops should be fertilized heavily without making any effort to tell what the soil needs are.

b. Although all facts about crop needs may never be known, a farmer should make an effort to learn as much as he can about his soil so that he can make effective use of fertilizers.

c. Soil testing is probably the best single method that we now know for determining the fertility level of soil.

d. All plants have the same needs so far as rate and amounts of fertilizer nutrients are concerned.

e. Lime and method of application of fertilizer will be the same for all crops.
8. Corn

   a. Corn does not normally need heavy fertilization.

   b. If large amounts of fertilizers are used it is best to place it in the row in direct contact with the seed so that it will be readily available when the plant starts to grow.

   c. If over 500 pounds of fertilizer is used it is wise to apply part of it broadcast and 100 to 150 pounds of it beside the row to act as a starter.

   d. It is wise to apply about one-fourth of the nitrogen at planting time and the remainder as a side dressing.
Insects and Pests of Field Crops
(Check statements that are correct)

1. Importance of insects in crop production
   a. Total losses due to insects is at least one tenth of the value of the crops annually.
   b. Insect damage is worse some years than it is others.
   c. This writer thinks that it will not be long before controlling insects will be as much a part of crop production as fertilization and seed bed preparation.
   d. One important part of insect control is for the farmer to be constantly watching for the presence of insects.
   e. It is much easier and cheaper to control insects if they are discovered before they become numerous.

2. Methods of control
   a. Insect poisons are about the same today as those in use many years ago.
   b. Most insect poisons in the past had to be eaten before they would kill.
   c. Most modern insect poisons kill only if the poison is eaten by the insect.
   d. Some modern poisons will kill all insects.
   e. A systemic poison is one that is taken up by the tissues of the plant. When the insect eats these plant tissues, he is killed.

3. Forms of poison material
   a. Most dusts can be put in water and sprayed if it is desirable.
b. Granular dusts stick to the plant better and saves waste from having it fall on the ground.

c. Wettable powders are manufactured so that they may be put in water and sprayed if desirable.

d. Wettable powders are dissolved by the water when they are used as a spray.

e. Emulsion concentrates usually contain varying amounts of poison per gallon when manufactured by different companies.

4. Precautions

a. It is possible for a person to absorb enough of some poisons through the skin for it to be dangerous.

b. Most insect poisons will not harm fish.

c. A person should not breathe dusts or sprays that contain insect poisons.

d. Insects are very easily killed and most poisons that kill insects are not harmful to man.

5. Greenbugs and other Aphids

a. The aphid is a chewing insect.

b. It is not likely to kill plants even when infestation is heavy.

c. It is best to apply poisons for control in cold weather when the temperature is below 50°.

d. Aphids are often found in great numbers in the spring.

e. Aphids may be easily controlled by spraying with arsenate of lead.

6. Hessian Fly

a. This is an insect that is very destructive on oats.

b. It has both spring and fall broods that will do considerable damage.
c. One method of control is to plant wheat late in the fall after the flies have been killed by cold weather.

d. Spring infestations of the insect cause wheat to fall down.

e. The insect can be controlled by spraying if necessary.

7. Rough headed corn stalk beetle

a. This insect attacks mature corn.

b. There will also be a hole in the ground near the stalk in most cases where this insect is present.

c. The best method of control is to plant corn on land that has been in sod.

d. Weeds and grasses around the edge of the field may furnish a place for the insects to live.

e. Aldrin will not control the insect.

8. Spring Armyworm

a. This is a serious pest on small grains, pastures, and alfalfa.

b. Armyworms travel in large groups and practically destroy vegetation as they go.

c. They stay on the leaves of the plant during the day and may be easily found.

d. The adult form is a worm 1/2 inches long, hairless, and greenish-black in color.

e. This pest may be readily controlled with insecticides. Toxaphene is a good material.

9. Blister Beetles

a. This is a very sluggish inactive insect.

b. The damage that they do is that they cause blisters on the plants.
c. They tend to travel in groups and are sometimes called army bugs.

d. Where they enter and emerge from the ground, they leave a mound which looks something like an ant hill.

e. Swarms of blister beetles may be driven with switches into piles of hay or straw and burned.

