LOUISIANA FFA

CAREER DEVELOPMENT EVENT

FORESTRY

Forestry Career Development Event

Purpose

The Louisiana FFA Forestry Career Development Event is designed to stimulate student interest and to promote the forestry industry as a career choice. It also provides recognition for those who have demonstrated skills and competencies resulting from forestry instruction in the agricultural education classroom.

Objectives

Students will be able to

1. Understand and use forestry terms.
2. Promote an understanding of the economic impact of the forest environment and the forest industry to Louisiana's economy.
3. Recognize sustainability (multiple use) opportunities in the forests.
4. Recognize environmental and social factors affecting the management of forests. Identify major species of trees of economic importance to Louisiana.
5. Identify and properly use hand tools and equipment in forestry management. Recognize and understand approved silvicultural practices in the United States. Identify forest disorders.
6. Take a forest inventory.
7. Recognize safety practices in forest management.

Event Rules

The team will consist of four individuals, and all four scores will count toward the team score.

All general rules apply except as indicated in the specific rules for this event

The team score is comprised of the combined scores of each individual.

Students are required to bring their own pencil

Participants must follow instructions from event staff for handling materials during the event. Any infraction of this rule will be sufficient to eliminate the team from the event.

Observers will not be permitted in the event area while the event is in progress.

No team, team member or team coach shall visit the event facilities to observe plant materials and facilities one month prior to the event.

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.

All written materials will be furnished for the event. No written materials such as tests, problems and worksheets shall be removed from the event site.

Any participant in possession of an electronic device in the event area is subject to disqualification.

Event Format

INDIVIDUAL ACTIVITIES

General Knowledge Exam (100 points)-STATE CONTEST ONLY

Fifty multiple-choice questions will be selected from areas of the forestry industry reflected in the event objectives. This phase of the event will test the participant's knowledge and understanding of basic principles of forestry. Tests will come from the past five years of national forestry CDE exams.

Each participant will be allowed 45 minutes to complete this phase of the event.

Tree Identification (100 points)

Twenty live specimens, pressed samples, fresh leaf samples and/or standing trees, from the tree identification specimen list will be displayed for participants to identify by common names. A number will designate each specimen.

Each participant will be allowed 30 minutes to complete this phase.

Each participant will be given 1 minute per specimen

Tree Measurement — Timber Cruising for Board Volume (100 points)

Each participant will measure ten pre-numbered trees on a plot for board foot volume. The participant must record the DBH (Diameter Breast Height) to the nearest one-inch class and the merchantable height of each tree height rounded down to the nearest ½ log.

Each participant may use a Biltmore stick and or clinometer to measure the diameter and height of each tree (no sharing among team members each school must provide each member with a instrument)

The ten trees will represent a ¼ acre plot.

Volume tables will be provided at the event.

The following minimum diameters and log length will be:

Minimum Saw Timber	
DBH	10 inches
Top diameter	8 inches DIB Pine 10 inch DIB Hardwood
Height	16 feet

Merchantable height will stop at a whorl, fork or a top limiting diameter.

For this contest, a whorl will consist of three or more limbs encircling a tree with at least one of the limbs having a 3-inch diameter at the trunk of the tree. Pine trees have a top limiting diameter of 8 inches. Hardwood trees have a top limiting diameter of 10 inches. Cut off points for hardwoods could also be a large fork or a branch that is half the diameter of the trunk at that point.

Each participant will be allowed 30 minutes to complete this phase.

Thirty points will be given for the correct DBH and thirty points for the correct height. Forty points will be given for the correct volume per acre. Five points will be deducted for each five percent deviation (plus or minus) from the correct measured volume.

COMPASS/PACING (100 POINTS)

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. The participant will start at any point and record the compass reading and distance to the next point. Azimuth readings shall be recorded. Participants will record data for 10 points. Each participant must provide their own compass no sharing (The mirror and look-through compasses are both permitted)

Partial credit will be given with a deduction of one point for each two degrees or two feet the participant is off the correct answer.

30 minutes will be allowed to complete this phase.

Forestry Equipment, Disorders, and Wood Products Identification Practicum (200 points) *(Updated 2024)*

Forty samples (20 equipment, 10 disorders, and 10 products) from the identification reference lists will be displayed for participants to identify by technical names. Samples from each identification group will not be mixed together in the practicum (i.e. equipment, disorders, and products will be kept in separate sets to identify). Samples will be designated by a number. Each sample will have a value of 5 points.

