

Nursery/Landscape

		
Maximum Number of Team Members	4	
Number of Team Members Scored	4	
Scantron	Horticulture CDE# 105482	
Committee: Craig Canterbury Annie Erwin Ben Hays Mary Phillips Tara Tatalovich		

Contest Scope

The Nursery/Landscape Contest includes all aspects of the industry in producing, marketing, utilizing, and maintaining landscape plants (woody and herbaceous plants and turfgrasses), plus related products, equipment, and services including landscape design.

Contest Objectives

PLANT MATERIALS - to demonstrate the ability to identify nursery and landscape plant materials and turfgrasses commonly used in the United States.

PLANT DISORDERS - to demonstrate the ability to identify unhealthy plant conditions due to pests, nutritional or physiological disorders, and mechanical or chemical injury.

CULTURAL PRACTICES - to demonstrate knowledge of the principles and skills involved in propagation, growth requirements, growing techniques, harvesting, marketing and maintenance of nursery plants and landscape turf.

DESIGN AND CONSTRUCTION - to demonstrate knowledge of the principles and techniques of landscape design and construction.

SUPPLIES AND EQUIPMENT - to demonstrate the ability to identify, select, use and maintain appropriate supplies and equipment for nursery and landscape operations, including equipment and procedures in mechanization and automation.

SAFETY - to demonstrate knowledge of safety practices in nursery and landscape operations.

INTERPERSONAL RELATIONS - to demonstrate skills in oral and written business communications.

MARKETING - to understand marketing principles and demonstrate proper sales and service skills.

RECORDS AND REPORTS - to demonstrate the ability to prepare accurate and legible records and reports and to interpret business documents.

Rules of the Contest

1. Teams and/or schools or coaches will not visit the WVU greenhouses after September 1.
2. Observers will not be permitted in the contests area while the contest is in progress, unless they are assisting with the contest.
3. Contestants will be assigned to group leaders who will escort them to the various contest staging sites. Each contestant is to stay with his or her group leader throughout the contests or until told to change leaders by the Contest Superintendent.
4. Under no circumstances will any contestant be allowed to touch or handle plant material or other specimens during the contest except as specified in certain practicums. Any infraction of this rule will be sufficient cause to eliminate the team from the contest.
5. In addition to a clean clipboard and at least two No. 2 pencils, each contestant must also have a ruler or scale capable of measuring 1/8-inch increments, a calculator, and a ball-point or felt-tip pen.
6. Calculators may only be used in the practicum portions of the contest. Printing calculators are not allowed.
7. The contest includes the following four phases:
 - identification of plant materials.
 - identification of plant disorders
 - general knowledge examination, and
 - practicum

These are described as follows.

Phase 1 - IDENTIFICATION OF PLANT MATERIALS, EQUIPMENT AND SUPPLIES (150 points). Please refer to page 213 of the National CDE Bulletin.

Participants will identify 50 items selected from the provided list covering the following categories:

- Plant Materials (25 items)
- Pests and Disorders (10 items)
- Equipment and Supplies (15 items)

Plants to identify will be presented as intact, live specimens. Equipment may be either an intact item or photograph. Pest and disorder items may be presented as an intact specimen, photograph, or preserved specimen (herbarium sheet, insect mount, etc.). When a problem must be presented with an affected plant, a "Disorder" label will be with the item to designate identification of the problem rather than the plant. Each specimen will be designated by a station number (1-50). When the participant identifies the item, its name is then located on the identification list. The participant then records the number by that name on Scanning Sheet 105482 at the respective station number.

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Each participant will be provided a copy of the list at the event site. Three points will be awarded for each correct identification, and participants have 50 minutes to complete this event phase. No specimens or items may be touched or handled in any way.

