



**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, 2009

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>Ginkgo 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>

NEEDED 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 hybrids</i>
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
Plaintain, 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.

#1 Reading & Interpreting Owner Manuals
#2 Reading & Interpreting MSDS
#3 Reading & Interpreting Pesticide Label
#4 Reading & Interpreting Grass Seed Label

#5 Irrigation Planning or Troubleshooting
#6 Irrigation Identification & Function
#7 Reading & Interpreting a Nursery Catalog

#6 Irrigation Identification & Function Scoresheet

Scoring Criteria	Possible Points	Points Earned
Irrigation Parts Identification		
Back Flow Prevention Device	3	_____
Remote Control Valve	3	_____
Quick coupler	3	_____
Laterals	3	_____
Mainline	3	_____
Drip System components	3	_____
Valve box	3	_____
Impact head/Gear-driven rotor head	3	_____
Irrigation Parts Functions		
Back Flow Prevention Device	6	_____
Remote Control Valve	6	_____
Quick coupler	6	_____
Laterals	6	_____
Mainline	6	_____
Drip System components	6	_____
Valve box	6	_____
Impact head/Gear-driven rotor head	6	_____
Written Examination		
Score	28	_____
Total Individual Points	100	<div style="border: 1px solid black; width: 80px; height: 20px; margin: 0 auto;"></div>

Add the total individual points for each team member to obtain the team score. _____

Time* needed to complete the operational aspect of this task: _____

*Time is only used as a tie breaker.

Judges' Comments: _____

Judges' Initials: _____

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
3 Problem Solving Activities	180 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 4 individuals from the top 5 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.

2009-2010 Common Elements

Sod Installation

Paver Installation

Intermediate Walk Behind Mower

Skid Steer Loader/Pallet Fork Operation

Residential landscape Estimating

Event Dates/Locations

Part I – January- ONLA/CENTS Show

Part II – Check date/location on CDE Schedule

CDE Rules

1. The top ten teams will consist of four of the top 5 scoring team members from the Pre Lim Round in January. Team members must have 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 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 hour

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 4ft) 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 hour

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 hour

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. There will be a list of tools required to each school to bring to the finals. This will be posted soon.

Nursery and Landscaping Career Development Event
Problem Solving Exercise #5 Tree Planting
Time Allowed: 30 minutes

You are working on a job for a municipality and must follow job specifications carefully. This municipality has had a problem of too many trees dying due to improper planting. The city forester will first test your skills while leaving the tree in the pot. The specifications for this municipality might be different from what you are used to, but you need to demonstrate that you can follow these instructions. You will need to give verbal explanations for root bound conditions and watering. Stake and guy the tree when you are finished planting paying attention to the direction of the prevailing wind.

Study Reference: Plants and Planting in the Landscape Training Manual for Installation Technicians (Chapter 6)

Procedure:

1. Review the drawing of the tree planting detail
2. Plant the tree according to the detail drawing
3. Explain to the judge the proper method of relieving root bound condition
4. Backfill as per detail, use proper backfill compacting practices.
5. Explain proper watering method for new plantings
6. Staking
 - a. Review drawing
 - b. Stake tree according to detail, describe proper stake placement
 - c. Align tree stake in consideration of wind direction
 - d. Use proper safety equ
 - e. Equipment when staking a tree (hard hat, safety glasses, gloves)
7. Much to specification
8. After judge has observed, remove stakes, wires, ties and plant from hoild and re-grade area.

Nursery and Landscaping Career Development Event Problem Solving Event # 6 ZTR Mower Operation

You have been asked by your supervisor to demonstrate your understanding and proficient operation of a ZTR mower. Please complete a pre-operation inspection and operate the mower through a designed course. The course will simulate job conditions that could include inspection of the work area, identification of potential hazards, and operation of the mower in close proximity to sidewalks, curbs, flower beds and other objects.

Study Reference: Equipment Safety and Maintenance in the Landscape Training Manual for Installation Technicians (Chapter 9) and PLANET's *ZRT Riding Mower Resource Guide and DVD*.

Procedure:

1. Complete a pre operation check of the mower.
2. Start Engine at half throttle to allow the machine to warm up.
3. Drive the mower through the obstacle course 2 times as instructed by the judge.
4. Demonstrate changing mower heights.
5. Demonstrate the ability of stripe a lawn.
6. Park the mower safely in area as directed by the judge.

Nursery and Landscaping Career Development Event

Problem Solving Exercise #8 Residential Landscape Material Estimating

Description: The student (maximum of four individuals, consisting of two groups of two individuals) will estimate the material needed to successfully bid a residential landscape project. The estimate requires an accurate material take-off from the plan and application of appropriate costs. The material take-off focuses on three key elements commonly seen in basic residential installation projects.

- 1 – Hardscape: driveways, patios, walls, walkways
- 2 – Softscape: soil preparation, plant installation
- 3 – Turf: seed, sod

The student will be provided a drawing set that includes a scaled final design accompanied by detail drawings illustrating all material needed. The student will use calculations to determine the amount of material needed to build each individual element. The final solution will show the individual quantity calculated with the associated cost.

