

NURSERY/LANDSCAPE

3 or 4 Member Team

I. PURPOSE

The purpose of this contest is to encourage FFA members to explore the diversity of the “Green Industry”, in terms of plant materials used, basic knowledge, skills and applications to the work place. This is an important facet to agriculture in Texas. The event requires students to identify plant materials and tools common to the industry, demonstrate knowledge and understanding of scientific principles and management practices applied in the industry via a written exam, and make observations, draw conclusions and make decisions in evaluating groups of plants and landscape designs. The event has ties to the following agricultural science curriculum: TEKS 130.19, Landscape Design and Turf Grass Management; TEKS 130.20, Horticulture Science; and TEKS 130.25, Practicum in Agriculture, Food and Natural Resources.

II. EVENT FORMAT

A. Team Make-up

Three or four individuals per school form a team. All members will be scored and the top three scores will count towards the team total.

B. Equipment

1. Team members must provide their own sharpened pencils for the event. A pencil sharpener may not be available in each event room.
2. Team members must provide their own architect scale for the event.
3. Team members may use their own battery-operated non-programmable calculators.
4. Team members are **not** permitted to share calculators OR architect scale between teammates or among any other contestants.
5. No allowance will be made for malfunctioning or inoperable calculators. Electrical outlets will not be available for charging batteries, etc.
6. The “Universal Form C” scan sheet will be used for this CDE.
7. Blank typing paper will be made available by the contest provider.

C. Event Schedule

1. Each contestant shall complete the event in the time allotted:
 - a. The identification of plant materials/pests/diseases/tools must be completed in 60 minutes. The identification section will be divided into two - 30 minute rotations.
 - b. The problem solving section must be completed in 30 minutes.
 - c. The Keep/Cull section must be completed in 30 minutes.
 - d. The written examination must be completed in 30 minutes.
2. Observers are not permitted in the event area while the event is in progress, but observers may be allowed in the area following the event.
3. Contest materials will be left in place for one hour following the conclusion of the event to allow teachers and students adequate time for review.

D. Identification of Plant Materials/Pests/Disorders/Tools (600 points)

1. 60 specimens will be selected from the 170 plants/tools/pests/diseases listed on the Texas Nursery/Landscape list.
2. Specimens will be identified in two rotations, 25 plants and five pests/diseases/tools in each rotation, with 30 minutes to complete each rotation. All contestants will be allowed to work within the rotation, at their own pace. Contestants cannot return to a rotation, once it is timed out.
3. A plant specimen may consist of any part of the plant. The plant must be the exact plant listed on the Texas Nursery/Landscape list.
4. Plants to identify will be presented as intact, live specimens. Tools may be either an intact item or high quality photograph. Pest and diseases may be presented as an intact specimen, photograph or preserved specimen (herbarium sheet, insect mount). Photograph will be 8.5" x 11" in size.
5. When a pest or disease must be presented with an affected plant, a "Pest/Disease" label will be with the item to designate identification of the problem rather than the plant.
6. Each contestant will be supplied with a list of the plants, pests, diseases and tools.
7. Each specimen will be designated with a number. Students bubble in the appropriate number in the space next to the specimen's name on the official scorecard.
8. 10 points are given for each correctly identified specimen.
9. Under no circumstances is any student allowed to touch or handle the photos or specimen used as part of the event. Any infraction of this policy is sufficient cause to eliminate the individual from the **entire contest**.

E. Problem Solving (150 points)

1. This practicum is designed to evaluate participants' ability to evaluate a landscape design, read a landscape drawing, measure and calculate materials needed to execute a landscape plan and evaluate factors that affect profitability of a landscape business. The practicum may include a combination of the following:
 - Evaluating a landscape design
 - Turf management practices
 - Interpreting plant materials from a landscape design
 - Measuring and calculating materials
 - Evaluating factors that affect the profitability of a landscape business
2. Blank typing paper will be provided at the contest site for calculations.
3. Students will have 30 minutes to complete this section. Contestants will be allowed to work at their own pace.
4. This section will consist of 15 multiple choice questions worth 10 points each.

F. Plant Keep/Cull Classes (150 points)

1. One class each of groundcovers/vines, shrubs, and annual or herbaceous plants (eight specimens per class/ three classes total)
2. The guidelines will follow the American Standard for Nursery Stock in determining the keep/cull classes.

