NURSERY/LANDSCAPE

Purpose

The purpose of the Nursery/Landscape Contest is to encourage students to gain knowledge of the production, marketing, utilization, and culture of landscape plants.

Objectives

In preparing for the contest, the student should develop the following skills:

I. Identification of woody ornamental and turf plants commonly used in Missouri landscapes.

II. Understanding of the basic principles involved in correct use of plants in the landscape.

III. Ability to diagnose common problems encountered in the culture of landscape plants and to prescribe methods for preventing or correcting these problems.
# Crosswalk with Show Me Standards

| Objectives – Students participating in the Career Development Event should be able to: | Show-Me Standards |
|---|---|---|
| **Knowledge Standards (Content Areas)** | **Performance Standards (Goals)** |
| 1. Identification of woody ornamental and turf plants commonly used in Missouri landscapes. | CA.5 | 1.4, 1.5, 1.10 |
| | MA.1, MA.2, MA.5 | 3.1, 3.2, 3.3, 3.5, 3.6, 3.8 |
| | SC.3, SC.4, SC.8 | 4.4, 4.8 |
| 2. Ability to recognize the characteristics of a given plant which adds to or detracts from its quality or usefulness. | | |
| 3. Understanding of the basic principles involved in correct use of plants in the landscape. | | |
| 4. Ability to diagnose common problems encountered in the culture of landscape plants and to prescribe methods for preventing or correcting these problems. | | |

## Corresponding Secondary Agriculture Curriculum

<table>
<thead>
<tr>
<th>Course and/or Curriculum:</th>
<th>Unit(s):</th>
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</table>
| Landscape/Turfgrass Management | Unit III – Identification  
Unit IX – Site Analysis and Evaluation  
Unit X – Selecting and Using Plants in the Landscape  
Unit XI – Landscape Designing  
Unit XII – Developing Cost Estimates |
| Greenhouse Operation and Management | Unit VI – Plant Health  
Unit VII – Greenhouse Business Management |
| Plant Science | Unit IV – Weeds, Diseases and Insects |
| Plant Science Curriculum | Basic Plant Science  
Basic Soil Science  
Landscape Management  
Turfgrass Management |
Event Format

The Nursery/Landscape CDE shall consist of the following four (4) components:

1. **General Knowledge Examination**
   This portion of the contest will test the contestant's knowledge and understanding of the production, marketing, utilization, and culture of landscape plants. One (1) hour will be the maximum time allotted for the exam. It will consist of 50 multiple choice questions selected from the following:
   - (1) Turf Grasses
   - (2) Shrubs
   - (3) Trees
   - (4) Pests and Pesticides
   - (5) Soils
   - (6) Planting
   - (7) Fertilizers
   - (8) Pruning
   - (9) Landscaping.

2. **Practicum - Plant Disorder Diagnosis**
   This portion of the contest will test the ability of the contestants to identify diseases, insects, weeds, and physiological disorders based on plant systems or on the pests themselves. Contestants will be required to make diagnoses on 20 specimens drawn from the Plant Disorder Diagnosis Scorecard (Form 67). Specimens may be live, preserved, photographs, or symptoms associated with disorders. One (1) minute per sample will be allowed and a 10 minute review period will be allowed at the end. All students will turn in all handouts at the end of each component such as the “Plant Disorder Diagnosis” handout (Form 6).

3. **Landscape Design Problem**
   This practicum is designed to evaluate participants' 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
   - (4) Evaluating factors that affect profitability of a landscape business

   A landscape drawing and scratch paper will be provided to the participants. Students will not be allowed to bring their own scratch paper – only allowed to used paper provided. There will be 20 objective questions about the landscape plan, and each correct answer has a value of 5 points. The questions may include such areas as determining how accent was provided in the public area, the form and size specified for a certain plant, the cost of fencing, the number of patio pavers required, the area of sod to be installed, the volume of mulch required and the labor cost to install a ground-cover bed. All handout materials must be turned in at the end of each component – landscape drawing and all scratch paper must be turned in. Maximum of one (1) hour to complete this component. *The design plan scale should be a scale shown on a standard engineer scale.

