

Event Format

The Forestry CDE shall consist of the following six (6) components:

A. General Knowledge - 30 minutes

1. This phase of the contest will test the contestant's knowledge and understanding of basic forestry and agroforestry principles.
2. Contestants will see fifty (50) objective type, multiple choice or true/false questions reflecting the contest objectives and coming from the reference list.

B. Tree Identification - 30 minutes

1. Twenty (20) unduplicated specimens from the list on Form 40 will be displayed for contestants to identify by common names.
2. Each specimen will be designated by a number
3. Contestants will have approximately one and one-half minutes for each specimen station.
4. Specimens may be actual specimens or mounted specimens.

C. Equipment Identification - 10 minutes

1. Twenty (20) pieces of equipment from the list on Form 41 will be displayed for contestants to identify by proper technical name.
2. Each piece of equipment will be designated by a number.

D. Timber Cruising (measuring standing timber on a 1/10 acre plot) - 60 minutes

1. Using a Biltmore tree scale stick, in the correct manner, each contestant will measure pre-numbered trees on a 1/10 acre plot for DBH, 4.5 ft. from the high side of the tree, tree height to the nearest 1/2 log (8') and board foot volume.
2. All marked trees on the plot must be measured in order to make the desirable cruise computations, but only the first five trees (saw timber) will be scored for each individual measurement.
3. WHILE TREE FORM AND MINIMUM MERCHANTABLE TREE DIAMETERS VARY ACROSS THE STATE, TO LEVEL THE PLAYING FIELD FOR THIS PART OF THE CONTEST, TREE VOLUMES SHOULD BE DETERMINED USING THE FOLLOWING GUIDELINES:
 - a. Given a general Form Class of 75, one can expect to lose one inch diameter (outside bark) for every eight-foot log.
 - b. Minimum merchantable tree diameter will be ten inches (outside bark).
 - c. Merchantable volume will stop at the first major fork or obvious defect in the trunk.
 - d. No volume is to be determined for logs above the fork (or defect) as well as any side limbs.
 - e. After measuring all trees, the contestant will find total volume per acre, total value per acre, the average DBH per acre, the total number of trees per acre, and the desired minimum number of trees per acre. The student will then decide if the stand was understocked, adequately stocked, or overstocked. The student will then recommend that the stand be thinned, harvested, or left to grow.
 1. Harvest: The removal of all or portions of the trees on an area. If the average diameter on the 1/10 acre plot is 12 inches or greater and is definitely overstocked, a harvest cut is possible.
 2. Thinning: A cut in an immature forest stand to reduce the tree density and to concentrate productivity on fewer, higher quality trees. Usually the average diameter is less than 12 inches and the stand is overstocked.
 3. Left to grow: The stand is not overstocked and the trees can be left to grow to maturity, a larger average diameter, or until further management is necessary.

Cruising Tally Sheet 1/10 Acre Plot

Name: _____ Contestant Number: _____
 School: _____ School Number: _____

Tree No.	Tree Species	DBH Diameter Breast Height	Tree Height 16 ft. Logs	Board Foot Volume
1.				
2.				
3.				
4.				
5.				
6.				
7.				
8.				
9.				
10.				
11.				
12.				
13.				
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21.				
22.				
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24.				
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26.				
27.				
28.				
29.				
30.				

All trees marked on the plot are to be tallied. Total data is necessary in order to complete the computations. Any tree less than 12 inches will have 0 height and 0 board feet volume; however, they should be considered when calculating the stocking level.

The first five trees will be scored in the following manner:
Two points for each species, **four points** for each DBH, **four points** for each height, for a total of **ten points** per tree.

Total Number of Trees: _____ Not Scored

Total DBH: _____ Not Scored

Total Volume: _____ Not Scored

TREE SCALE - (International 1/4 Inch)

DBH (in)	Number of 16-Foot Logs							
	1/2	1	1 1/2	2	2 1/2	3	3 1/2	4
12	30	60	80	100	120			
14	40	80	110	140	160	180		
16	60	100	150	180	210	250	280	310
18	70	140	190	240	280	320	360	400
20	90	170	240	300	350	400	450	500
22	110	210	290	360	430	490	560	610
24	130	250	350	430	510	590	660	740
26	160	300	410	510	600	700	790	880
28	190	350	480	600	700	810	920	1020
30	220	410	550	690	810	930	1060	1180
32	260	470	640	790	940	1080	1220	1360
34	290	530	730	900	1060	1220	1380	1540
36	330	600	820	1010	1200	1380	1560	1740
38	370	670	910	1130	1340	1540	1740	1940
40	420	740	1010	1250	1480	1700	1920	2160
42	460	820	1100	1360	1610	1870	2120	2360

FORM 43

Cruising Tally Sheet and Scorecard Computations

Numbered questions are worth 10 points each.

Name: _____ Contestant Number: _____

School: _____ School Number: _____

Total Volume of Plot:

1. Total volume/acre _____ (± 10% will be correct)

2. Total value/acre _____

(based upon _____ cents/board foot) to be given for area (± 10% will be correct)

Average DBH _____

Total number of trees/acre _____

3. Desired minimum number of trees/acre _____

4. Is this stand: (check one)	Overstocked	
	Understocked	
	Adequately Stocked	

5. Should this stand be: (check one)	Thinned	
	Harvested	
	Left to Grow	

Use the table below to determine appropriate stocking rate:

Desirable stocking Level/Number of Trees Per Acre		
Average DBH	Minimum Number	Maximum Number
5	324	430
6	243	328
7	194	259
8	151	206
9	125	170
10	105	143
11	89	121
12	77	106
13	66	93
14	59	81
15	52	73
16	43	61
17	38	54
18	34	48
19	30	43
20	27	39
21	25	35
22	23	32

UNDERSTOCKED

ADEQUATELY STOCKED

OVERSTOCKED