3. Contestants should designate the four best plant specimens from the eight specimens presented, using visual appraisal. Students are not permitted to handle any plant specimen.
4. 50 points per class
5. Event officials will assign a point value to each one of the individual plant specimens, with the greatest number of points assigned to the most desirable specimen and the least points assigned to the least desirable specimen. If the student selects the best four plant specimens, full credit will be given (50 points). A sample scorecard is presented below:

Groundcovers/vines which may include:

Hedera helix cv.- English ivy
Juniperus horizontalis – Creeping juniper
Liriope muscari – Liriope, Lilyturf,
Lonicera japonica – Japanese honeysuckle
Trachelospermum asiaticum – Asiatic jasmine
Vinca minor cv. - Periwinkle

Shrubs which may include:

Abelia x grandiflora – Glossy abelia
Euonymus japonica cv. – Japanese euonymus
Gardenia jasminoides – Gardenia
Ilex cornuta – Chinese holly
Nandina domestica – Heavenly bamboo
Pittosporum tobira – Pittosporum
Raphiolepis indica cv. – Indian hawthorn

Annual or herbaceous plants which may include:

Caladium x hortulanum cv. – Caladium
Coleus x hybridus – Coleus
Hemerocallis spp. – Daylily
Petunia x hybrida – Petunia
Viola x wittrockiana cv. – Pansy
Zinnia elegans - Zinnia

Sample for Scoring Keep/Cull Sample Class (Annuals)	Specimen Number							
	8	7	6	5	4	3	2	1
Judges Value	(18)	(13)	(11)	(8)	(7)	(4)	(3)	0
Plant Specimens Selected - Example Scoring								
Student A bubbled specimens 6 8 4 2								
(11) (18) (7) (3) =39 points								
Student B bubbled specimens 8 7 6 5								
(18) (13) (11) (8)= 50 points								
Student C bubbled specimens 7 6 5 1								
(13) (11) (8) (0) =32 points								
Student D bubbled specimens 1 2 3 4								
(0) (3) (4) (7) = 14 points								

G. General Knowledge Examination (100 points)

1. Contestants will complete a 50 multiple choice question exam. Questions will be taken from databank of questions located on the Texas FFA website.
2. Contestants will be given 30 minutes to complete the exam.
3. Two (2) points will be awarded per question.

III. SCORING

Plant Identification/Pests/Disorder/Tool	600
Problem Solving.....	150
Plant Keep/Cull Classes.....	150
Exam.....	100

Total Points Possible

Individual.....	1,000
Team.....	3,000

IV. TIEBREAKER

Ties for team awards will be broken as follows:

1. The team with the highest score in the Plant/Pest/Disorder/Tool Identification section wins.
2. If still tied, the team with the highest score in the Problem Solving section wins.
3. If still tied, the team with the highest score on the Keep/Cull section wins.
4. If still tied, the team with the highest alternate score wins.
5. If still tied, advisors will match for the high award.

Ties for individual awards shall be broken by substituting the word "individual" wherever the word "team" appears above.

V. REFERENCES

Materials (Some Available from IMS):

Printed Materials

Plants of the Metroplex III (reference book)

Plants for Texas (reference book)

8926 Complete Set AgSc 361 – Landscape Design, Construction, and Maintenance, IMS

8942 Complete Set AgSc 362 – Horticultural Plant Production, IMS

Video References

9753D Landscape Design I: Introduction to Landscape Design

9754D Landscape Design II: Landscape Design Process

9839D Landscape Plant Identification – Ground Covers and Shrubs, CEV
Landscape Plant

Identification – Trees, CEV

9843D Practice Landscape Plant Identification, CEV

9840D Landscape Plant Identification – Trees

Computer Software

9421NC Hortocopia A to Z (CD-ROM)

9432NC Nursery Plant Identification

Other References (Not Available through IMS):

Arnold, Michael A. *Landscape Plants for Texas and Environs*. (1999). Stipes Publishing L.L.C., 204

W. University Avenue, P.O. Box 526, Champaign, IL 61824-0526. (217) 356-8391.

<www.stipes.com/horticulture.html>

Sperry, Neil. *Neil Sperry's Complete Guide to Texas Gardening*. (1991). Taylor Publishing

Company, 1550 West Mockingbird Lane, Dallas, Texas. 75235.

<www.neilsperry.com>

Keep/Cull Class Reference:

American Standard for Nursery Stock. (1997). American Nursery & Landscape Association.
1250 I Street, N.W., Suite 500, Washington, DC 20005. <www.anla.org> (202) 789-2900.