30 minutes will be allowed to complete this phase.

Equipment will be presented in one or more of the following forms:

1. Actual sample
2. Pictures/slides

Disorder symptoms will be presented in one or more of the following forms:

1. Actual sample
2. Pictures/slides
3. Written description
4. Written case history

Wood products will be presented in one or more of the following forms:

1. Actual sample of raw (primary) products (ex: OSB, plywood, wood block to ID species)
2. Actual sample of finished (secondary) products (ex: furniture, tool handle to ID species)
3. Pictures/slides of primary or secondary products

On the Forestry scantron (Form #530-3), students will mark answers in the following places:

20 Equipment **(Equipment Identification)**

10 Disorders **(Forestry Disorders)**

10 Wood Products **(Practicum 2)**

Each **wood product** sample will be displayed with up to **five multiple choice options**. Students will indicate their answer for wood product identification by bubbling the letter that corresponds with their desired answer choice.

Equipment and disorders will be displayed with a **reference number**. Students will answer by bubbling the corresponding number from the identification reference list as the answer.

MAP INTERPRETATION (100 POINTS)

Participants will answer questions using a furnished United States Geological Survey topographic map. The participant should know legal description, recognize topographic map symbols, and understand the meaning of map symbols, size and location of 40 acres or more in a parcel. Ten multiple choice questions will be asked from the supplied USGS map.

Examples of questions for map practicum:

What is the legal description of the boxed area?

What type of building is located at the point labeled "B"?

What is the acreage of the area shaded black?

In what section is the city of Oberlin

located? What is the scale of this map?

What is the elevation at this point?

Legal descriptions will be described according to the public land survey system.

☐ **Example:** SE ¼ of NW ¼, Section 3, T3N, R1E

☐ **Maps for this part of the contest will be limited to the following quadrangles:**

1. Branson, Missouri Quadrangle 1989 version
2. Hindustan, Indiana Quadrangle 1980 version
3. McCordsville, Indiana Quadrangle 1998 version
4. Webster parish, Louisiana Minden North 1981

Maps can be purchased for $8-$15 or downloaded for free online at https://store.usgs.gov/map-locator

SCORING

Activities	Individual Points	Team Points
General knowledge exam (state only)	100	400
Tree identification	100	400
Tree measurements — timber cruising	100	400
Compass/Pacing	100	400
Forestry Equipment, Disorders, and Wood Products Identification Practicum	200	800
Map Interpretation	100	400
TOTAL	700	2800

TIEBREAKERS

Team

Tiebreakers for teams will be determined by adding together the individual ranking of team members. The team with the lowest score will earn the tiebreak.

High Individual

1. Knowledge exam
2. Timber cruising
3. Tree identification
4. Compass/ Pacing

Awards

Awards will be presented at the awards ceremony to individuals and/or teams based upon their rankings.

The high individual in each of the following areas will be given special recognition certificates:

Tie breakers for event sections (when applicable):

Section	1st Tie Breaker	2nd Tie Breaker
Saw Logs	Equip/Disorder/Products	Map Reading
Equip/Disorder/Products	Tree Identification	Compass
Tree Identification	Map Reading	Saw Logs
Map Reading	Compass	Tree Identification
Compass	Saw Logs	Equip/Disorder/Products
Exam	Tree Identification	Saw Logs

References

This list of references is not intended to be all-inclusive.
Other sources may be utilized, and teachers are encouraged to make use of the very best instructional materials available. Make sure to use discretion when selecting website references by only using reputable, proven sites. The following list contains references that may prove helpful during event preparation. The most current edition of resources will be used.

Past CDE materials and other resources are available by logging in to FFA.org.

GENERAL KNOWLEDGE EXAM

Provided in a test bank by the Louisiana FFA Association

Uses the past five years of the National FFA Forestry CDE Exams

TREE IDENTIFICATION

Dendrology at Virginia Tech, http://dendro.cnre.vt.edu/dendrology/main.htm

"FFA Georgia State and National Tree Lists," available from www.amazon.com

W. H. Harlow, E. S. Harrar, and F. M. White. Textbook of Dendrology, current edition. New York, NY: McGraw-Hill Book Company.

