

FORESTRY

3-4 Member Team

IMPORTANT NOTE

Please thoroughly read the General CDE Rules Section at the beginning of this handbook for complete rules and procedures that are relevant to State FFA Career Development Events.

I. PURPOSE

To stimulate student interest and to promote forestry instruction in the agricultural education curriculum as well as to provide recognition for those who have demonstrated skills and competencies as a result of forestry instruction.

II. OBJECTIVES

- A. Ability to understand and use forestry terms.
- B. Ability to promote an understanding of the economic impact of the forest environment and the forest industry to the American economy.
- C. Ability to recognize sustainability (multiple use) opportunities in the forests.
- D. Ability to recognize environmental and social factors affecting the management of forests.
- E. Ability to identify major species of trees of economic importance to the United States and internationally.
- F. Ability to identify hand tools, equipment and their uses in forestry management.
- G. Ability to recognize and understand approved silvicultural practices in the United States.
- H. Ability to identify forest disorders.
- I. Ability to take a forest inventory.
- J. Ability to utilize marketing management strategies.
- K. Ability to recognize safety practices in forest management

III. EVENT RULES

- A.** All general rules apply to this event.
- B.** Under no circumstances will any participant be allowed to touch or handle plant or wood samples during the event. Any infraction of this rule will be sufficient to eliminate the team from the event.
- C.** No observers will be permitted in an event area while the event is in progress.
- D.** No person shall visit the event facilities to observe plant materials and facilities before the event for the purpose of communicating such observations with contestants. Any infraction of this rule will be sufficient to eliminate the team from the event.

- E.** Participants will be assigned to group leaders who will escort them to various event- staging sites. Each participant is to stay with his or her assigned group leader throughout the event or until told to change leaders by the event superintendent.
- F.** All participants will be given an identification number by which they will be designated throughout the event.
- G.** Participants must come prepared and dressed to work outdoors. The event will be conducted regardless of the weather. They should have rain gear, warm clothes and adequate footwear.
- H.** No written materials such as tests, problems and worksheets shall be removed from the event site.

IV. EVENT FORMAT

A. Team Make-Up

- 1.** Team size shall be a minimum of three members, with four being permissible. No multiple teams will be considered at this time. The team score is comprised of the team activity and the three best individual scores. Individuals also may compete for individual awards without being a team member.

B. Equipment

- 1.** All specialized tools and equipment will be furnished for the event.
- 2.** Participants must use the tools and equipment furnished at the event site.
- 3.** All written materials will be furnished for the event.

C. Event Schedule

1. **Each contestant shall complete the event in the time allotted:**
 - a. Basic Knowledge and Concepts – 45 minutes
 - b. Tree Identification – 30 minutes
 - c. Forestry Application – 30 minutes each

D. Basic Knowledge Exam (100 Points)

1. The test will be completed as an individual effort.
2. Fifty objective-type multiple-choice questions will be selected from areas of forestry as reflected in the event objectives.
3. This phase of the event will test participants' knowledge and understanding of basic principles of forestry.
4. Each answer has a value of two points, for a total maximum score of 100 points

E. Tree Identification (75 points)

Fifteen specimens (which may be living trees or collected specimens) from the 2013 Oklahoma FFA Forestry ID List will be displayed for participants to identify matching it with the correct corresponding number from the question sheet. Each specimen will be designated by a number.

F. Forestry Applications (300 Points)

Participants will compete individually in **three practicums** from the following list. **The event superintendent will designate three practicums on the day of the contest to be completed by the participants.** Each practicum has a score of 100 points and a time period of 30 minutes.

1. *Tree Measurement – Timber Cruising for Board Volume*

- a. Using forest measuring tools (such as a Biltmore stick, diameter tape and/or clinometer), each participant will measure pre-numbered trees on a fractional acre plot for board foot volume as specified by the event superintendent. The participant must record the DBH (Diameter Breast Height) computed to the nearest inch, and the merchantable height of each tree, height rounded down to the nearest full 8-foot log. Participant must convert the volume to a one- acre basis.
- b. The minimum diameters and log length will be:

Minimum Saw Timber

DBH 12 inches

Volume tables will be provided at the event.

- c. Scoring
 - i. Three points will be allowed for the correct DBH and three points for the correct height.
 - ii. Forty points will be allowed for the correct volume per acre.
 - iii. Five points will be deducted for each five percent plus or minus from the correct measured volume.

2. *Practicum II: Timber Cruising for Cord Volume*

- a. Using forest measuring tools (such as a Biltmore stick, diameter tape and/or clinometer), each participant will measure pre-numbered standing trees on a fractional acre plot for cord volume as specified by the event superintendent. The participant will record the DBH (Diameter Breast Height) and merchantable height of each tree. The height will be rounded down to the nearest 4-foot stick. The DBH will be to the nearest inch. The participant must convert the volume to a one-acre basis.

- b. Minimum
 - DBH 5 inches
 - Height 12 feet Top Diameter 4 inches
- c. Volume tables and the amount of cubic feet per one cord will be provided for calculation at the event.
- d. Scoring
 - i. Three points will be allowed for the correct DBH and three points for the correct height.
 - ii. Forty points will be allowed for the correct volume per acre.
 - iii. Five points will be deducted for each five percent plus or minus from the correct measured volume.