Phase 2 - GENERAL KNOWLEDGE EXAMINATION (150 points)

Fifty (50) question objective multiple-choice exam will be prepared on topics reflecting subject areas in the contest objectives. This contest phase will evaluate the contestant's knowledge and understanding of basic horticultural principles in producing, marketing, using, and maintaining nursery plants and turf. Contestants are allowed 50 minutes to complete this phase. Each correct answer is worth three (3) points.

Test questions will come from the past five years of the National Nursery Landscape CDE Tests.

Phase 3 - LANDSCAPE ESTIMATING (100 points)

This practicum section is designed to evaluate contestant knowledge of and ability in 1) evaluating a landscape design, 2) reading a landscape drawing, 3) measuring and calculating materials needed to execute a landscape plan, and 4) evaluating factors that affect profitability of a landscape business.

A landscape drawing and scratch paper will be provided to the contestants. There will be objective questions about the landscape plan. Participants will record their answers using a scan form. Thirty (30) minutes will be allowed for this practicum. Each correct answer is worth 5 points each. Past national contests will be used to provide examples for the event.

Landscape estimating drawings and questions will come from the past years of the National Nursery Landscape CDE Tests.

Phase 4 - ASSESSMENT AND SOLUTIONS (50 points)

This practicum is designed to evaluate participant knowledge of and ability in 1) assessing the request or problem presented, 2) reviewing alternative procedures or courses of action based on individual knowledge or reference information provided, and 3) deciding on a solution. Possible solutions will be presented in multiple-choice form for the participant to mark on Scanning Sheet 105482.

Ten situations will be presented from the following four areas:

Measuring Nursery Stock - One nursery plant will be measured for market size (height, spread, or caliper as appropriate) according to the American Standard for Nursery Stock for BR and B&B evergreen and deciduous trees and shrubs. A caliper and measuring rule will be provided. Plants presented in containers will be assumed as growing in the field, and a label will advise on

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whether it is to be dug BR or B&B. Cut trunk sections may be presented for larger tree measurement.

Pruning Nursery Stock - One or more nursery plants will be displayed with points marked for possible pruning cuts. No plant will be actually pruned. Participants are to evaluate each labeled point and decide if the plant part should be pruned or not for improvement of the plant's health, form, and overall quality. The answer choice then will be the combination of cuts that should be made.

Equipment Maintenance – Tools from the list in Phase 3, a part for a tool, and/or an operating manual will be presented with answer choices of possible maintenance needs, corrective actions, and/or operating specifications. Examples of possible choices are low oil, uneven height setting, blade needs sharpening, incorrect gas:oil ratio provided, or replace broken handle.

Equipment will be placed to allow observing all components in the answer choices without handling the item. If handling should be required, allowance for this will be stated with that answer choice.

Problem Solving - Other situations of nursery and landscape plants, supplies, or practices where observation and analysis of the subject and resource materials are involved in a decision- making process. Example situations may include the following:

- According to the sample label provided, a spill of this chemical must be handled by _____?
- From the information provided on these catalog pages, one bag of the designated medium will fill _____pots of the size and shape presented.
- According to the information provided, which plants in this list would likely need a protected site for winter survival in the Indianapolis, Indiana area?

Participants have 10 minutes to complete this phase. Each correct solution has a value of five points.

Scoring the Contest

Individual contestant scores will be the sum of the scores from the four phases of the contest, based on the following possible point values:

Phase	Points
General Knowledge Exam	150
Identification	150
Landscape Estimating	100
Assessment and Solution	<u>50</u>
	400

If needed in the case of tied individual or team total scores, final placings will be determined by comparing, in order, scores for the following:

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1. Identification of Plant Materials
2. Exam
3. Landscape Drawing