10. From the table on page 38 determine the following:

a. If the active insecticide per gallon of emulsion is 2 pounds it will take 5.3 pints to apply 1 pound of insecticide per acre.

b. If the emulsion contained 3 pounds of insecticide per gallon, it will take 5.3 pints to apply 2 pounds of insecticide per acre.

c. If the emulsion contained $1\frac{1}{2}$ pounds of insecticide per gallon, it will take 10.6 pints to apply 2 pounds of insecticide per acre.

d. If you have a 40% wettable powder, it will take 2 pounds of it to supply 1 pound of insecticide per acre.

e. If you have a 75% wettable powder, it will take 1 pound to supply 1 pound of insecticide per acre.
APPENDIX J

Control Livestock Pests
(Check statements that are correct)

1. The backrubber for cattle

   a. The purpose of the backrubber is so that cows may scratch
      themselves and brush off flies.

   b. One method is to stretch barbed wire covered with burlap
      sacks between two posts. This should sag in the center
      to about 18 inches from the ground.

   c. You should not use DDT or Toxaphene on the rubber if you
      have fattening cattle or cows in milk that can get to it.

   d. Methoxychlor should not be used if fattening cattle or
      cows in milk can get to the rubber.

   e. Backrubbers may help to control horn fly and lice on
      cattle.

2. The house fly

   a. A common place for house flies to multiply is in manure.

   b. Sprays will not kill flies that are flying about.

   c. Flies have become immune to all forms of residual sprays.

   d. Poison baits containing malathion and diazinon are effective
      around the house but will not control flies around the barn.

   e. Fly maggots in manure under caged hens may be controlled
      by thiourea at the rate of 1 ounce per gallon of water.

3. Cattle lice

   a. One teaspoon of 25% lindane wettable powder per gallon of
      water makes a spray that is quite effective.

   b. Dusts are not effective against lice.
c. If dusts are used it should be applied principally on the back and sides.

d. The best time to spray cattle for lice is in July.

e. Do not use DDT on milking cows.

4. Hog Worms

a. Sodium flouride should be fed to hogs in slop to control worms.

b. A 100 pound hog will eat about 4 pounds of dry feed in a day.

c. When feeding dry feed containing 1% sodium flouride for worm control, it should be fed for only one day.

d. When sodium flouride is used regularly to treat hogs for worms, it is not necessary to try to prevent worm infestation by sanitation.

e. Cadmium and piperazine compounds are effective against hog worms.

5. Cattle grub and heelfly

a. Treatment should begin when the grub holes first appear. This is usually in December.

b. Grub holes will be found in the cows' heels.

c. Grubs will be killed by rotenone whether it gets into the grub hole or not.

d. Spraying and killing the heelflies is a better means of control than killing the grubs.

e. It may be wise to graze cattle at night and keep them in darkened sheds in the day time to help prevent infestation.

6. Cattle worms

a. Worms hatch out in the cows' intestines.

b. Cattle worms are not present in many cattle in Tennessee.
c. Phenothiazine is one of the better materials to help control worms in cattle.
d. Cattle should be kept up for about 2 days after treatment to keep down infestation of pastures.
e. Phenothiazine mixed with the salt is effective in control of worms.

7. Sheep worms

a. All sheep in Tennessee may be considered to be infested.
b. Unthriftness, pot bellies in lambs, scour are a few of the indications of worms.
c. The only practical control is to sell the old sheep and keep lambs every year for breeding purposes.
d. Phenothiazine mixed with the salt will give adequate control without drenching.
e. If tapeworms are suspected in addition to stomach worms, we should use copper sulphate and nicotine sulphate as a drench.

8. Screw worms

a. Treatment for screw worms should be done as soon as possible after detecting it.
b. Screw worms get into a wound by flies laying eggs in the wound.
c. We should pick all screw worms out of the wound.
d. One application of EQ335 will be sufficient.
1. **Soil selection and Fertilization**
   - a. Tomatoes may be successfully grown on soils with poor internal drainage.
   - b. Fertile lowlands are usually chosen for tomato production in West Tennessee.
   - c. High fertility is necessary for good tomato yields.
   - d. Too much nitrogen may be harmful to the tomato crop.
   - e. Organic matter is of little importance as long as there is plenty of plant food in the soil.
   - f. Liming is not generally recommended for tomatoes.