3. *Practicum III: Map Interpretation*

- a. Participants will be furnished a United State Geological Survey topographical map with specific points marked to be identified. The participant shall know legal description, recognize topographic map symbols, and understand the meaning of map symbols and size and location of 40 acres or more in a section.
- b. Ten points on the map will be clearly marked with a number or arrow pointing to the section, symbol, or area on the map to be identified.
 - i. Examples:
 - 1. What is the legal description of the area boxed?
 - 2. What is the item located at this point?
 - 3. What is the acreage of the area enclosed?
 - 4. In what section is the city of Marshall located?

- c. Legal descriptions will be written or described according to the following:
 - NW Northwest
 - T Township
 - SE Southeast
 - R Range
 - S Section (640 acres)
 - 1/4 Quarter of a section (160 acres)
- d. Scoring
 - i. Ten questions or problems will be completed.
 - ii. Ten points will be awarded for each correct answer.

4. Practicum IV: Compass Practicum

- a. The participant will use a hand compass and pacing to the nearest full foot to simulate the determination of the property lines on a tract of timber.
- b. The compass course will have ten marked points.
- c. The student will start at any point and record the compass reading and distance to the next point. Azimuth readings shall be recorded.
- d. Scoring: A total of 100 points are possible:
 - i. Ten points for each correct numbered site, five points for correct azimuth and five points for correct distance.
 - ii. Partial credit will be given with a deduction of one point for each two degrees or two feet that the participant is off the correct answer.

5. Practicum V: Tree/ Forest Disorders

- a. Symptoms of at least 10 and not more than 20 disorders from the following list will be displayed for participants to identify by common names. Each set of symptoms representing a disorder will be designated by a number.

- b. The symptoms will be presented in one or more of the following forms:
 - i. Actual sample
 - ii. Picture(s)/slides
 - iii. Written description
 - iv. Written case history
- c. Scoring
 - i. Five points will be given for each disorder that is correctly identified, for a total of up to 100 points, depending on the number of disorders. (The possible score for this practicum will vary.)

6. *Practicum VI: Forest Products Practicum*

- a. Ten to twenty wood products/samples will be displayed for participants to evaluate and identify. The wood products/samples will be presented in one or more of the following forms:
 - i. Actual sample
 - ii. Picture(s)/slides
 - iii. Written description
- b. Scoring
 - i. This will be a multiple-choice practicum.
 - ii. Five points will be given for each wood product or sample that is correctly identified, for a total of up to 100 points, depending on the number of products/samples. (The possible score for this practicum will vary.)

V. SCORING

Basic Knowledge Exam.....	100
Tree Identification.....	90
Forestry Applications	Varies on Practicum for Year

Total Points

Individual..... Maximum at 490

Team 1,470

VI. TIEBREAKERS

1. Team Tiebreakers

- a. Team ties will be broken by using the team’s scores on the written test.
- b. If the team is still tied the tie will be broken by the high team’s score on Tree ID.
- c. If there is still a team tie, the tie will be broken by the team score on compass and pacing.

2. Individual Tiebreakers

- a. Individual ties will be broken by using the individual’s scores on the written test.
- b. If the individuals are still tied, the tie will be broken by the Tree ID score.
- c. If there is still an individual tie, the tie will be broken by the individual score on compass and pacing.

VII. AWARDS

The top three individuals in each of the following areas will be indicated:

1. Basic Knowledge and Concepts
2. Tree Identification
3. Each Forestry Practicum

VIII. REFERENCES

The most current edition of each of the following references will be used:

Anderson, Holland and Rolfe. *Forests and Forestry*, (4th edition). McGraw-Hill Book Company, Inc., 1990.

Anon. 1997. *Insects and Diseases of Trees in the South*. USDA Forest Service Protection Report R8-PR-16. 98 pages.

Camp and Daugherty. *Managing Our Natural Resources*. Delmar Publishers, Inc., 1988.

Publisher's address: Albany, NY 12212.

CIMC Objective Sheets. *Unit 5 Instructor's Manual and Student Workbooks. Choices in Silviculture for American Forests*. Society of American Foresters, 1981. Collins and White. *Elementary Forestry*. Reston Publishing Company, Inc.

Harlow, Harrar and White. *Textbook of Dendrology*, (6th edition or later). McGraw-Hill Book Company.

Forestry Handbook. Edited by Karl Wenger. Society of American Foresters, (1984 or later). Publisher's address: 5400 Grosvenor Lane, Bethesda, MD 20814.

Forest Trees of Oklahoma, Oklahoma Department of Agriculture Forestry Services. Elbert L. Little, Jr. Revised 2002 Sharpe, Hendee and Allen. *Introduction to Forestry*. McGraw-Hill Book Company, Inc. 1976 or later.

Silvics of Forests of United States, Handbook #271. Available from: U.S. Forest Service, P.O. Box 2417, 12th and Independence Ave., S.W., Washington, DC 20013

The U.S. Department of Interior Geological Survey, Topographic Map Information and Symbols Key. Available from: Map Distribution, U.S. Geological Survey, Box 25286, Federal Center, Denver, CO 80223.

Timber Harvesting (4th edition). American Pulpwood Association and Interstate Publishers, Inc., 1988.

Young, Raymond. *Introduction to Forest Science*. 1982 or later.

Map Interpretation Reference: <http://www.envirothonpa.org/documents/topo.pdf>

Equipment References

Current catalog of Forestry Suppliers, Inc., 205 W. Rankin St., Jackson MS 39204-0397. Other references are available from the U.S. Forest Service and state forestry agencies.

**IX. SUPPLEMENTAL
MATERIALS AND FORMS**

Forestry #530-1

2019 Oklahoma FFA Forestry ID List