WV Nursery Landscape Identification Lists

NURSERY/LANDSCAPE PLANT IDENTIFICATION

101.	<i>Abelia x grandiflora</i>	Glossy Abelia	146.	<i>Hosta x hybrida cv.</i>	Plaintain Lily
102.	<i>Abies concolor</i>	White Fir	147.	<i>Hydrangea quercifolia</i>	Oakleaf Hydrangea
103.	<i>Acer palmatum cv.</i>	Japanese Maple	148.	<i>Hydrangea macrophylla</i>	Bigleaf Hydrangea
104.	<i>Acer platanoides cv.</i>	Norway Maple	149.	<i>Ilex cornuta cv.</i>	Chinese Holly
105.	<i>Acer rubrum cv.</i>	Red Maple	150.	<i>Ilex crenata cv.</i>	Japanese Holly
106.	<i>Acer saccharum cv.</i>	Sugar Maple	151.	<i>Ilex x meserveae cv.</i>	Meserve Holly
107.	<i>Ajuga reptans cv.</i>	Carpet Bugle	152.	<i>Impatiens hybrid cv.</i>	Impatiens
108.	<i>Antirrhinum majus cv.</i>	Snapdragon	153.	<i>Iris x germanica florentina cv.</i>	Bearded Iris
109.	<i>Aquilegia x hybrida cv.</i>	Columbine	154.	<i>Juniperus chinensis cv.</i>	Chinese Juniper
110.	<i>Amelanchier arborea</i>	Downy Serviceberry	155.	<i>Juniperus horizontalis cv.</i>	Creeping Juniper
111.	<i>Astilbe hybrid cv.</i>	Astilbe	156.	<i>Lagerstroemia indica cv.</i>	Crape Myrtle
112.	<i>Begonia semperflorescutorum</i>	Wax Begonia	157.	<i>Leucanthemum x superbum cv.</i>	Shasta Daisy
113.	<i>Berberis x mentorensis</i>	Mentor Barberry	158.	<i>Liquidambar styraciflua</i>	Sweet Gum
114.	<i>Betula nigra</i>	River Birch	159.	<i>Liriodendron tulipifera</i>	Tuliptree
115.	<i>Brassaia actinophylla Schefflera,</i>	Octopus Tree	160.	<i>Liriope spp. cv.</i>	Lilyturf
116.	<i>Buxus microphylla cv.</i>	Littleleaf Boxwood	161.	<i>Lonicera japonica 'Halliana'</i>	Hall's Japanese Honeysuckle
117.	<i>Camellia japonica cv.</i>	Common Camellia	162.	<i>Magnolia grandiflora cv.</i>	Southern Magnolia
118.	<i>Cedrus atlantica 'Glauca'</i>	Blue Atlas Cedar	163.	<i>Magnolia x soulangiana cv.</i>	Chinese (Saucer) Magnolia
119.	<i>Cercis canadensis</i>	Redbud	164.	<i>Mahonia aquifolia cv.</i>	Oregon Grape
120.	<i>Chaenomeles speciosa cv.</i>	Japanese (Flowering) Quince	165.	<i>Malus spp. and cv.</i>	Flowering Crabapple
121.	<i>Clematis hybrid</i>	Clematis	166.	<i>Myrica pensylvanica</i>	Bayberry
122.	<i>Cornus florida cv.</i>	Flowering Dogwood	167.	<i>Nandina domestica</i>	Heavenly Bamboo
123.	<i>Cotoneaster dammeri</i>	Bearberry Cotoneaster	168.	<i>Narcissus pseudonarcissus cv.</i>	Daffodil
124.	<i>Cotoneaster divaricatus</i>	Spreading Cotoneaster	169.	<i>Nyssa sylvatica</i>	Sour (Black) Gum
125.	<i>Crataegus phaenopyrum</i>	Washington Hawthorn	170.	<i>Pachysandra terminalis</i>	Japanese Spurge
126.	<i>Cynodon dactylon cv</i>	Bermudagrass	171.	<i>Paeonia hybrid cv.</i>	Peony
127.	<i>Dieffenbachia maculata cv.</i>	Spotted Dumb Cane	172.	<i>Parthenocissus tricuspidata</i>	Boston Ivy
128.	<i>Dracaena deremensis 'Warneckii'</i>	triped Dracaena	173.	<i>Pelargonium x hortorum cv.</i>	Zonal Geranium
129.	<i>Dracaena fragrans 'Massangeana'</i>	Corn Plant	174.	<i>Pennisetum ruppelia</i>	Fountain Grass
130.	<i>Echinaceae purpurea</i>	Purple Coneflower	175.	<i>Petunia x hybrida cv.</i>	Petunia
131.	<i>Epipremnum spp.</i>	Pothos	176.	<i>Philodendron scandens oxycardium</i>	Heartleaf Philodendron
132.	<i>Euonymus alatus</i>	Winged Euonymus	177.	<i>Picea abies</i>	Norway Spruce
133.	<i>Euonymus fortunei cv.</i>	Wintercreeper	178.	<i>Picea pungens cv.</i>	Colorado (Blue) Spruce
134.	<i>Fagus sylvatica cv.</i>	European Beech	179.	<i>Pieris japonica</i>	Lily-of-the-Valley Bush
135.	<i>Festuca spp. and cv.</i>	Fescue	180.	<i>Pinus mugo</i>	Mugo Pine
136.	<i>Ficus benjamina</i>	Benjamin Fig	181.	<i>Pinus strobus</i>	Eastern White Pine
137.	<i>Ficus elastica 'Decora'</i>	Decora Rubber Plant	182.	<i>Pinus sylvestris</i>	Scotch Pine
138.	<i>Forsythia x intermedia cv.</i>	Border Forsythia	183.	<i>Pinus thunbergiana</i>	Japanese Black Pine
139.	<i>Fraxinus americana cv.</i>	White Ash	184.	<i>Platanus x acerifolia</i>	London Planetree
140.	<i>Gaillardia aristata cv.</i>	Common Blanketflower	185.	<i>Poa pratensis cv.</i>	Kentucky Bluegrass
141.	<i>Gardenia jasminoides 'Fortuniana'</i>	Common Gardenia	186.	<i>Podocarpus macrophyllus</i>	Southern Yew
142.	<i>Ginkgo biloba</i>	Ginkgo, Maidenhair Tree	187.	<i>Potentilla fruticosa cv.</i>	Shrubby Cinquefoil
143.	<i>Gleditsia triacanthos inermis cv.</i>	Thornless Honeylocust	188.	<i>Prunus laurocerasus cv.</i>	Cherry Laurel
144.	<i>Hedera helix cv.</i>	English Ivy	189.	<i>Prunus serrulata 'Kwanzan'</i>	Kwanzan Japanese Flowering Cherry
145.	<i>Hemerocallis spp. and cv.</i>	Day lily			

