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* – Liriopae, 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
<table>
<thead>
<tr>
<th>Sample for Scoring Keep/Cull</th>
<th>Specimen</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sample Class (Annuals)</td>
<td></td>
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<tr>
<td>Judges Value</td>
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<tr>
<td></td>
<td>(18)</td>
<td>(13)</td>
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<td></td>
<td>(11)</td>
<td>(8)</td>
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<td></td>
<td>(7)</td>
<td>(4)</td>
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<tr>
<td></td>
<td>(3)</td>
<td>0</td>
</tr>
</tbody>
</table>

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

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**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.

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**III. SCORING**

<table>
<thead>
<tr>
<th>Plant Identification/Pests/Disorder/Tool</th>
<th>600</th>
</tr>
</thead>
<tbody>
<tr>
<td>Problem Solving</td>
<td>150</td>
</tr>
<tr>
<td>Plant Keep/Cull Classes</td>
<td>150</td>
</tr>
<tr>
<td>Exam</td>
<td>100</td>
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</table>

**Total Points Possible**

<table>
<thead>
<tr>
<th>Individual</th>
<th>1,000</th>
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</thead>
<tbody>
<tr>
<td>Team</td>
<td>3,000</td>
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</tbody>
</table>
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 Horticopia A to Z (CD-ROM)
- 9432NC Nursery Plant Identification

Other References (Not Available through IMS):
Arnold, Michael A. Landscape Plants for Texas and Environ. (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>

<www.neilsperry.com>
Keep/Cull Class Reference:

Problem Solving Reference:
Georgia Agriculture Curriculum Resource and Reference website:
[www.gaaged.org](http://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](http://aggie-horticulture.tamu.edu/picturepages/tamuhort.html)

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