



**Ohio Nursery &
Landscape Association**
Promoting a Plant and People Partnership



The **Ohio Nursery & Landscape Association** and the **Ohio Landscape Association** have endorsed this Career Development Event. The professional organizations recognize that the skills and knowledge required for this competition directly aligns to each of their respective industry certification programs.

OHIO CAREER DEVELOPMENT EVENT

NURSERY AND LANDSCAPING

Effective August 1, 2007 (10-22-07)

Purpose

The nursery/landscape CDE is an educational activity designed as a practical method of teaching students to identify various horticultural plants, seeds, insects and diseases that affect the nursery and landscape industry. This CDE may also encourage and prepare the student to be successful in achieving certification offered by the nursery/landscaping industry, which reflects the requirements found in the Perkins Act.

Date

State: January, held in conjunction with the OSU/CENTS Show

Location

Convention Center (at the Hyatt), Columbus

CDE Rules for State Pre- Lims held at CENTS Show in Columbus, in January each year (Finals will consist of the top 4 team members of the top 10 schools from the Pre Lims, only these students will participate in the finals, no substitutes- rules at the end of the Pre Lim Rules)

1. Each school may enter one team in the state event.
2. A team shall consist of an unlimited number of FFA dues paid individuals, all from one school. Top three (3) scores will make up the team score, and the top 4 scores will make up the team.

3. Observers will not be permitted in the CDE area while the event is in progress.
4. Any communication between contestants and or instructors, (unless asking a CDE official a question about the contest) during the event will be disqualified. THERE WILL BE NO FLOATERS DURING THE SKILL EVENT!
5. Contestant should bring clipboards to facilitate the holding scorecards. In addition, all contestants must bring their own No. 2 pencils and plain non programmable calculator.

CDE Format

Plant Identification 40 specimen
 Other Identification 40 specimen

Written test 50 questions
 2 problem solving activities 60 points each

Plant Identification

Forty (40) specimens from the following lists will be presented on Power Point for contestants to identify by common/scientific name. Each will be worth 2 points each. All will have a sentence about that specimen and multiple choice answers.

DECIDUOUS TREES

Paperbark Maple	<i>Acer griseum</i>
Japanese Maple	<i>Acer palmatum</i>
Norway Maple	<i>Acer platanoides</i>
Red Maple	<i>Acer rubrum</i>
Sugar Maple	<i>Acer saccharum</i>
Buckeye/Horsechestnut	<i>Aesculus spp.</i>
Serviceberry	<i>Amelanchier spp.</i>
River Birch	<i>Betula nigra</i>
European Hornbeam	<i>Carpinus betulus</i>
Redbud	<i>Cercis canadensis</i>
Flowering Dogwood	<i>Cornus florida</i>
Kousa Dogwood	<i>Cornus kousa</i>
Washington Hawthorn	<i>Crataegus phaenopyrum</i>
European Beech	<i>Fagus sylvatica</i>
Ash	<i>Fraxinus spp.</i>
Ginkgo	<i>Ginko biloba</i>
Thornless Honeylocust	<i>Gleditsia triacanthos inermis'</i>
American Sweetgum	<i>Liquidambar styraciflua</i>
Star Magnolia	<i>Magnolia stellata</i>

Sweetbay Magnolia	<i>Magnolia virginiana</i>
Saucer Magnolia	<i>Magnolia x soulangiana</i>
Flowering Crabapple	<i>Malus hybrids</i>
Sourgum	<i>Nyssa sylvatica</i>
London Planetree	<i>Platanus x acerifolia</i>
Thundercloud Flowering Plum	<i>Prunus cerasifera</i> 'Thundercloud'
Flowering Pear	<i>Pyrus calleryana</i> cvs.
Pin Oak	<i>Quercus palustris</i>
Red Oak	<i>Quercus rubra</i>
Littleleaf Linden	<i>Tilia cordata</i> cvs.
Wisteria	<i>Wisteria floribunda</i>

NEELED EVERGREENS

Concolor Fir	<i>Abies concolor</i>
Weeping Nootka False Cypress	<i>Chamaecyparis nootkatensis</i> 'Pendula'
Dwarf Hinoki False Cypress	<i>Chamaecyparis obtusa</i> 'Nana'
Gold Thread False Cypress	<i>Chamaesyparis pisifera</i> 'Filifera Aurea Nana'
Shrub Juniper	<i>Juniperus chinensis</i> cvs.
Spreading Juniper	<i>Juniperus horizontalis</i> cvs.
Upright Juniper	<i>Juniperus scopulorum</i> cvs.
Norway Spruce	<i>Picea abies</i>
Dwarf Alberta Spruce	<i>Picea glauca conica</i>
Serbian Spruce	<i>Picea omorika</i>
Colorado Spruce	<i>Picea pungens</i>
Mugho Pine	<i>Pinus mugo</i>
Austrian Pine	<i>Pinus nigra</i>
Eastern White Pine	<i>Pinus strobus</i>
Yew	<i>Taxus x media</i>
Eastern Arborvitae	<i>Thuja occidentalis</i>
Canadian Hemlock	<i>Tsuga canadensis</i>

