

**CHANGES August 1, 2009 CHANGES**

## **FORESTRY RULES**

### **OHIO CAREER DEVELOPMENT EVENTS**

#### Purpose

To provide recognition for those students who have demonstrated skills and competencies as a result of forestry instruction.

#### Date

Check current State CDE Schedule

#### Location

Hocking Technical College, Nelsonville

#### CDE Rules

1. Under no circumstances will any contestants be allowed to touch or handle plant material during the contest. Any infraction of this rule will be a disqualification of the contestant.
2. Each school may enter an unlimited number of dues paid FFA members as participants, the top 4 scores will be considered the "team" and the top 3 scores will be the team score of record.
3. Observers will not be permitted in the CDE area while the event is in progress.
4. No CDE team, team member, or team coach shall visit the CDE facilities to observe plant materials or facilities a week prior to the CDE. Any team, team member, or team coach reported and proven to do so will be disqualified from competing in the state CDE.
5. Any contestant caught cheating during the CDE will be disqualified from the event.
6. Contestants must come prepared to work in adverse weather conditions. The CDE will be conducted regardless of the weather conditions. Contestants should have heavy coats, other warm clothes, and appropriate footwear.
7. Written materials will be furnished for the contest. Contestants should provide clipboards and 2- #2 lead pencils. Electronic calculators will be allowed.

#### CDE Format

The CDE will be divided into the following four parts:

##### **General Knowledge (100 points)**

Forty (40) multiple choice questions (worth 2 points each) relating to areas of the forestry industry will constitute the forestry general knowledge test. This phase of the CDE will test the student's knowledge and understanding of basic principles of forestry and forestry problems. In addition, there will be five questions relating to "Timber Pricing Highlights" (worth 4 points each). This test may also have questions pertaining to urban forestry general knowledge. **No online testing for Forestry, due to time dues are due in.**

##### **Tree Identification (100 points)**

Twenty five (25) specimens from the following list will be displayed for contestants to identify by common Ohio species names. A total of 15 minutes will be allotted for completion of this section of the event. Each correctly identified specimen will be worth four points. Species will be identified by leaf, twig/bud, fruit, bark, and/or form.

Ash  
Aspen  
Basswood  
Beech, American  
Birch  
Black Gum  
Buckeye  
Catalpa  
Cedar  
Cherry  
Chestnut, American  
Cottonwood  
Cucumbertree  
Elm  
Fraser Fir  
Hackberry  
Hemlock  
Hickory  
Locust, Black  
Maple, Soft  
Maple, Hard  
Oak, Red  
Oak, White  
Pine, Red  
Pine, Scotch  
Pine, Virginia  
Pine, White  
Poplar, Yellow  
Sassafras  
Spruce, Norway  
Sweet Gum  
Sycamore  
Tree of Heaven  
Walnut, Black

### Equipment Identification (100 points)

Fifteen (15) pieces of equipment from the following list will be displayed for the contestant to identify by technical names. Each piece of equipment will be designated by a number. This part of the event will be allotted 15 minutes for completion.

Abney level  
Altimeter  
Axe, brush  
Axe, double bit  
Axe, single bit  
Backpack fire pump  
Bark gauge  
Buck saw/bow saw  
Chainsaw  
Chainsaw chaps  
Chainsaw depth gauge  
Chainsaw file  
Chemical sprayer  
Climbing rope  
Clinometer  
Data recorder  
Densimeter  
Diameter tape  
Dot grid  
Drip torch  
Ear protectors  
Evergreen shearing knife  
Felling wedge  
Fiberglass measuring tape  
Fire rake  
Fire swatter  
Fire weather kit  
GPS receiver  
Hand lens/field microscope  
Hand Pruners  
Hip chain  
Increment borer  
Log scale stick  
Logging chains  
Lopping shears  
Lumber scale stick/Log Rule  
Mattock  
Splitting maul  
Peavy/Cant hook  
pH meter  
Planimeter  
Plastic flagging  
Pole saw  
Pruning saw  
Pulski-forester axe  
Rail tool  
Range finder  
Relaskop  
Safety hardhat

