



# INDIANA FFA

## CAREER DEVELOPMENT EVENTS

### Nursery and Landscaping

#### I. **Purpose:**

The purpose of the Indiana FFA Nursery/Landscape Career Development Event is to promote career interest, encourage proficiency development and recognize excellence in participants of the event which includes all aspects of the industry to produce, market, utilize and maintain landscape plants (woody and herbaceous plants and turf grasses), as well as related production and landscaping products, equipment and services including design.

#### II. **Objectives:**

1. Nursery/Landscape Principles: To apply nursery and landscape principles and practices as they impact residential, commercial, public and recreational applications.
2. Plant Materials: To demonstrate the ability to identify, select and utilize nursery and landscape plants (interior/exterior), landscape materials and turf grasses commonly used in the United States.
3. Plant Disorders: To demonstrate the ability to identify unhealthy plant conditions due to pests, nutritional/physiological disorders and mechanical/ chemical injury.
4. Cultural Practices: To demonstrate knowledge of the principles and skills involved in propagation, growth requirements, growing techniques, harvesting, sustainability, marketing and maintenance of interior and exterior landscape plants and turf grasses.
5. Design and Construction: To demonstrate knowledge of the principles and techniques of landscape design and construction.
6. 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.
7. Safety: To demonstrate knowledge of safety practices in nursery and landscape operations.
8. Interpersonal Relations: To demonstrate skills in oral and written business communications.
- g. Marketing: To demonstrate an understanding of marketing principles as well as proper sales and service skills.
10. Records and Reports: To demonstrate the ability to prepare accurate and legible records and reports and to interpret business documents.

#### III. **Agriculture, Food and Natural Resources (AFNR) Career Cluster Content Standards:**

With the recommendation of the National FFA Board of Directors, all national FFA programs have incorporated these standards to guide the direction and content of program materials and activities.

#### IV. **Event Rules:**

1. Each team will be comprised of three or four team members. The top three individual scores and the team activity and skills challenge scores will be used to determine the final team score.
2. Participants do not have to wear FFA Official Dress for this event at the state contest.
3. Coaches may accompany participants to the event site but must then leave the area at the start of the event. At the conclusion of all event components, the superintendent will announce when participants and coaches may enter the competition area to review the materials and organization.

4. Under no circumstances will any participant be allowed to touch or handle plant materials or other specimens during the event except as expressly permitted **in** certain practicums.
5. Any participant **in** possession of an electronic device **in** the event area is subject to disqualification.

VI. **Event Format:**

1. Each participant must have the following individual tools:
  - a. A clean clipboard
  - b. At least two No. 2 pencils
  - c. A ball-point or felt-tip pen
  - d. A calculator (Calculators used **in** this event should be battery operated, nonprogrammable and silent with large keys and large displays. Calculators may have only these functions: addition, subtraction, multiplication, division, equals, percent, square root, +/- key and one memory register. No other calculators are allowed to be used during the event.)
  - e. An architect's scale
  - f. An engineer's scale
  - g. Additional items allowed but not required include the following: a pocket-size dictionary or electronic speller and a personal hand pruner or knife.
  - h. Teams may also be requested to supply a laptop computer.
2. Team Interactive Events (process orientation)
  - a. **Only one of these areas (Team activity or Skills challenge) will be performed at the state contest. Total points 400**
  - b. Team Activity - This practicum involves the team members working together towards accomplishing an assignment. It is designed to evaluate individual and group contributions **in** coordination and cooperation of knowledge, evaluation and decision-making. The team activity has two parts, described below.
    - i. Team Preparation - The team members work as a group **in** evaluating a landscape or nursery business-type situation (production, service, personnel, business operations/relations) or educational programming, as **in** the following general themes: promotions, start up business plan, consulting, customer service, service-learning or community involvement. The team will have 30 minutes for preparation. Notepaper and other supplies, including computer resources that may be appropriate for the situation will be available. References will not be needed beyond what is provided for this preparation section. A judge will be observing and scoring teamwork during this time but not interacting with the team. If needed, the team may ask the judge basic questions about the assignment or materials provided.
    - ii. Team Presentation - Each of the team members will participate **in** the verbal presentation to a judge based on decisions made during the preparation. The team will have 15 minutes for the presentation and interaction with the judge. The presentation format is informal and conversational as at a conference table, not a speech prepared with visual aids. Division of the time and organization of the presentations is at the team's discretion. The judge may ask questions of the team members during this time. Information will be provided on the judge's role as business client, supervisor or other appropriate party to facilitate the dialogue.