DECIDUOUS SHRUBS

Brilliant Red Chokeberry	<i>Aronia arbutifolia</i> 'Brilliantissima'
Japanese Barberry	<i>Berberis thunbergii</i>
Butterfly Bush	<i>Buddleia davidii</i> hybrids
Flowering Quince	<i>Chaenomeles</i> spp.
Redtwig Dogwood	<i>Cornus alba</i> 'Siberica'
Cranberry Cotoneaster	<i>Cotoneaster apiculata</i>
Dwarf Winged Euonymus	<i>Euonymus alata</i> 'Compacta'
Forsythia	<i>Forsythia x intermedia</i>
Oakleaf Hydrangea	<i>Hydrangea quercifolia</i>
Winterberry Holly	<i>Ilex verticillata</i>
Privet	<i>Ligustrum</i> spp.
Northern Bayberry	<i>Myrica pennsylvanica</i>
Potentilla	<i>Potentilla fruticosa</i> hyb.
Purpleleaf Sand Cherry	<i>Prunus cistena</i>
Deciduous Azalea	<i>Rhododendrum</i> hybrids

Little Princess Spirea	<i>Spiraea japonica</i> 'Little Princess'
Snowmound Spirea	<i>Spiraea nipponica</i> 'Snowmound'
Goldflame Spirea	<i>Spiraea x bumaldi</i> 'Goldflame'
Dwarf Korean Lilac	<i>Syringa meyeri</i>
Common Lilac	<i>Syringa vulgaris</i>
Koreanspice (Fragrant) Viburnum	<i>Viburnum carlesii</i>
Compact European Cranberrybush	<i>Viburnum opulus</i> 'Compacta'
Doublefile Viburnum	<i>Viburnum plicatum</i> var. <i>tomentosum</i>
Weigela	<i>Weigela florida</i>

BROAD-LEAVED EVERGREENS

Boxwood	<i>Buxus sempervirens</i>
Wintercreeper Euonymus	<i>Euonymus fortunei</i> cvs.
Meserve Holly	<i>Ilex x meserveae</i> cvs.
Green Lustre Japanese Holly	<i>Ilex crenata</i> 'Green Lustre'
Inkberry	<i>Ilex glabra</i>
Japanese Andromeda (Pieris)	<i>Pieris japonica</i>
Firethorn	<i>Pyracantha coccinea</i> cvs.
Rhododendron	<i>Rhododendron species</i>
Azalea	<i>Rhododendron hybrids</i>
Yucca (Adam's Needle)	<i>Yucca filamentosa</i>

GROUND COVER

Ajuga (Carpet Bugle)	<i>Ajuga reptans</i>
Purple leaf Wintercreeper	<i>Euonymus fortunei</i> 'coloratus'
English Ivy	<i>Hedera helix</i>
Pachysandra (Spurge)	<i>Pachysandra</i>
Periwinkle (Myrtle)	<i>Vinca minor</i>

ANNUALS

Ageratum
Begonia
Coleus
Dusty Miller
Geranium
Impatiens
Marigold
Pansy
Petunia
Salvia

PERENNIALS-

Artemisia
Astilbe
Black Eyed Susan
Bleeding Heart

Chrysanthemum
Clematis
Columbine
Coneflower
Coralbells
Coreopsis
Cranesbill Geranium
Crocus
Daffodil
Daylily
Dianthus
Hosta
Hyacinth
Iris
Lady's Mantle
Lavendar
Ornamental Grass
Perennial Fern
Pulmonaria

Sedum
Shasta Daisy
Tulip
Veronica

TURF
Bent Grass
Fine Fescue
Kentucky Blue Grass
Perennial Rye Grass
Tall Fescue (coarse)

Other Identification

Forty (40) specimens from the following lists will be presented on Power Point for contestants to identify. All will have a sentence about that specimen and multiple choice answers.