Problem Solving Reference:

Georgia Agriculture Curriculum Resource and Reference website:
www.gaaged.org Click on CDE's, CDE Exams On-line, Nursery Landscape

(See the scale and example problem)

Other Websites:

Aggie Horticulture Picture Pages <http://aggie-horticulture.tamu.edu/picturepages/tamuhort.html>

National FFA website www.ffa.org

IV. TEXAS NURSERY/LANDSCAPE PLANTS/PESTS/DISORDERS/TOOLS LIST

1. *Abelia x grandiflora* – Glossy Abelia
2. *Acalypha wilkesiana* – Copper Plant, Copperleaf
3. *Acer palmatum* – Japanese Maple
4. *Acer rubrum* cv. – Red Maple
5. *Agapanthus africanus* – African Lily
6. *Ajuga reptans* – Carpet Bugleweed
7. *Antirrhinum majus* cv. – Snapdragon
8. *Aquilegia x hybrida* cv. – Columbine
9. *Aucuba japonica* ‘Variegata’ – Gold Dust Aucuba
10. *Begonia semperflorens-cultorum* – Wax Begonia
11. *Betula nigra* – River Birch
12. *Bougainvillea spectabilis* – Bougainvillea, Paper Flower
13. *Buchloe dactyloides* - Buffalograss
14. *Buxus microphylla* – Common Boxwood
15. *Caladium x hortulanum* cv. – Fancy Leaved Caladium
16. *Callistemon citrinus* – Red Bottlebrush (Crimson Bottlebrush)
17. *Camellia japonica* – Japanese Camellia
18. *Campsis radicans* – Trumpet Vine
19. *Canna x generalis* – Canna Lily
20. *Carya illinoensis* – Pecan
21. *Catharanthus roseus* – Madagascar Periwinkle
22. *Cercis canadensis* – Eastern Redbud
23. *Chilopsis linearis* – Desert Willow
24. *Chrysanthemum x morifolium* cv. – Chrysanthemum
25. *Coleus x hybridus* – Coleus
26. *Colocasia esculenta* – Elephant Ear
27. *Cortaderia selloana* – Pampas Grass
28. *Cuphea hyssopifolia* – Mexican Heather
29. *Cycas revoluta* – Sago Palm
30. *Cynodon dactylon* cv. – Bermuda grass
31. *Dianthus chinensis* cv. – Dianthus, Chinese Pinks
32. *Echinacea purpurea* - Purple Coneflower
33. *Elaeagnus pungens* – Pungent Elaeagnus, Silverthorn
34. *Eriobotrya japonica* – Loquat
35. *Euonymus japonica* cv. – Japanese Euonymus
36. *Evolvulus nuttallianus* – Blue Daze
37. *Festuca* spp. cv. – Fescue
38. *Forsythia x intermedia* – Forsythia
39. *Gardenia jasminoides* – Gardenia
40. *Gazania rigens* – Gazania
41. *Gelsemium sempervirens* – Carolina Jessamine
42. *Ginkgo biloba* – Ginkgo, Maidenhair Tree
43. *Gladiolus x hortulanus* cv. – Gladiolus
44. *Hedera helix* cv. – English Ivy
45. *Hemerocallis* cv. – Daylily
46. *Hesperaloe parviflora* – Red Yucca
47. *Hibiscus rosa-sinensis* – Chinese Hibiscus
48. *Hibiscus syriacus* – Althaea, Rose of Sharon
49. *Hosta* cv. – Hosta, Plantain Lily
50. *Hydrangea macrophylla* – Hydrangea
51. *Ilex cornuta* – Chinese Holly
52. *Ilex cornuta* “Burfordii Nana” – Dwarf Burford Holly
53. *Ilex vomitoria* – Yaupon Holly
54. *Impatiens wallerana* – Impatiens
55. *Ipomoea batatas* – Sweet Potato Vine
56. *Iris x germanica* – German Bearded Iris
57. *Juniperus chinensis* ‘Pfitzerana’ – Pfitzer Juniper
58. *Juniperus horizontalis* cv. – Creeping Juniper
59. *Lagerstroemia indica* cv. – Crape Myrtle
60. *Lantana camara* cv. – Lantana
61. *Leucophyllum frutescens* cv. – Texas Sage
62. *Liatris spicata* – Liatris
63. *Ligustrum japonicum* – Waxleaf Ligustrum, Japanese Privet
64. *Liquidambar styraciflua* – Sweet Gum
65. *Liriope muscari* – Liriope, Lilyturf, Monkeygrass
66. *Lobularia maritima* – Sweet Alyssum
67. *Lonicera japonica* – Japanese Honeysuckle