- iii. Scoring criteria for the team preparation and presentation portions are given on the "Team Activity" scorecard
  - c. Team Skills Challenge -
    - i. This phase is designed to evaluate the team's ability to apply nursery/landscape knowledge and skills by completing a variety of hands-on and problem solving activities. Teams will be given a list of tasks which may be accomplished individually, in pairs or more as determined by the team members according to the skills, experience and preferences of each team member. After completing their tasks, team members may then assist other team members as time allows. Both objective questions and qualitative evaluations may be included in the task scoring. Some examples of activities include the following:
      - Equipment specifications, maintenance and repair.
      - Lawn care procedures and equipment operation.
      - Hardscape procedures, e.g. pavers or retaining wall installation, irrigation pipe assembly.
      - Chemical handling procedures, e.g. fertilizer or pesticide equipment calibration and application.
      - Preparing business records, reports or invoices.
      - Plant material quality in nursery grading and pruning maintenance.
      - Written material problem solving.
    - ii. The number and type of activities will vary from year to year. General topic areas (not actual tasks) will be communicated in the team orientation packet. Scoring of the separate tasks will be based on correct answers for objective questions or on criteria appropriate for the task recorded by a judge. Example criteria for a possible qualitative task in riding mower operation (one team member) might include: equipment checked, engine started, proper handling and speed in covering marked course, equipment properly shut down. All task scores will be converted to percentage scores recorded on the "Team Skills Challenge" scorecard with team points earned as the average percentage of all tasks assigned.
3. Individual Events
- a. General Knowledge Examination - 150 points
    - i. Objective questions will be prepared on topics reflecting subject areas in the objectives. This phase will evaluate the participant's knowledge and understanding of basic horticultural principles in producing, marketing, using and maintaining landscape plants and turf. Participants will record their answers on a scan form.
  - b. Identification of Plants, Pests, Disorders, Equipment and Supplies - 150 points. Participants will identify items selected from the provided lists.
  - c. Landscape Estimating - 100 points
    - i. This practicum is designed to evaluate participant knowledge of and ability in a) evaluating a landscape design, b) reading a landscape drawing, c) measuring and calculating materials needed to execute a landscape plan, d) evaluating factors that affect profitability of a landscape business.
    - ii. A landscape drawing and scratch paper will be provided to the participants. There will be objective questions about the landscape plan. Participants will record their answers using a scan form.

d. Customer Assistance - 100 points

i. **One of the two (Verbal or Written) customer assistance exercises will be chosen for the state contest.**

ii. Verbal Customer Assistance

This interpersonal relations practicum is designed to evaluate participant knowledge of and ability in 1) verbal communication, 2) sales and customer assistance skills, 3) plant materials, plant culture and problems, 4) garden center supplies and equipment. The participant will assume the role of a customer service representative (garden center or other related business or an educational agency) responding to an assistance need of the customer or client (the judge). General themes might include, but are not limited to, the following: clinic diagnosis or recommendations; care advice; sales of plants, equipment, treatments; deal with complaints.

Each participant will be located at a separated station with one minute allotted to review the materials and information provided prior to arrival of the judge. These materials may be handled and referred to as appropriate for the conversation with the judge. Plants, disorders, supplies not listed on the material and plant resource lists will be communicated prior to the event. Scoring criteria are listed on the respective scorecard.

iii. Written Customer Assistance

This interpersonal relations practicum has the same objectives as in Verbal Customer Assistance applied to written communication.

The participant will assume the role of a customer service representative. A copy of correspondence about a plant, landscape or business question will be provided, along with the appropriate response information. Each participant will compose an appropriate response in written or electronic format. Scratch paper will be provided for a rough draft in pencil if desired. If it is handwritten, only the final draft in ink will be scored. Thirty minutes will be allowed for this practicum. A pocket-size dictionary or electronic speller is allowed for checking spelling. Scoring criteria are presented on the "Written Customer Assistance" scorecard, which will be recorded by a judge.

e. Nursery Propagation or Potting - 50 points

This practicum is designed to evaluate participant knowledge of and ability in performing fundamental nursery production practices. All participants will perform one of the following exercises. The selected exercise will not be announced prior to the start of the event. Judges will ask clarifying questions of the students.

i. Propagating Nursery Stock - Each participant will be furnished a stock plant, rooting flat and media, rooting powder, a hand pruner, a label and marking pen. (Personal propagating knives or pruners are allowed, if desired.)

Participants are to prepare the designated softwood or hardwood cuttings and place them in the media with a single label.

ii. Potting Nursery Stock - Each participant will be furnished a supply of plants, nursery containers or pots of appropriate size and media. Hand

pruners, a label and a marking pen will also be provided. (Personal pruners are allowed, if desired.) The participants will pot the plants, one per container, using standard nursery practices. Plant division or grading of liners may be involved. One finished container will be labeled. An official will observe and score each participant during the application of the practicum. Following completion of the assigned practicum the official will ask questions regarding the propagation or potting activity. Scoring criteria are listed on the respective scorecards.