Silvics of North America, Handbook #654, volume one and two, U.S. Forest Service, P. O. Box 2417, 12th and Independence Avenue SW, Washington, DC 20013.

Commercial Trees of Louisiana, by Clair A. Brown

Louisiana Trees, 1st edition 2015, John D. Hodges, David Evans and Linda W. Garnett

TREE MEASUREMENT

- https://www.americanforests.org/wp-content/uploads/2014/12/AF-Tree-Measuring-Guidelines_LR.pdf

EQUIPMENT IDENTIFICATION

- Current Catalog of Forestry Suppliers, Inc., 205 West Rankin Street, Jackson, MS 39204-039.
- http://www.husqvarna.com/us/accessories/
- www.deere.com/en_US/industry/forestry/forestry.page?
- www.treestuff.com

MAP INTERPRETATION

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

https://www.norfolk.gov.uk/-/media/norfolk/downloads/.../map-reading-guide.pdf

ftp://ftp.bpcrc.osu.edu/downloads/outreach/Watersheds/01_Exercise3.5v1.pdf

Compass

- www2.ca.uky.edu/Forestry/FOR250/Compass.pdf

CHAINSAW PARTS AND IDENTIFICATION

Husqvarna publication, How to Work With a Chainsaw, National FFA website

Tree Identification Specimen List

01	Red Maple	*Acer rubrum*
02	Pecan	*Carya illinoensis*
03	Hickory	*Carya spp.*
04	Sugarberry	*Celtis laevigata*
05	Eastern Redbud	*Cercis canadensis*
06	Flowering Dogwood	*Cornus florida*
07	Common Persimmon	*Diospyros virginiana*
08	American Beech	*Fagus grandifolia*
09	Ash	*Fraxinus spp.*
10	Honeylocust	*Gleditsia triacanthos*
11	American Holly	*Ilex opaca*
12	Black Walnut	*Juglans nigra*
13	Eastern Redcedar	*Juniperus virginiana*
14	Sweetgum	*Liquidambar styraciflua*
15	Yellow-poplar	*Liriodendron tulipifera*
16	Southern Magnolia	*Magnolia grandiflora*
17	Red Mulberry	*Morus rubra*
18	Water Tupelo	*Nyssa aquatica*
19	Blackgum	*Nyssa sylvatica*
20	Shortleaf Pine	*Pinus echinata*
21	Slash Pine	*Pinus elliottii*
22	Spruce Pine	*Pinus glabra*
23	Longleaf Pine	*Pinus palustris*
24	Loblolly Pine	*Pinus taeda*
25	American Sycamore	*Platanus occidentalis*
26	Eastern Cottonwood	*Populus deltoides*
27	Black Cherry	*Prunus serotina*
28	White Oak	*Quercus alba*
29	Southern Red Oak	*Quercus falcata*
30	Overcup Oak	*Quercus lyrata*

31	Blackjack Oak	*Quercus marilandica*
32	Cow Oak	*Quercus michauxii*
33	Water Oak	*Quercus nigra*
34	Cherrybark Oak	*Quercus pagoda*
35	Willow Oak	*Quercus phellos*
36	Shumard Oak	*Quercus shumardii*
37	Post Oak	*Quercus stellata*
38	Nuttall Oak	*Quercus texana*
39	Live Oak	*Quercus virginiana*
40	Black Locust	*Robinia pseudoacacia*
41	Black Willow	*Salix nigra*
42	Sassafras	*Sassafras albidum*
43	Baldcypress	*Taxodium distichum*
44	Tallow Tree	*Triadica sebifera*
45	Winged Elm	*Ulmus alata*
46	American Elm	*Ulmus americana*