WEEDS

Annual bluegrass
Black medic
Chickweed
Crabgrass
Curly dock
Dandelion
Field bindweed
Foxtail
Ground ivy
Groundsel
Knotweed
Nimblewill
Nut sedge
Oxalis (Yellow Woodsorrel)
Plantain, buckthorn
Plantain, common
Poison Ivy
Purslane
Quackgrass
Ragweed
Spurge
Thistle
White Clover

INSECTS & INSECT-LIKE PESTS

Aphids
Spruce gall aphid
Bagworm
Black vine weevil
Borer
Chinchbug
Emerald Ash Borer
Fall webworm
Grub
Gypsy Moth
Japanese beetle

Lace bug
Ladybug
Leaf miner
Leafhopper injury
Maple bladder gall
Mealy bug
Spider mite
Pine shoot moth
Pine tube moth
Oak pocketvein gall
Sawfly
Scale
Slugs

DISEASES & DISORDERS

Anthracnose
Black spot
Botrytis blight
Brown patch
Canker
Chlorosis
Dollar spot
Fire blight
Girdling
Helminthosporium
Herbicide injury
Powdery mildew
Rust
Scab
Striped smut
Verticillium

SUPPLIES AND EQUIPMENT

Aerator
auger, earth
ball cart
bark mulch
bow saw

fertilizer injector
fertilizer spreader
garden fork
garden rake
gypsum
hand pruning shears
hedge shears
impulse sprinkling head
leaf rake
loppers
mattock
nursery spade
peat moss
perlite
pick axe
pitch fork
pole pruner
power rake
pruning saw

reel mower
respirator
rotary mower
shovel, round tip
shovel, scoop
skid steer loader
soaker hose
sod cutter
sod lifter
soil probe
solenoid valve
sphagnum moss
sprayer (hand or power)
tree caliper
tree wrap
trowel
turf edger
verti-cut mower
weed barrier

Written Test

All contestants will compete a written test composed of 25 multiple choice and 25 true/false statements. This section is worth 50 points and contestants have 25 minutes to complete the section.

Problem Solving Activities

All contestants will be required to complete the same two problem solving activities selected from those outlined below. This section will be worth 60 points each.

I. Landscape Design

The student will be furnished a landscape drawing and be asked to answer six objective questions about it. For example, determine the cost of fencing, or determine the number of yards of sod required. Each correct answer is valued at 10 points. The student will furnish an engineer scale and a battery operated calculator (if desired). Twenty-five minutes will be allowed for completion.

II. One other practicum from the list below will be chosen by the CDE coordinator each year.

Reading & Interpreting Owner Manuals
Reading & Interpreting MSDS
Reading & Interpreting Pesticide Label

Reading & Interpreting Grass Seed Label
Irrigation Planning or Troubleshooting
Reading & Interpreting a Nursery Catalog

Scoring Guide

1. Individual

Plant Identification 80 points
Other Identification 80 points

Written Test 50 points
Problem Solving Activities 120 points

2. Team

330 points x 3 individuals = 990 Possible Points.

References

1. Nursery Management, Administration and Culture, (2000- 4th edition) Davidson, Harold, and Mecklenburg, Roy, Prentice-Hall, Inc., Englewood Cliffs, NY 07632, 1981.
2. Ohio Certified Nursery Technician- "Landscape Manual" produced and distributed by: The Ohio Nursery and Landscape Association, Inc. 72 Dorchester Sq. Westerville, Oh 43081- (614) 899-1195 or (800) 825-5062
3. Cooperative extension Service, Agronomy Guide, The Ohio State University, Columbus, Ohio, 43229.

Consult the Ohio Agricultural Education Curriculum Materials Service Catalog for additional curriculum materials that will be beneficial for preparing for the state CDE.

State Finals Nursery and Landscaping CDE Format

Effective August 1, 2007

The current components of the Nursery and Landscaping CDE include:

Plant Identification	40 specimen
Other Identification	40 specimen
Written test	50 questions
2 Problem Solving Activities	60 points each

The current CDE Pre Lims format (Part I) would identify the top ten teams that have earned the opportunity to compete in Finals (Part II) of the CDE. The participants of the finals is made up of the top 4 individuals in the top 10 teams from the Pre Lims held at the CENTS Show in Columbus, held in January. No substitutes for the finals.

In response to the industry's need for well-trained, skilled entry level employees and in aligning the horticulture curriculum with PLANET's Industry Certification Examinations, the top ten teams that competed in Part I of the CDE will compete in Part II of the CDE.

Contestants will compete in four of the following common problem solving elements. The common elements will be rotated annually.

2007-08 Common Elements

Landscape Plant Installation
Paver Installation
Skid Steer
Surveying Instrument

2008-09 Common Elements

Riding Mower/ZTR
Tree Planting and Staking
Irrigation Identification
Grading & Drainage

2009-2010 Common Elements

Sod Installation
Intermediate Walk Behind Mower
Truck & Trailer
Plan Reading
Fertilizer Calibration

This new component would be implemented effective the 2007-08 school year.