2. **Growing Plants**
   - a. Many growers produce plants in dirt bands or set them far enough apart in the cold frame so that they may be blocked out.
   - b. Plants properly handled in dirt bands produce fruit from one to two weeks earlier than pulled plants.
   - c. Seed should be sowed in the hotbed about the middle of February.
   - d. Plants should be transplanted to the cold frame after all danger of frost is gone.
   - e. Soil should be sterilized for the hotbed to kill the insects that are in it.
3. Fertilization

   a. If your soil test shows low phosphate and high potash you should apply 200 pounds of sodium nitrate and 600 pounds of 20% phosphate per acre.

   b. If your soil tests show high phosphate and low potash you should apply only 200 pounds of sodium nitrate.

   c. Placing the fertilizer in 2 bands on either side of the row gives best yields but is not practical without specialized equipment.

   d. Sodium nitrate should never be applied to tomatoes.

   e. It is never wise to broadcast even a part of the fertilizer.

4. Setting

   a. Late setting of plants will reduce the yield.

   b. The recommended date for setting plants in the field in West Tennessee is around April 20.

   c. Plants that are to be staked should be set farther apart than those not staked.

   d. It is sometimes advisable to space two rows close together and two rows wide apart so that a sprayer may be carried through the patch.

   e. Watering plants is a necessity if the plants are pulled.

   f. Fertilizer added to the water used to water the plants is definitely harmful.

   g. Shallow setting of the plants is essential.

5. Insect Control

   a. The principle reason for spraying or dusting tomatoes is to control disease. Insects may be controlled at the same time.

   b. Many commercial tomato growers make no effort to control disease, or control insects.
c. The recommended control for cutworms is to spread a poison bait one or two days before setting.

d. The most damaging insect on tomatoes is the fruit worm. The recommended control is to use DDT.

6. Disease Control

a. Damping off disease may be controlled by spraying the plants.

b. Fusarium Wilt may be controlled by planting resistant varieties and planting on ground where tomatoes have not been grown in some time.

c. Tobacco mosaic may be controlled by spraying with nicotine sulphate.

d. It is recommended that a weekly spray schedule be followed to prevent disease on tomato plants in the field.
APPENDIX L

Name ___________________________________________ Grade __________

Your Home Orchard
(Check statements that are correct)

1. General Information
   _____ a. Land that has eroded and with practically no top soil will make a good site for the orchard since the trees will re-
   claim the soil.
   _____ b. Trees set on sloping ground will not suffer as badly from frost as trees set on low land.
   _____ c. If sloping land is selected for the orchard, it should be properly terraced before the trees are set out.
   _____ d. Rows of trees should follow the contour of the land if the field slopes.
   _____ e. Peach and plum trees may be set out at locations on the grounds for beauty as well as the fruit they will bear.

2. The Type of Trees to Buy
   _____ a. Nursery trees that are two years old or older are recommended by this writer.
   _____ b. There is no difference between dwarf trees and the regular trees that nurseries sell.
   _____ c. A person should plant a large number of trees of early varieties and a smaller number of the later varieties.
   _____ d. The best time of the year to set out fruit trees is in June.
   _____ e. Trees set out in November should be wrapped with heavy paper to keep rabbits from damaging them.
3. Arranging the Trees
   a. If the place for the orchard is small, it is best to determine the number of trees by the number that can be placed in each row that is available.
   b. Regular apple trees should be planted 35 feet apart.
   c. Peaches, plums and cherries may be set 20 feet apart.
   d. Fertilizer should not be used when the trees are set because it will burn the roots.
   e. If the soil is not very good, the bed where the tree is set should be improved by adding good garden soil, barnyard manure or other fertilizers.