68. *Lupinus texensis* – Texas Bluebonnet
69. *Loropetalum chinense* – Chinese Fringe Flower
70. *Magnolia grandiflora* – Southern Magnolia
71. *Mahonia aquifolium* cv. – Oregon Grape
72. *Mandevilla splendens* – Mandevilla
73. *Nandina domestica* – Heavenly Bamboo
74. *Nerium oleander* – Oleander
75. *Ophiopogon japonicus* – Mondo Grass
76. *Parthenocissus quinquefolia* – Virginia Creeper
77. *Pelargonium x hortorum* cv – Zonal Geranium
78. *Pennisetum setaceum* ‘Rubrum’ – Purple Fountain Grass
79. *Petunia x hybrida* – Petunia
80. *Photinia x fraseri* – Redtip Photinia
81. *Pinus thunbergiana* – Japanese Black Pine
82. *Pistacia chinensis* – Chinese Pistache
83. *Pittosporum tobira* cv. – Pittosporum, Mock Orange
84. *Platanus occidentalis* – Sycamore
85. *Plumbago auriculata* – Plumbago
86. *Poa pratensis* cv. – Kentucky Bluegrass
87. *Portulaca grandiflora* – Portulaca, Moss Rose
88. *Prunus cerasifera* ‘Atropurpurea’ – Purpleleaf Plum
89. *Pyracantha coccinea* cv. – Firethorn
90. *Pyrus calleryana* ‘Bradford’ – Bradford Pear
91. *Quercus macrocarpa* – Bur Oak
92. *Quercus shumardii* – Shumard Red Oak
93. *Quercus virginiana* – Live Oak
94. *Raphiolepis indica* cv. – Indian Hawthorn
95. *Rhododendron* cv. – Azalea
96. *Rosa* cv. – Rose
97. *Rosmarinus officinalis* – Rosemary
98. *Salvia officinalis* – Common Sage, Garden Sage
99. *Salvia splendens* – Scarlet Salvia
100. *Sedum spectabile* – Fall Sedum
101. *Senecio cineraria* – Dusty Miller
102. *Sophora secundiflora* – Texas Mountain Laurel
103. *Stachys byzantina* – Lamb’s Ear
104. *Stenotaphrum secundatum* – St. Augustine Grass
105. *Tagetes* cvs. – Marigold
106. *Taxodium distichum* – Bald Cypress
107. *Taxus cuspidata* – Japanese Yew
108. *Tecoma stans* - Esperanza
109. *Ternstroemia gymnanthera* – Cleyera
110. *Thuja occidentalis* – American Arborvitae
111. *Trachelospermum asiaticum* – Asiatic Jasmine
112. *Ulmus crassifolia* – Cedar Elm
113. *Verbena X hybrida* cv – Garden Verbena
114. *Viburnum X burkwoodii* – Burkwood Viburnum
115. *Vinca major* cv. – Bigleaf Periwinkle, Band Plant
116. *Vinca minor* cv. – Littleleaf Periwinkle
117. *Viola x wittrockiana* cv. – Pansy
118. *Wisteria sinensis* cv. – Chinese Wisteria
119. *Zinnia elegans* – Zinnia
120. *Zoysia spp.* – Zoysiagrass

Pests

121. *Aphid- adult stage*
122. *Bagworm- larvae stage*
123. *Scale – adult stage*
124. *Spider Mite – adult stage*
125. *Snail/Slug – adult stage*
126. *Thrip – adult stage*
127. *Whitefly- adult stage*
128. *White Grub – larvae stage*
129. *Mealybug – adult stage*

Disorders

Diseases

130. *Anthraxnose*
131. *Black Spot*
132. *Fireblight*
133. *Powdery Mildew*

Weeds

- 134. *Crabgrass*
- 135. *Dandelion*
- 136. *Henbit*
- 137. *Nutsedge*

Other

- 138. *Iron Deficiency*
- 139. *Nitrogen Deficiency*
- 140. *2,4-D Injury*

Tools

- 141. *Anvil & Blade Pruners*
- 142. *Architects Scale*
- 143. *Bow Saw*
- 144. *Broadcast Spreader*
- 145. *Compressed Air Sprayer*
- 146. *Engineers Scale*
- 147. *Garden Fork*
- 148. *Bow Rake*

- 149. *Aluminum Grading Rake*
- 150. *Granular Fertilizer*
- 151. *Drop Spreader*
- 152. *Hoe*
- 153. *Hook & Blade Pruners*
- 154. *Leaf Rake*
- 155. *Loppers*
- 156. *Pole Pruner*
- 157. *Pruning Saw*
- 158. *Reel Mowers*
- 159. *Resin Coated Fertilizer*
- 160. *Rotary Mower*
- 161. *Roto-tiller*
- 162. *Round Point shovel*
- 163. *Shade Fabric*
- 164. *Soil Sampling Tube*
- 165. *Square Point Shovel*
- 166. *String Trimmer*
- 167. *Tree Caliper*
- 168. *T-Square*
- 169. *Vermiculite*
- 170. *Water Breaker*