Equipment Identification List

01 Altimeter
02 Angle gauge
03 Ascender
04 Automatic level
05 Backpack fire pump
06 Bark gauge
07 Bulldozer
08 Canthook
09 Carabiner
10 Chainsaw
11 Chainsaw chaps
12 Clinometer
13 Combination tool
14 Data recorder
15 Densiometer
16 Diameter tape
17 Dot grid
18 Drip torch
19 Ear protection
20 Endloader
21 Feller buncher
22 Felling wedge
23 Fiberglass measuring tape
24 Fire rake
25 Fire shelter
26 Fire weather kit
27 Fire-swatter
28 First aid kit
29 Flow/current meter
30 GPS receiver
31 Hand compass
32 Hand lens/field microscope
33 Hip chain
34 Hypo-hatchet
35 Increment borer
36 Jacob staff
37 Log rule
38 Logger's tape
39 Maul
40 Peavy
41 pH meter
42 Planimeter
43 Plant press
44 Plastic flagging
45 Pole saw
46 Pruning Saw
47 Pulaski Axe
48 Relaskop
49 Safety glasses
50 Safety hard hat
51 Scale stick
52 Secchi disc
53 Soil sampler
54 Soil test kit
55 Staff compass
56 Stereoscope
57 Tally book
58 Tally meter
59 Timber tongs
60 Tree caliper
61 Tree harvester
62 Tree marking gun
63 Tree planting hoe or bar
64 Tree skidder
65 Water sampler
66 Water test kit
67 Wedge prism

Tree Disorders Identification List

01 Aphid
02 Asian longhorn beetle
03 Butt or heart rot
04 Canker
05 Chemical damage
06 Cicada
07 Climatic injury: snow, wind, frost, drought, hail
08 Damping off
09 Emerald ash borer
10 Fire damage
11 Gypsy moth
12 Ipps engraver beetle
13 Lightning damage
14 Mechanical damage
15 Mistletoe
16 Nematode
17 Rust
18 Sawfly
19 Scale
20 Southern Pine Beetle
21 Sunscald
22 Tent caterpillar
23 Wetwood or slime flux
24 Wildlife/Livestock damage

Louisiana Forestry CDE Wood Products Identification List

Species

Ash *(Fraxinus sp.)*
Bald Cypress *(Taxodium distichum)*
Beech, American *(Fagus americana)*
Cherry, Black *(Prunus serotina)*
Cottonwood, Eastern *(Populus deltoides)*
Elm *(Ulmus sp.)*
Hickory *(Carya sp.)*
Maple *(Acer sp.)*
Oak, Red *(Quercus rubra)*
Oak, White *(Quercus alba)*
Pine, Southern Yellow *(Pinus sp.)*
Poplar, Yellow *(Liriodendron tulipifera)*
Red Cedar, Eastern *(Juniperus virginiana)*
Sweetgum *(Liquidambar styraciflua)*
Sycamore *(Platanus sp.)*
Walnut, Black *(Juglans nigra)*
Willow, Black *(Salix nigra)*

Materials and Engineered Products

Glued Laminated Timber (Glulam)
Laminated Veneer Lumber (LVL)
Medium Density Fiberboard (MDF)
Oriented Strand Board (OSB)
Particle Board
Pole
Primed Boards
Plywood
Tongue and Groove
Treated Dimensional Lumber
Untreated Dimensional Lumber
Veneer

Doyle Log Rule

FORM CLASS 80

Volume (Board Feet) by Number of 16 Foot Logs									
DBH Inches	1	1 1/2	2	2 1/2	3	3 1/2	4	4 1/2	5
10	16	20	23	24	26				
11	24	30	35	38	42				
12	31	39	47	52	57	60	62		
13	42	53	64	72	80	84	88		
14	52	67	82	93	104	109	114		
15	64	84	104	118	132	141	150		
16	77	101	125	143	161	174	186		
17	92	122	152	175	198	214	230		
18	108	144	179	206	234	254	273		
19	126	168	210	244	278	301	324		
20	144	193	242	282	321	348	374	396	417
21	164	221	278	324	370	403	436	462	489
22	185	250	315	368	420	458	497	529	561
23	208	282	356	417	478	521	564	604	643
24	231	314	397	466	536	583	630	678	725
25	256	350	443	522	600	655	710	764	818
26	282	386	489	576	663	727	791	852	912
27	310	425	540	638	735	806	877	946	1015
28	339	466	592	700	807	885	963	1040	1118
29	370	509	648	766	884	970	1056	1144	1232
30	400	552	703	832	961	1055	1149	1248	1346

Bd Ft Volume Estimation Worksheet

Tree Number	DBH	Number of Logs	Volume
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10			
		TOTAL VOLUME	

Remember to record the DBH, Number of Logs and Total Volume on your Scantron sheet.