4. Cultivation and Fertilization
   a. It is best to cultivate young trees.
   b. Other crops should not be planted between the young trees because it will help to spread disease.
   c. It is a good rule to cultivate to within six inches of the trunk of the tree regardless of its age.
   d. Planting and turning under soil improving crops is a good practice.
   e. If the soil is properly fertilized, peach and cherry trees should make about six inches of new growth each year for the first two years.
   f. It is wise to cover the ground under the trees with straw to help hold moisture.
   g. Stable manure should be spread under the trees, as far out as the branches spread, if it is available.
   h. Nitrate of soda should not be used on peach trees because it is harmful to them.

5. Pruning Peaches
   a. The purpose of pruning is to cause the tree to grow into a desirable shape.
b. Pruning a tree always causes it to produce more fruit.

c. For peach trees you prefer the leader type in preference to the open center.

d. Pruning the tree should begin when it is set out.

e. In general, pruning should be done at any time between December and the time spring growth begins.

f. Suckers from roots or points too low on the trunk may be removed in early summer.

g. It is never a good practice to cut back the tips of the main side limbs.

h. After the main structure of the tree is established limbs will not grow into the center.

i. It is not wise to thin out the lateral shoots on a limb because they might not grow back.

6. Pruning Apples

a. Different varieties of apples have about the same shape of tree and growth habits.

b. The general shape of apple trees that is desired is a leader type with several strong side branches at intervals from it.

c. In general the main side branches that you select should begin about 24 to 30 inches from the ground.

d. Limbs of equal size coming from a common point are very desirable because they make the tree stronger.

e. Heavy pruning will tend to make young apple trees bear earlier.

f. Crossing and rubbing limbs should be removed.

g. Heavy pruning that exposes large limbs to the sunlight is a good practice because the sun is good for them.
Inheritance - Your Farm and Family
(Check statements that are correct)

1. Inheritance

   ___ a. Most southern farmers make provisions for transferring their property to their heirs after their death.

   ___ b. The failure of a person to provide for the distribution of his property may work a serious hardship on his survivors.

   ___ c. It is possible for a person to leave instructions as to what shall be done with his property by leaving a last will and testament.

   ___ d. The division of property is determined by the laws of the state if no will is left.

   ___ e. The laws that deal with the distribution of property are the same in all states.

2. Objectives in inheritance

   ___ a. The proper distribution of property can only come after a careful analysis of each individual situation.

   ___ b. A person should be certain that their wife or husband is provided for in such a way that they will have reasonable security till their death.

   ___ c. It is always fair to give your children an equal share of the property.

   ___ d. Division should be made in such a manner that there will be as little friction as possible between the heirs over the division of the property.

   ___ e. Consideration should be given to the efficiency and size of the property units after division.
3. Ways of owning property

a. There are two kinds of property: real and personal.
b. Real property consists of land, buildings, fences, etc.
c. If a person holds title to his farm in fee simple it means that there is no restriction on the use or sale of the property.
d. If you hold a life estate in your farm, you may sell it at any time that you wish.
e. Co-ownership means that two or more persons hold the title to the property together.
f. Tenancy-in-common means possession of property because of paying a rental.
g. Land held by a person in Joint tenancy with another may be willed to any person that he chooses.
h. When land is held in Tenancy-by-the-entirety, it may not be sold unless both parties agree to the sale.
i. Co-ownership may apply only to real estate.
j. Community property does not belong to any person or pair of persons but to the community government.

4. Transfer of Property

a. A person should choose the method of transferring his property that seems to suit his family and situation best.
b. It is possible that forming a corporation of the farm business might help the transfer after death.
c. A method that is often used is to write a "Last Will and Testament."
d. It is possible that transferring the property before death might suit best.
e. If a person does not leave a will there is no way to dispose of the property after he dies.
5. Laws of Descent

   a. If there is no will a wife would normally receive all of her husband's property.

   b. The personal property is usually used to pay the debts against the estate if they are sufficient to cover the debts.

   c. According to law the child who stays at home and looks after the parents will receive the greater share of the property.

   d. The children of an heir that has died will receive their parent's share in an estate that he would be entitled to if alive.

   e. When a person leaves no descendents the property goes to the state.

   f. A widow who has dower rights in a farm may sell it if she wishes.

   g. A widow does not usually receive any of the personal property.

   h. The rights of a surviving husband in a wife's estate is normally called courtesy rights.