VII. **Scoring:**

Participant scores are the sum of the nine individual phases of the event, and team scores are the sum of all four member scores plus the group portion of the team activity and team challenge. Possible points are as follows:

<b><u>Component</u></b>	<b><u>Individual</u></b>	<b><u>Team</u></b>
Team Activity - Examination		400
Identification	150	600
Landscape Estimating	150	600
Customer Assistance	100	400
Nursery Propagation/Potting	100	400
<b>Individual Total</b>	50	200
<b>Team Total</b>	550	2600

VIII. **Tiebreakers:**

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:

1. Phase 2 - Written Exam
2. Phase 3 - Identification Section
3. Phase 4 - Landscape Estimating

## Plant Identification List

Number	Common Name	Botanical Name
101	Glossy Abelia	<i>Abelia x grandiflora</i>
102	White Fir	<i>Abies concolor</i>
103	Japanese Maple	<i>Acer palmatum cv.</i>
104	Norway Maple	<i>Acer platanoides cv.</i>
105	Red Maple	<i>Acer rubrum cv.</i>
106	Sugar Maple	<i>Acer saccharum cv.</i>
107	Carpet Bugle	<i>Ajuga reptans cv.</i>
108	Snapdragon	<i>Antirrhinum majus cv.</i>
109	Columbine	<i>Aquilegia x hybrida cv.</i>
110	Downy Serviceberry	<i>Amelanchier arborea</i>
111	Astilbe	<i>Astilbe hybrid cv.</i>
112	Wax Begonia	<i>Begonia semperflorens cultorum</i>
113	Mentor Barberry	<i>Berberis x mentorensis</i>
114	River Birch	<i>Betula nigra</i>
115	Schefflera, Octopus Tree	<i>Brassaia actinophylla</i>
n6	Littleleaf Boxwood	<i>Buxus microphylla cv.</i>
117	Common Camellia	<i>Camellia japonica cv.</i>
n8	Blue Atlas Cedar	<i>Cedrus atlantica 'Glauca'</i>
n9	Redbud	<i>Cercis canadensis</i>
120	Japanese (Flowering) Quince	<i>Chaenomeles speciosa cv.</i>
121	Clematis	<i>Clematis hybrid</i>
122	Flowering Dogwood	<i>Cornus florida cv.</i>
123	Bearberry Cotoneaster	<i>Cotoneaster dammeri</i>
124	Spreading Cotoneaster	<i>Cotoneaster divaricatus</i>
125	Washington Hawthorn	<i>Crataegus phaenopyrum</i>
126	Bermudagrass	<i>Cynodon dactylon cv</i>
127	Spotted Dumb Cane	<i>Dieffenbachia maculata cv.</i>
128	Striped Dracaena	<i>Dracaena deremensis 'Warneckii'</i>
129	Corn Plant	<i>Dracaena fragens 'Massangeana'</i>
130	Purple Coneflower	<i>Echinaceae purpurea</i>
131	Pathos	<i>Epipremnum spp.</i>
132	Winged Euonymus	<i>Euonymus alatus</i>
133	Wintercreeper	<i>Euonymus fortunei cv.</i>
134	European Beech	<i>Fagus sylvatica cv.</i>
135	Fescue	<i>Festuca spp. and cv.</i>
136	Benjamin Fig	<i>Ficus benjamina</i>
137	Decora Rubber Plant	<i>Ficus elastica 'Decora'</i>
138	Border Forsythia	<i>Forsythia x intermedia</i>
139	White Ash	<i>Fraxinus americana cv</i>