Event Dates/Locations

Part I – January 23, 2008 at the ONLA/CENTS Show

Part II – Late March, 2008 at a Career Center, ATI, Columbus State or other appropriate site

CDE Rules

1. The top ten teams will consist of four team members. Team members must have been participated in Part I of the CDE.
2. Each team will compete in all four problem solving common elements.
3. Each problem solving common element will be completed by one pair of contestants from each school. For example,
 - a. Plant Layout – Team Members A and B
 - b. Paver Installation – Team Members A and C
 - c. Skid Steer – Team Members C and D
 - d. Surveying Instrument – Team Members B and D
4. Teams of two contestants from each team will compete in two
5. The final ranking of the top ten teams and top team individuals will be determined by the combined scores of Part I and Part II of the CDE.
6. Contestants must be prepared for competition in case of inclement weather.

Description of 2007-08 Common Elements

Problem Solving Event #1: Plant Layout

Description: A two-person team (maximum of one team per school) will install a variety of landscape materials such as sod, mulch, and plants. Each team will be provided with a plan that will show the exact relationship of materials to be installed and may include an area between 100 and 400 square feet.

Time: 1 hours

Judging Criteria

Points: 100 possible points per team member. 200 possible points toward the team score. Each team member will receive half of the team points for their individual scores.

Points will be assigned based on the following criteria:

1. Accuracy of assembly according to provided plan information (30%)
2. Quality of final installed products such as smoothness of curves, evenness of mulch, etc. (50%)
3. Safe installation procedures used. (20%)

Specific score sheets will be developed once the scoring concept is finalized.

Time will only be used as a tiebreaker.

Students are required to bring the following materials to the event: Two measuring tapes, architect's scale, two long handle shovels, one hard rake, and one mallet.

Problem Solving Event #2: Paver Installation

Description: A two-person team (maximum of one team per school) will be required to construct a small patio form as shown on a plan (**5ft x 4 ft**) and properly lay pavers on sand in a specified pattern. Paving material may be brick, interlocking blocks, stone pieces or other modular material suitable for a residential patio. Teams may also be asked to prepare a cost estimate.

Time: 1 hours

Judging Criteria

Points: 100 possible points per team member. 200 possible points toward the team score. Each team member will receive half of the team points for their individual scores.

Points will be assigned based on the following criteria:

1. Structural soundness (30%)
2. Neatness and aesthetics (25%)
3. Adherence to plans and specifications (25%)
4. Safe use of tools and equipment (20%)

Specific score sheets will be developed once the scoring concept is finalized.

Time will only be used as a tiebreaker.

Students are required to bring the following materials to the event: Handsaw, hammer, mallet, level, one broom, one rake, two shovels, and other tools deemed necessary to construct a patio. Two sharpened pencils with erasers and scratch paper.

Problem Solving Event #3: Skid Steer Operation

Description: A two-person team (maximum of one team per school) will demonstrate understanding and proficient operation of a skid steer loader. The students compete individually in this event. The student will do a pre-operation inspection, attach a bucket and pallet forks and operate the machine through a designated course. The course will simulate several job site conditions such as, but not limited to, tight quarter operations and material retention during operation. Upon completion of the course, a measurement will be taken to determine how much material was retained through the course. In addition, students will take a written exam covering safety, skid steer loader characteristics, operation, and maintenance.

Time: Student will have one hour to complete the written exam and 20 minutes for the operation of the skid steer.

Judging Criteria

Points: 100 possible points per team member. The individual score of each contestant will be added together to obtain the team score totaling no more than 200 possible points.

Points will be assigned based on the following criteria:

1. Written exam (25%)
2. Pre-operation inspection of the skid steer (25%)
3. Safe Operation of operational tasks on course and measurement of material retention (50%)

Specific score sheets will be developed once the scoring concept is finalized.

Time will only be used as a tiebreaker.

Students are required to bring the following materials to the event: Two sharpened pencils with erasers, hard hat, safety glasses, gloves, ear protection, and rag. Students are required to wear long pants, long-sleeved shirts, and hard-sole shoes or boots.

Problem Solving Event #4: Surveying Instrument

Description: A two-person team (maximum of one team per school) will be required to set up a surveyor's instrument and determine the benchmark elevation and determine various pre-determined locations in a landscape setting. Teams may also be asked to interpret a landscape drawing and to determine the amount of cut and fill required to attain the desired slope.

Time: 1 hours

Judging Criteria

Points: 100 possible points per team member. 200 possible points toward the team score. Each team member will receive half of the team points for their individual scores.

Points will be assigned based on the following criteria:

1. Appropriate set up of the instrument and determining the benchmark. (30%)
2. Correctness in determining elevations (35%)
3. Ability to calculate cut and fill requirements (35%)

Specific score sheets will be developed once the scoring concept is finalized.

Time will only be used as a tiebreaker.

Students are required to bring the following materials to the event: Two sharpened pencils with erasers, clipboards and scratch paper. **Students are also encouraged/permitted to bring their own surveying instruments and rods if they so desire.**

Note: 2008-08 and 2009-2010 Common Element descriptions will be developed.