   i. In most states a surviving husband gets about the same share of the personal property as a widow.

   j. Homestead rights of a widow, in most states, have priority over the rights of most creditors.

   k. Homestead rights usually give a widow the right to sell or will the property to others.
1. Purposes of Community Organizations

   a. The new type of community organization which started around 1937 was based on a definite plan of work.

   b. The community improvement contests have furnished encouragement for these organizations.

   c. The main purpose of these organizations was to increase the financial status of the community.

   d. The most important result of these community organizations is that the people have learned to cooperate with one another and in so doing have created a better place in which to live.

   e. This publication is issued to help encourage those community groups which have already organized.

2. Does the Community want to organize?

   a. Success of a community organization will depend largely upon the desire of the community leaders to improve community life.

   b. To be successful a community organization must deal with the problems of the community that can be solved by group action.

   c. To be successful the members of the organization must visualize themselves and their homes as a part of the community.

   d. Any good community organization will function better with two factions that are bitterly opposed to each other.

   e. Members of the community will need to spend very little time and effort for the organization. This is the duty of the leaders.
3. Steps in Organizing

___ a. If community leaders agree that an organization would be desirable, a meeting should be called to which all the citizens of the community are invited.

___ b. A convenient church building is usually the best place to hold the first general meeting.

___ c. The leaders should take complete charge of the meeting and tell the other people the kind of organization they should have, just how it will be organized and just which people should be selected for officers.

___ d. The time when the next meeting will be held should be set before the first meeting adjourns.

___ e. Officers for the organization should be elected at the first meeting.

4. The Organization in Action

___ a. The membership committee should try to get as many members into the organization as possible. Little attention should be paid to where they live.

___ b. The community should be large enough so that profit can be gotten from cooperative effort, but not so big that its interests are too spread out.

___ c. The membership committee should make the final decision about who should belong to the club.

___ d. The planning committee should make the final decision about which persons should be in charge of the various activities.

___ e. The plan of work should include the activities to be undertaken during the year, the equipment needed and the persons to be responsible for each activity.

___ f. In making assignments for carrying out the plan of work as few different people as possible should be selected so that it will be easy to contact them.
5. Meetings

a. Regular meetings are tiring to the members so it will be best to call meetings when there is business to be taken up.

b. It is helpful to work out programs for meetings for a full year at a time. Care should be taken to make sure that they fit the times which will contribute best to the community goals.

c. Members of the local community should not be asked to appear on the programs. Speakers from outside the community will bring in new ideas.

d. Regular meetings should be used for planning activities, progress reports and general items of business.

e. Method demonstration meetings are educational in type and usually held in the place where the activity would normally be carried out.

f. Result demonstration meetings are held for the purpose of analyzing records or viewing accomplishments.

g. Achievement meetings are sometimes held for the purpose of giving final reports on what has been accomplished.

6. Guide to a Well-balanced Program

a. The community improvement contests are harmful to the program and should not be used as a basis for organizing the community.

b. The program should not include items that will help to make a living but should concentrate on items of recreation.

c. The program should include items about home management and home improvement.

d. Little attention should be given to citizenship and educational problems as these items will be taken care of by the county government.
1. Farm Accidents
   - a. Accidents cause more deaths in the farming occupation than that of any other of the 5 major industries.
   - b. Careless use of farm machinery is the biggest cause of farm work accidents.
   - c. Very few farm accidents occur in the home.
   - d. Although the farmer has a large number of accidents, it is not very expensive to him.

2. Fires
   - a. Since farm buildings are widely scattered, fires are not likely to occur.
   - b. People often lose their lives in farm fires.
   - c. The financial loss that results from farm fires is high.
   - d. Cause of most fires are acts of God and cannot be prevented.
   - e. To be as safe from fire as possible a person should learn to recognize and eliminate fire hazards.