4. **Identification**
   Each contestant will be required to identify 50 specimens from the Nursery/Landscaping Supplemental Information List (LIST 66). This handout must be turned in at the completion of this component. A specimen may be twigs, foliage, flower, fruit, or an entire plant. Specimens will be identified by number. The contestant will need to match the specimen with the correct name on the answer sheet and write the number of the specimen in the blank next to the name. A plant may be represented by more than one specimen. A maximum of 50 seconds per identification sample will be allowed and a 10-minute review period will be allowed at the end. **Duplicate samples may not be used in any identification portion of the event.**
## Event Scoring

<table>
<thead>
<tr>
<th>Event</th>
<th>Points</th>
<th>Suggested Time</th>
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</thead>
<tbody>
<tr>
<td>General Knowledge Exam - 50 questions @ 4 points each</td>
<td>200 points</td>
<td>1 hour</td>
</tr>
<tr>
<td>Plant Disorder Practicum - 20 specimens @ 5 points each</td>
<td>100 points</td>
<td>30 minutes</td>
</tr>
<tr>
<td>Landscape Design Problem - 20 questions @ 5 points each</td>
<td>100 points</td>
<td>1 hour</td>
</tr>
<tr>
<td>Identification - 50 specimens @ 4 points each</td>
<td>200 points</td>
<td>1 hour</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>600 points</strong></td>
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1. **Tie scores among teams in all events should be broken using the high individual team member's score.** In case the scores are tied, the scores of the second high individual on each team should be used.

## Event Rules and Regulations

1. A team will consist of three or four members.
2. The team score will be the total of the 3 highest individual scores for the respective team.
3. Students are allowed to bring their own *engineer’s scale* for use in the CDE.
4. Any non-programmable and non-graphing calculator.
Testing References


Plant Science Curriculum – Basic Plant Science, Basic Soil Science, Landscape Management, Turfgrass Management Units

Training References

Identification
Catalogs from mail order seed and nursery companies are an excellent source of information. They can be obtained free of charge from most companies. Farm and garden magazines are full of addresses for these companies in the spring of the year.

Trees of Missouri Field Guide, available from MDC for $7.50  
http://www.mdnatureshop.com/mdc.cgi/scan/st=db/co=yes/sf=category/se=Plants/op=eq.html?id=W3s5EDC8


General


Forms

See the following: Training Identification List Student Reference, Plant Identification Contestant Reference 1, Plant Disorder Contestant Reference 2
Supplemental Information: Identification List

**SHADE TREES**

001. Bald Cypress / Taxodium distichum  
002. Ginkgo / Ginkgo biloba  
003. Honey Locust / Gleditsia triacanthos  
004. Japanese Maple / Acer palmatum  
005. Little Leaf Linden / Tilia cordata  
006. London Planetree / Platanus x acerfolia  
007. Northern Red Oak / Quercus rubra  
008. Norway Maple / Acer platanoides  
009. Pin Oak / Quercus palustris  
100. Red Maple / Acer rubrum  
101. River Birch / Betula nigra  
102. Sugar Maple / Acer saccharum  
103. Sweet Gum / Liquidambar styraciflua  
104. Tulip Tree / Liriodendron tulipifera  
105. White Oak / Quercus alba

**FLOWERING TREES**

106. Downy Serviceberry / Amelanchierarborea  
107. Eastern Redbud / Cerciscanadensis  
108. Flowering Crabapple / Malus spp.  
109. Flowering Dogwood / Cornusflorida  
110. Golden Rain Tree / Koelreuteriapaniculata  
111. Saucer Magnolia / Magnoliasoulangeana  
112. Sweet magnolia / Magnolia virginiana  
113. Washington Hawthorn / Crataegusphaenopyrum  
114. White Fringe tree / Chionanthusvirginicus

**EVERGREEN TREES**

115. American Holly / Ilexopaca  
116. Austrian Pine / Pinus nigra  
117. Blue Spruce / Picea pungens  
118. Green Giant Arborvitae / Thuja x 'Green Giant'  
119. Hemlock / Tsuga canadensis  
120. Norway Spruce / Picea abies  
121. Southern Magnolia / Magnolia grandiflora  
122. White Pine / Pinus strobus