Safety glasses  
Staff compass  
Survey instruments  
Tree Scale stick  
Soil sampler  
Soil test kit  
Steel tape  
Stereoscope  
Tally book  
Tally meter  
Timber carrier  
Tree caliper  
Tree injector  
Tree marking gun  
Tree planting hoe/bar  
Tree trimming belt and saddle  
Trimmer/brush cutter  
Wedge prism  
Wheel caliper

### Timber Cruising (100 points) WEATHER PERMITTING!

Using an International 1/4 Inch scale stick, diameter tape or clinometer, each contestant will measure pre-numbered trees to represent a timber stand for board foot volume. The contestant must record the DBH, merchantable height (Merrit Hypsometer Reading), board foot volume, and value of each marked tree. The hypsometer reading will be at the nearest 1/2 log (8') for saw log.

a. Timber cruising will reflect to industry standards. The following minimum diameters and heights will be:

Saw timber	DBH 12 inches
	Top diameter 10 inches <b>DOB</b>

b. The contestant will be allowed 15 minutes to record the DBH and the height of the marked trees and an additional 15 minutes to make volume recordings and totals.

c. A total of 100 points will be allotted for this portion of the CDE. **One point will be allowed for the correct tree identification and 2 points each for the correct DBH, correct height, correct board foot volume, and correct value. Ten points will be allowed for the correct total board foot volume and correct total dollar value per timber stand. Total points will be awarded if the contestant's calculated totals are within 10 percent, plus or minus, the CDE judge's official totals. No partial points will be awarded.**

d. Refer to Tree I.D. specimen list for the tree species identification list.

## **Practicums (200 points)**

Contestants will complete two (2) practicums from the following rotated list. Each practicum has a maximum score of 100 points. Three practicums will be rotated every other year but only two will be selected from these three. Odd numbered practicums will take place in odd years (2008-2009 and 2010-2011) and even numbered practicums in even years (2009-2010 and 2011-2012). If the weather does not permit timber cruising to occur, then all three practicums may be used.

### **1. T.S.I. (Timber Stand Improvement)**

a. The trees selected and designated for use in this part of the event may be all of one species or a mixture of species.

b. An area will be selected and identified by ribbons, paint, rope, etc. It will contain at least 15, and not more than 30 marked trees within a timber stand that needs thinning or some TSI work. All trees in the selected area will be considered as a forest management site, and the participants using one of the following options will score each marked tree:

1. Harvest (utilize the tree)
2. Leave - (tree should remain in stand for a good reason)
3. Deaden - (Undesirable tree, not merchantable or beneficial to wildlife, should be deadened or cut down and left in woods)

c. The participants will be given a "situation" concerning the forest management objectives of the stand selected. Information that will be needed to help participants in their decisions will include:

1. Markets available - (including hardwood)
2. Wildlife habitat considerations - (scope, etc.)
3. Present condition of stand
4. Final goal of the management plan

This information will be given to participants at the site before they start evaluation of the stand either orally, by poster or a "handout" sheet.

d. Time: Participants will be given 30 minutes to make their decisions.

e. Scoring: Four points will be given for each correct decision up to a maximum total of 100 points, depending on the number of trees.

### **2. Map Reading - Legal Descriptions**

a. Contestants will be furnished a U.S. geological survey map with specific points marked for the contestant to identify. The contestant shall: know legal descriptions, recognize topographic map symbols, understand the meaning of map symbols, understand the meaning of map

symbols, and identify the size and location of 40 acres or more in a section.

b. Ten (10) positions 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.

#### **EXAMPLES**

1. What is the legal description of the area boxed?—; NW 1/4 of SW 1/4, S 16, T4N, R2E
2. What is the item located at this point?— Church
3. What is the acreage of the area enclosed?— 120 acres

c. The U.S. Department of Interior Geological Survey Topographic Map Information and symbols will be the official key. Legal descriptions will be written or described according to the following:

NW - Northwest R - Range SE - Southeast 1/4 - Quarter of a S - Section (640 acres) section (160 acres) T - Township or a quarter of a quarter (40 of 160)

d. Thirty minutes will be allowed for this section of the CDE.

e. Ten (10) points will be awarded for each correct land parcel. All answers must be correct; no partial credit will be given.