3. Safety Ideas
   - a. You can usually trust a bull if he is tame. If you must lead him a good chain attached to him is the best way.
   - b. In cold weather you may close the doors of the garage and run the car or tractor with safety.
   - c. Never step over belts while they are running.
d. Partially broken or repaired axe handles should be replaced.

e. Sharp pointed tools should be hung up or stored so that they cannot be of danger.

f. Under a tree is the proper place to stand during a thunderstorm.

g. 110 volts is not dangerous so defective extension cords and wiring cannot do any damage.

h. We should not turn the lights on or off while standing in the bath tub.

i. A good rack to store sharp knives and other sharp objects in will help prevent accidents.

j. Small rugs are quite dangerous unless they are fixed so they will not slip.

k. Household chemicals can be dangerous unless they are used as the directions specify.

4. Fire Precautions

a. Cleaning chimneys is not necessary. If they catch afire they will not cause the house to burn.

b. Kerosene is extremely dangerous when used to start fires.

c. The house builder always fixes the house just right so that it won't catch afire from stoves and stovepipes.

d. It is not wise to have a fire extinguisher around a home.

5. Protection Against Falls

a. Handrails on the stairs are only needed in public buildings.

b. Rubbish and articles stored on the stair steps is a hazard.

c. A person should not get up on any ladder that is not strong and well fastened.
6. General Precautions

   a. Safety guards on machinery are usually in the way and should be removed.

   b. It is not wise to stop an engine before filling it with fuel.

   c. Children should be kept away from any moving machinery.

   d. When entering a stall with an animal try to sneak up on him. Do not speak to him because it will make him nervous.

   e. Animals with new born young are never dangerous.
Care and Feeding of Baby Chicks  
(check statements that are correct)

1. Essentials of Success
   a. The farmer must secure strong, healthy chicks from good parent stock if he expects to be successful.
   b. There is no connection between the breeding of a hen and the number of eggs she will lay.
   c. Poor quality chicks are expensive regardless of how little you pay for them.
   d. It is usually best to order the chicks from a hatchery that is a long distance from home.
   e. The hatchery must be extremely careful to hatch chicks that are free from disease.
   f. Locally hatched chicks are usually less likely to die than those shipped a long distance.

2. Securing the Chicks
   a. Chicks that are bought to put in egg producing flocks should be bought in February and March, sometimes earlier.
   b. Chicks that are started early should start laying by late summer of that same year.
   c. Egg prices are normally lowest in October and November.
   d. Pullets normally lay their largest eggs when they first start laying.
   e. You normally have more trouble with diseases and parasites if the chicks are hatched early.
   f. Farmers normally have more time to spend on brooding chicks if the brooding is done early.
3. Number of Chicks to Buy

   a. If a person needs 100 pullets for replacements in his laying flock, he would normally buy 150 straight-run chicks.

   b. If a person needs 50 pullets for replacements in his laying flock, he would normally buy 150 sexed chicks.

   c. Many flock owners replace their entire flock of hens with pullets each year.

   d. The purchase of sexed chicks makes it possible to grow the replacements needed for a laying flock with less brooding equipment.

   e. This writer suggests that a flock of 200 to 400 layers is a more practical and economical unit than one with a small number of hens.

4. Brooding Equipment

   a. There is little chance for success with baby chicks unless you have proper brooding equipment.

   b. An automatic heat regulator is not needed on a brooder because the chicks can move to a warmer place if they get cold.

   c. The rated capacity of a brooder as to the number of chicks it will accommodate is usually quite accurate.

   d. The only brooders that are satisfactory are those that have electric heat.

   e. Electric brooders require less labor and are very satisfactory.

5. Getting Ready for the Chicks

   a. The brooder house should be scrubbed well in advance of the arrival date of the chicks.

   b. The old litter may be put back in the house after it is scrubbed.

   c. The litter should always be changed every three days during the first 3 weeks of brooding.
d. The brooder should be operated for about three days before the chicks arrive.

e. The temperature at first should be regulated to 95 degrees at the edge of the hover two inches from the floor.

f. The 95 degree temperature should be maintained for the first three weeks.

g. A guard should be placed around the brooder to keep the chicks entirely under the hover for the first three days.