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190.	<i>Pyracantha coccinea cv.</i>	Firethorn	204.	<i>Taxodium distichum</i>	Bald Cypress
191.	<i>Quercus alba</i>	White Oak	205.	<i>Taxus spp. and cv.</i>	Yew
192.	<i>Quercus palustris</i>	Pin Oak	206.	<i>Thuja occidentalis cv.</i>	American Arborvitae
193.	<i>Quercus rubra</i>	Red Oak	207.	<i>Tilia cordata</i>	Littleleaf Linden
194.	<i>Rhododendron x catawbiense</i>	Catawba Hybrid Rhododendron	208.	<i>Tsuga canadensis</i>	Canadian Hemlock
195.	<i>Rhododendron Hybrid</i>	Exbury Hybrid Azalea	209.	<i>Tulipa spp. cv.</i>	Tulip
196.	<i>Rosa spp.</i>	Landscape/Shrub Rose cv.	210.	<i>Verbena x hybrida cv.</i>	Garden Verbena
197.	<i>Salvia nemorosa cv.</i>	Meadow Sage	211.	<i>Viburnum x burkwoodii</i>	Burkwood Viburnum
198.	<i>Sedum spp.</i>	Sedum	212.	<i>Viburnum trilobum</i>	American Cranberrybush Viburnum
199.	<i>Solenostemon scutellarioides</i>	Coleus	213.	<i>Vinca minor cv.</i>	Periwinkle
200.	<i>Sorbus aucuparia</i>	European Mountain Ash	214.	<i>Viola x wittrockiana cv.</i>	Pansy
201.	<i>Spiraea x bumalda</i>	Bumalda Spirea	215.	<i>Wisteria sinensis cv.</i>	Chinese Wisteria
202.	<i>Syringa vulgaris cv.</i>	Common Lilac	216.	<i>Yucca filamentosa</i>	Adam's Needle
203.	<i>Tagetes spp. cv.</i>	Marigold			