### **3. Compass**

a. The student will furnish and use a hand compass and pacing to simulate the determination of property lines on a tract of timber. The compass course will have 10 marked points. The student will start at point 1 and record the compass reading and distance to point 2. The contestant will do the same from point 2 to point 3 and so on. The readings will be azimuth readings. North will be defined as magnetic north.

b. Thirty minutes will be provided for this portion of the CDE.

c. A total of 100 points are possible, 10 points for each numbered site. Five points for the correct azimuth and five points for the correct distance. Partial credit will be given with a deduction of one point for each 2 degrees or 2 feet the contestant is off the correct answer.

### **4. Chain Saw Part Identification and Troubleshooting**

This practicum is divided into two parts:

a. Part 1 - In chain saw part identification each contestant will identify 10 common terms as parts of a chain saw. These parts will be labeled on a saw or will be removed from the saw.

b. Part 2 - Troubleshooting - The contestant will identify

10 “problems” or “troubles.” Each station will have a part, component, saw, or written situation with problem areas clearly identified. The contestant may pick up parts or the saw.

c. Thirty minutes will be allowed for completion of the entire practicum

d. Each correct answer will be valued at five points each.

CHAIN SAW PARTS LIST (Refer to parts list from Stihl)

Adjusting wheel of quick tensioner

Ai filter

Bumper spike

Carburetor

Carburetor adjusting screws

Chain brake

Chain catcher

Chain scabbard

Chain sprocket

Chain sprocket cover

Chain tensioner (front)

Chain tensioner (side)

Crankshaft

Decompression valve

Front hand guard

Front handle (handlebar)

Fuel filler cap

Fuel pump

Guide bar

Handle of wingnut

Master control lever

Muffler

Oil filler cap

Oilomatic saw chain

Piston

Rear hand guard

Rear handle

Shroud

Spark plug

Spark plug boot

Starter grip

Throttle trigger

Throttle trigger interlock

Twist lock

### **5. Forest Products**

a. Ten wood products/samples will be displayed for participants to evaluate and identify its tree species source from the approved tree specimen list. The wood products/samples will be presented in one or more of the following forms:

1. Actual Sample
2. Picture(s)/Slides
3. Written description

A number will designate each sample representing a species.

b. Scoring: This will be a multiple-choice practicum. Ten points will be given for each wood product or sample that is correctly identified for a total of 100 points.

### **6. Tree and Forest Problems**

a. Symptoms of ten (10) problems from the following list will be displayed for participants to identify by common names. The symptoms will be presented in one or more of the following forms:

1. Actual sample
2. Picture(s)/Slides
3. Written description
4. Written case history

A number will designate each set of symptoms representing a disorder.

b. Scoring: Ten points will be given for each problem that is correctly identified for a total of 100 points.

Air pollution

Aphid

Beetles

Canker

Chemical damage

Cicada

Climatic injury: snow, wind, frost, drought, hail

Damping off

Douglas fir tussock moth

Emerald ash borer

Fire damage

Girdling roots

Grapevine, wild

Gypsy moth

Honeysuckle

Landscape equipment damage

Leaf spot

Lightning damage

Mechanical damage

Multiflora Rose

Needle cast

Nematode

Rot, butt or heart

Rust

Spruce budworm

Spider mite

Sawfly

Sunscald

Scale

Tent caterpillar

Wetwood or slime flux

Wildlife/Livestock damage

Wood borer

## Scoring Guide

### 1. Individual

General Knowledge	100 points
Tree Identification	100 points
Equipment Identification	100 points
Timber Cruising	100 points
Practicums	200 points
Total Possible	600 points