6. Feeding the Chicks

a. It is always best to feed a commercial ration. It is not practical for a farmer to mix a ration at home.

b. Day old chicks always recognize and will eat feed so the feeders may be placed anywhere in the brooder house.

c. A good chick starter ration that is kept before the chicks all of the time is the most popular method of feeding.

d. Waterers should be placed at one side of the brooder house and the feeders on the other to keep the feed from getting wet.

e. Milk is a good feed but it should not be fed till after the chicks are three weeks old.

f. It is advisable to feed the starting mash for about six weeks and then gradually switch to the growing mash and scratch grain.

g. It is possible to feed too much grain to the chicks.

h. In deciding whether to feed a home mixed ration or a commercial ration a person must consider the cost, source of ingredients for mixing, labor and whether he will do a good job.

7. Pasture Range

a. For more mature pullets a good pasture will save 10 to 20 per cent on feed.
b. After pullets pass two pounds in size, it is not necessary to take precautions against disease.

c. It is permissible to put pullets on the same pasture year after year. The new pasture growth will prevent any disease.
1. Use
   a. This house is designed to house a flock of 400-500 hens or 1600-2000 broilers.
   b. This house is so designed that changing the length of the house would make it undesirable for housing poultry.
   c. The house may be used for other things if the farmer decides to quit the poultry business.

2. Design and Construction
   a. If the farmer desires it is permissible for him to use a foundation that is narrower than the one shown in the drawing.
   b. The purpose of the footing is to keep the soil around the building from eroding.
   c. Construction on pressure treated poles would do away with the concrete foundation shown in the drawing.
   d. If poles are used they should be set on footings deeper than the ground will freeze to prevent settling.
   e. The type of wall surface that is shown in the drawing is the only one that can be successfully used for this building.
   f. An abundance of bracing is essential for protection against wind, heavy snow, etc.
   g. Glass windows or covered frames should be used to cover the South openings if the house is used for laying hens.
   h. The proper choice of roofing material will help to keep the house cooler in summer.
i. If composition roll roofing is used the 1 x 4 sheathing strips may be placed 15 inches apart on center.

j. If the house has a galvanized roof, painting the roof with aluminum paint will make the house hotter in summer.

k. If the house is constructed as shown in this diagram it will have a ventilator in the roof.

l. If constructed as described in this bulletin the roofing material on the main part of the roof will lack 6 inches of going to the ridge.

m. The height of the ventilator above the main roof is four inches.

n. The main roofing runs for a distance of 22 inches up under the short rafters that hold the ventilator.

3. Location and Facing

a. It is best to locate a poultry house at the foot of a slope.

b. It is preferable to locate the poultry house on a North or Northwest slope.

c. It is desirable to locate the house where there is a windbreak on the North or Northwest.

d. The house should be located where it is convenient to service roads, electric lines, water supply, etc.

e. In selecting a site consideration should be given to the possibility of making the house bigger at some future time.

f. This bulletin suggests that this house should be faced South if possible.

4. Ventilation

a. Good ventilation is necessary to make things pleasant for the workers in the house and not for the health of the birds.

b. A constant, rapid movement of air through the house so that the birds can feel a breeze is the type of ventilation that is described as desirable in this bulletin.
c. It is necessary that the ventilation be sufficient to remove the moisture from the building.

d. According to this writer if the hens can be kept warm in winter there is little to worry about because hens do not suffer from heat.

e. It will be necessary to put a cloth or other covering over the front windows and the ridge ventilator when the temperature gets below freezing.

5. Feed room and Furniture

a. In locating the feed room chief consideration should be given to labor efficiency.

b. The feed room should be located on the side closest to the service road and on the side next to the feeders.

c. It is best to have running water in the house. This saves labor.

6. General Construction

a. According to this plan waterers are located near the feeders and between the two center rows of feeders.

b. The large end outside doors are hung on hinges and leave an opening 8 feet wide when completely opened.

c. In the type of construction recommended in this plan there are no posts in the interior part of the building.

d. The outside door to the feed room is 3 feet wide and 6-1/2 feet high.

e. The studs are made from 2 by 6 inch material.

f. The foundation is 8 inches wide and is 2 feet 6 inches deep in the ground.

g. Rafters are 15 inches apart on centers.

h. Anchor bolts are set in the concrete foundation to bolt the plate to the foundation.

i. This plan shows that the floor should be made of wood.