NURSERY/LANDSCAPE PESTS AND DISORDERS IDENTIFICATION

Insects

217	Aphid
218	Bagworm
219	Borer
220	Leafhopper
221	Leaf Miner
222	Scale
223	Spider Mite
224	Snail/Slug
225	Whitefly
226	White Grub

Diseases

227	Anthracnose
228	Apple Scab
229	Black Spot
230	Botrytis
231	Canker
232	Cedar-Apple Rust
233	Crown Gall
234	Fireblight
235	Powdery Mildew
236	Root Rot

Weeds

237	Annual Bluegrass
238	Broadleaf Plantain
239	Buckhorn Plantain

240	Chickweed
241	Crabgrass
242	Dandelion
243	Henbit
244	Nutsedge
245	Oxalis
246	Purslane
247	White Clover

Physiological Problems

248	Frost/Freeze Injury
249	Iron Deficiency
250	Leaf Scorch (drought/ winter burn)
251	Nitrogen Deficiency
252	Pot-bound roots
253	String Trimmer Injury
254	2,4-D Injury

Beneficial Insects

255	Praying Mantis
256	Lady Beetle
257	Paper Wasp
258	Lacewing
259	Spider

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NURSERY/LANDSCAPE EQUIPMENT AND SUPPLIES IDENTIFICATION

260	anvil-and-blade pruner	307	planting/earth/soil auger
261	ball cart (B&B truck)	308	pole pruner
262	bark mulch	309	polyethylene pipe
263	bow saw	310	pop-up irrigation head
264	broadcast (cyclone) spreader	311	post-hole digger
265	bubbler head, irrigation	312	power blower
266	bulb planter	313	power hedge trimmer
267	bunker rake	314	pot-in-pot units
268	burlap	315	pump sprayer
269	compressed air sprayer	316	propagation mat
270	core aerifier	317	pruning saw
271	chain saw	318	quick coupler
272	cut-off machine	319	quick coupler head adapter
273	drip emitter, irrigation	320	reel mower
274	dry-lock wall block	321	resin-coated fertilizer
275	edger (power or hand)	322	rotary mower
276	edging	323	rototiller
277	erosion netting	324	round point shovel
278	fertilizer injector	325	scoop shovel
279	fertilizer tablet	326	shade fabric
280	garden (spading) fork	327	sharpening stone
281	garden (bow) rake	328	siphon proportioner
282	grafting band	329	soaker hose
283	grafting knife	330	soil sampling tube
284	granular fertilizer	331	solenoid valve
285	gravity (drop) spreader	332	spade
286	ground/pelleted limestone	333	sphagnum moss
287	hedge shears	334	square point (flat) shovel
288	hoe	335	string trimmer
289	hook-and-blade pruners	336	thatch rake
290	hose-end repair fitting	337	tree caliper
291	hose-end sprayer	338	tree wrap
292	hose-end washer	339	trowel
293	hose repair coupling	340	vertical mower
294	impact sprinkler	341	water breaker
295	irrigation ring tool	342	wire tree basket
296	landscape fabric		
297	leaf rake		
298	loppers		
299	mattock		
300	measuring wheel		
301	mist nozzle (mist bed)		
302	mower blade balancer		
303	nursery container		
304	oscillating sprinkler		
305	peat moss		
306	pick axe		