### 2. Team

600 points x 3 individuals = 1800 Total Points

## References:

1. Crop Tree Management in Eastern Hardwoods-USDA
2. Chain Saw Owner's Manuals (the most current Stihl Chainsaw Manual can be purchased from your local dealer or from Stihl)
3. Stihl Chain Safety Manual- can be downloaded at [www.stihlusa.com/manuals/index.html](http://www.stihlusa.com/manuals/index.html)
4. Ohio Timber Pricing Quarterly Sheets:  
[www.oardc.ohiostate.edu/ohiowood](http://www.oardc.ohiostate.edu/ohiowood)
5. TSI Reference Book (check National FFA Rules)
6. Harlow, W.M., E.S. Harrar, and F.M. White. *Textbook of Dendrology*. New York: McGraw-Hill Book Company, 2000.
7. Silvics of Forests of United States, Handbook #271, U.S. Forest Service, P.O. Box 2417, 12th and Independence Avenue, SW, Washington, D.C. 20013.
8. Braun, E. Lucy. *The Woody Plants of Ohio*. Columbus: The Ohio State University Press, 1961.
9. Ohio State University Horticulture and Crop Sciences:  
[www.hcs.ohio-state.edu/odnr/forestry.htm](http://www.hcs.ohio-state.edu/odnr/forestry.htm)
10. Avery, Thomas E. and Harold Burkhart. *Forest Measurements*. Fifth Edition. New York: McGraw-Hill, 2002.
11. Hicks, Ray Jr. *Ecology and Management of Central Hardwood Forests*. New York: Wiley & Sons, 1998.

## Supplemental Reference:

**Hobar disk (not used for general knowledge test)**

## Current Catalogs:

1. Forestry Suppliers, Inc. 205 West Rankin Street, Jackson, MS 39204-0397 [www.forestry-suppliers.com](http://www.forestry-suppliers.com)
2. The Ben Meadows Company, 3589 Broad Street, Atlanta, GA 30366 [www.benmeadows.com](http://www.benmeadows.com)

## Other References:

1. Wenger, Karl, ed. *Forestry Handbook*. 2<sup>nd</sup> Edition. New York: Wiley & Sons, 1984.
2. *Choices in Silviculture for American Forests*. Bethesda, MD: Society of American Foresters, 1981.

## Web page addresses for review:

- [www.fs.fed.us/na/morgantown/frm/stewardship/stewardship.htm](http://www.fs.fed.us/na/morgantown/frm/stewardship/stewardship.htm)
- [www.nass.usda.gov/oh/tmbrrpt.htm](http://www.nass.usda.gov/oh/tmbrrpt.htm)
- [www.usajobs.opm.gov](http://www.usajobs.opm.gov)
- [www.fs.fed.us/people/employ](http://www.fs.fed.us/people/employ)
- [www.cnr.vt.edu/dendro/dendrology](http://www.cnr.vt.edu/dendro/dendrology)
- [www.safnet.org](http://www.safnet.org)

Team Number \_\_\_\_\_  
Student Name \_\_\_\_\_

Timber Cruising

DBH Class SIZE	CLASS
9" - 11"	10"
11" - 13"	12"
13" - 15"	14"
15" - 17"	16"
17" - 19"	18"
19" - 21"	20"
21" - 23"	22"
23" - 25"	24"
25" - 27"	26"
27" - 29"	28"
29" - 31"	30"
31" - 33"	32"
33" - 35"	34"
35" - 37"	36"
37" - 39"	38"
39" - 41"	40"
41" - 43"	42"
43" - 45"	44"
45" - 51"	46"
51" - 61"	48"
61" - 63"	50"

If the mean diameter is an exact odd number, round up to the higher even DBH class.

EXAMPLE: 13" (exact) would round up to 14" (even).

ID (1 pt. ea)

DBH (2 pt. ea.)

Ht. (#16 Ft. Logs) (2 pt. ea.)

Bd. Ft. (2 pt. ea.)

\$ Value (2 pt. ea.)

Total Bd. Ft. and Total \$ Value (10 pt. total)

- 1.
- 2.
- 3.
- 4.
- 5.
- 6.
- 7.
- 8.
- 9.
- 10.

Total volume in board feet per stand:

\_\_\_\_\_ (5 Points)

Total \$ value of board feet per stand:

\_\_\_\_\_ (5 Points)