Time: 1 hour

Judging Criteria

Points: To Be Determined

Solutions will be scored against a predetermined solution. Time will only be used as a tiebreaker.

Students are required to bring the following materials to the event: Architects' scale, calculator, two sharpened pencils with erasers, and scratch paper.

Sponsor is required to supply the following materials for the event:

- 60 copies of the landscape plan
- 60 copies of description booklet outlining bid parameters
- Direct cost manual
- Stopwatches
- Final solution ready for scoring the students' solutions
- Sufficient number of judges and event monitors
- Any other items deemed necessary for this event

Nursery and Landscaping Career Development Event
Problem Solving Exercise #7 Grading & Drainage
Time Allowed: 60 minutes

You have been provided a wooden frame that is partially filled with sand. Add or remove sand as necessary to create contours to match the details. Take note of the front of the box. You will be provided a working copy of the plan and all of your measurements can be written down on the working copy. A long straight edge is provided for you. You will need to provide your own architects / engineers' scale and tape measure. Please remember that this is also a drainage assessment. All areas of the box must drain to the catch basin you have installed.

Study Reference: Instrument, Grading and Drainage in the Landscape Training Manual for Installation Technicians.

Procedure:

1. Using sand in the 8ft X 8ft box, grade the sand into a mound that closely resembles the scale drawing.
2. Finish grade to a smooth and even appearance at elevations specified on drawing.
3. Place catch basin correctly at proper elevation.
4. Finished project must drain all areas to catch basin.

School Name _____ Contestants' Name _____

#8 Residential Landscape Material Estimating

The intent of this landscape estimation problem is complete a full material take-off in the following three categories.

Scoring – 100 points per team member. Each competing team will have two groups of two individuals estimate the material take-off for the given landscape plan. Points will be awarded as listed below. Note: The judge will establish the correct response for each area. Points will be awarded within a range + and – of the correct answer. Fewer points will be earned the greater the + or – from the correct range response.

Area 1: Plants (30 points possible) Points earned _____

Be sure to include the exact number of plants and soil preparation as noted on drawing. We assume all trees are staked using PLANET guidelines.

Area 1 Answer: \$ _____

Area 2: Hardscape (30 points possible) Points earned _____

Square footage take-off of all surface pavements excluding driveway. Tonnage calculations of all walls.

Area 2 Answer: \$ _____

Area 3: Lawn (30 points possible) Points earned _____

Soil preparation as noted on drawing and sodded. Entire front lawn to face of house.

Area 3: Answer \$ _____

Grand Total (5 points possible) Points earned _____

Grand Total Answer \$ _____

**Materials cost list and all scrap paper submitted
(5 points possible) Points earned _____**

Total points earned _____/100

Note: Include materials cost list and show grand total of all three categories. All scrap paper and materials list are to be submitted.

Landscape and Nursery Career Development Event Problem Solving Event # 9 Sod Installation

You have been asked by a customer to install sod in a square raised box. Establish the proper grade first. Remember to allow for the thickness of the sod. Calculate the amount of fertilizer needed based on the size of the box and then spread the fertilizer. Install the sod following the procedure listed below. Instruct the customer (judge) on how to water the new sod. Please allow enough time to dismantle the station at the end of the time period.

Study reference: Turf Installation in the Landscape Training Manual for Installation (chapter 8)

Procedure

1. Establish correct finished grade so the sod is level with the top of the frame.
2. Rake lightly to level irregularities.
3. Roll with a water filled roller.
4. Broadcast fertilizer at a rate of 43.560 lbs / acre.
5. Lay the first row of sod parallel to a side of the frame. Continue along perimeter of the frame. Lay remaining rows parallel to the first side and stagger each row.
6. Butt seams tightly and trim as necessary (sprinkler head, valve box, and edges)
7. Roll with a water filled roller.
8. Explain proper watering procedure for newly installed sod.
9. upon judges approval, roll up full pieces of sod and return to pallet
10. Judge will determine the amount of soil to be removed.
11. Calculate the elevation difference between point A & B _____

Sod Installation Score Sheet

Team Name: _____

Team Members: 1. _____

2. _____

Scoring Criteria	Possible Points	Points Earned
Graded area according to problem description	10	_____
Rolled area (pre sod) according to problem description	8	_____
Rolled sod after installation	8	_____
Calculated & weighed proper amount of fertilizer	10	_____
Applied Fertilizer evenly	10	_____
Sod strips adjacent to edges full width	8	_____
Stagger rolls of sod	8	_____
Knit seams tightly	10	_____
Made cuts accurately	8	_____
Explained watering of new sod	10	_____
Demonstrated proper lifting techniques	10	_____

Safety Violations

Deduct 3 points for each observed safety violation. _____ x 3 = - _____

Gross violation: A judge may stop a contestant from competing based upon safety violations. In such cases, the contestant will earn zero points. - _____

Total Individual Points **100**

Add the total individual points for each team member to obtain the team score. _____

Time* needed to complete the operational aspect of this task: _____

*Time is only used as a tie breaker.

Judges' Comments: _____

Judges' Initials: _____