**PERENNIALS**
033. Astilbe / Astilbe hybrid
034. Black Eyed Susan / Rudbeckia fulgida
035. Columbine / Aquilegia x hybrida
036. Coral Bells/Heuchera
037. Day Lily / Hemerocallis spp.
038. Fountain Grass / Pennisetum alopecuroides
039. Gaillardia /Blanketflower/ Gaillardia x grandiflora
040. Hosta Lily / Hosta spp.
041. Iris/ Iris spp.
043. Maiden Grass/Miscanthus spp.
    Mums /Chrysanthemum/ Dendranthema x
044. morifolium
045. Peony / Paeonia hybrid
046. Purple Cone Flower / Echinacea purpurea
047. Shasta Daisy / Chrysanthemum x superbum
048. Tulip / Tulipa spp.

EVERGREEN SHRUBS

049. Arbor Vitae / Thuja orientalis
050. Blue Holly / Ilex meserveae
051. Chinese Juniper / Juniperus chinensis
052. Common Boxwood / Buxus sempervirens
053. Grey Owl Juniper / Juniperus virginiana 'Grey Owl'
054. Inkberry / Ilex glabra
055. Leatherleaf Viburnum / Viburnum rhytidophyllum
056. Mugo Pine / Pinus mugo
057. Oregon Holly-grape / Mahonia aquifolium
058. Rhododendron / Rhododendron spp.
059. Yew / Taxus spp.

VINES AND GROUND COVERS

060. Ajuga / Ajuga reptans
061. Bigleaf Wintercreeper / Euonymus fortunei `Vegetus'
062. Creeping Juniper / Juniperus horizontalis
063. Creeping Lily Turf / Liriope spicata
064. English Ivy / Hedera helix
065. Honeysuckle / Lonicera spp.
066. Periwinkle /Perennial Vinca/ Vinca minor

TURF

067. Bermuda Grass / Cynodon dactylon
068. Bluegrass / Poa pratensis
069. Red Fescue / Festuca rubra
070. Rye Grass / Lolium perenne
071. Tall Fescue / Festuca elatior
072. Zoysia Grass / Zoysia japonica

FLOWERING SHRUBS

073. Bearberry Cotoneaster / Contoneaster dammeri
074. Common Lilac / Syringa vulgaris
075. Doublefile Viburnum / plicatum f. tomentosum
076. Dwarf Korean Lilac / Syringa meyeri
077. Flowering Quince / Chanomeles speciosa
078. Forsythia / Forsythia intermedia
079. Japanese Barberry / Berberis thunbergii
080. Nine Bark/ Physocarpus opulifolius
081. Oakleaf Hydrangea / Hydrangea quercifolia
082. Privet / Ligustrum spp.
083. Pyracantha / Pyracantha coccinea
084. Redoiser Dogwood / Cornus sericea
085. Rose of Sharon / Hibiscus syriacus
086. Spirea/ Spirea spp.
087. Virginia Sweetspire / Itea virginica
088. Winged Euonymus/Burning Bush / Euonymus alatus
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FLOWERING SHRUBS

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EVERGREEN SHRUBS

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### Insects

1. Aphid  
2. Bagworm  
3. Borer  
4. Emerald Ash Borer  
5. Japanese Beetle  
6. Leafhopper  
7. Leaf Miner  
8. Scale  
9. Spider Mite  
10. Snail/Slug  
11. Tent Caterpillar  
12. Whitefly  
13. White Grub  
14. Anthracnose  
15. Apple Scab  
16. Black Spot  
17. Botrytis  
18. Cedar-Apple Rust  
19. Crown Gall  
20. Fireblight  
21. Pine Wilt  
22. Powdery Mildew  
23. Rose Rosette Virus

### Weeds

24. Annual Bluegrass  
25. Broadleaf Plantain  
26. Buckhorn Plantain  
27. Bull Thistle  
28. Chickweed  
29. Crabgrass  
30. Dandelion  
31. Field Bindweed  
32. Henbit  
33. Knotweed  
34. Nimblewill  
35. Nutsedge  
36. Oxalis  
37. Prickly Lettuce  
38. Purslane  
39. White Clover

### Diseases

40. Iron Deficiency  
41. Leaf Scorch (drought/winter burn)  
42. Nitrogen Deficiency  
43. 2,4-D Injury