140	Common Blanketflower	<i>Gaillardia aristata cv.</i>
141	Common Gardenia	<i>Gardenia jasminoides cv. 'Fortuniana'</i>
142	Ginkgo, Maidenhair Tree	<i>Ginkgo biloba</i>
143	Thornless Honeylocust	<i>Gleditsia triacanthos inermis cv.</i>
144	English Ivy	<i>Hedera helix cv.</i>
145	Day lily	<i>Emerocallis spp. and cv.</i>
146	Plaintain Lily	<i>Hosta x hybrida cv.</i>
147	Oakleaf Hydrangea	<i>Hydrangea quercifolia</i>
148	Bigleaf Hydrangea	<i>Hydrangea macrophylla</i>
149	Chinese Holly	<i>Ilex cornuta cv.</i>
150	Japanese Holly	<i>Ilex crenata cv.</i>
151	Meserve Holly	<i>Ilex x meserveae cv.</i>
152	Impatiens	<i>Impatiens hybrid cv.</i>
153	Bearded Iris	<i>Iris x germanica florentina cv.</i>
154	Chinese Juniper	<i>Juniperus chinensis cv.</i>
155	Creeping Juniper	<i>Juniperus horizontalis cv</i>
156	Crape Myrtle	<i>Lagerstroemia indica cv.</i>
157	Shasta Daisy	<i>Leucanthemum x superbum cv.</i>
158	Sweet Gum	<i>Liquidambar styraciflua</i>
159	Tuliptree	<i>Liriodendron tulipifera</i>
160	Lilyturf	<i>Liriope spp. cv.</i>
161	Hall's Japanese Honeysuckle	<i>Lonicera japonica 'Halliana'</i>
162	Southern Magnolia	<i>Magnolia grandiflora cv.</i>
163	Chinese (Saucer) Magnolia	<i>Magnolia x soulangiana cv.</i>
164	Oregon Grape	<i>Mahonia aquifolia cv.</i>
165	Flowering Crabapple	<i>Malus spp. and cv</i>
166	Bayberry	<i>Myrica pensylvanica</i>
167	Heavenly Bamboo	<i>Nandina domestica</i>
168	Daffodil	<i>Narcissus pseudonarcissus cv</i>
169	Sour (Black) Gum	<i>Nyssa sylvatica</i>
170	Japanese Spurge	<i>Pachysandra terminalis</i>
171	Peony	<i>Paeonia hybrid cv.</i>
172	Boston Ivy	<i>Parthenocissus tricuspidata</i>
173	Zonal Geranium	<i>Pelargonium x hortorum cv.</i>
174	Fountain Grass	<i>Pennisetum ruppelia</i>
175	Petunia	<i>Petunia x hybrida cv.</i>
176	Heartleaf Philodendron	<i>Philodendron scandens oxycardium</i>
177	Norway Spruce	<i>Picea abies</i>
178	Colorado (Blue) Spruce	<i>Picea pungens cv.</i>
179	Lily-of-the-Valley Bush	<i>Pieris japonica</i>
180	Mugo Pine	<i>Pinusmugo</i>

181	Eastern White Pine	<i>Pinus strobus</i>
182	Scotch Pine	<i>Pinus sylvestris</i>
183	Japanese Black Pine	<i>Pinus thunbergiana</i>
184	Lonedon Planetree	<i>Platanus x acerifolia</i>
185	Kentucky Bluegrass	<i>Paa pratensis cv.</i>
186	Southern Yew	<i>Podocarpus macrophyllus</i>
187	Shrubby Cinquefoil	<i>Potentilla fruticosa cv.</i>
188	Cherry Laurel	<i>Prunus laurocerasus cv.</i>
189	Kwanzan Japanese Flowering Cherry	<i>Prunus serrulata 'Kwanzan'</i>
190	Firethorn	<i>Pyracantha coccinea cv.</i>
191	White Oak	<i>Quercus alba</i>
192	Pin Oak	<i>Quercus palustris</i>
193	Red Oak	<i>Quercus rubra</i>
194	Catawba Hybrid Rhododendron	<i>Rhododendron x catawbiense</i>
195	Exbury Hybrid Azalea	<i>Rhododendron Hybrid</i>
196	Landscape/Shrub Rose	<i>Rosa spp.</i>
197	Meadow Sage	<i>Salvia nemorosa cv.</i>
198	Sedum	<i>Sedum spp</i>
199	Coleus	<i>Solenostemon scutellarioides</i>
200	European Mountain Ash	<i>Sorbus aucuparia</i>
201	Bumalda Spirea	<i>Spiraea x bumalda</i>
202	Common Lilac	<i>Syringa vulgaris cv.</i>
203	Marigold	<i>Tagetes spp. cv.</i>
204	Bald Cypress	<i>Taxodium distichum</i>
205	Yew	<i>Taxus spp. and cv.</i>
206	American Arborvitae	<i>Thuja occidentalis cv.</i>
207	Littleleaf Linden	<i>Tilia cordata</i>
208	Canadian Hemlock	<i>Tsuga canadensis</i>
209	Tulip	<i>Tulipa spp. cv.</i>
210	Garden Verbena	<i>Verbena x hybrida cv</i>
211	Burkwood Viburnum	<i>Viburnum x burkwoodii</i>
212	American Cranberrybush Virburnum	<i>Viburnum trilobum</i>
213	Periwinkle	<i>Vinca minor cv.</i>
214	Pansy	<i>Viola x wittrockiana cv.</i>
215	Chinese Wisteria	<i>Wisteria sinensis cv.</i>
216	Adam's Needle	<i>Yucca filamentosa</i>

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## Pests, Disorders and Beneficial Insects Identification

Number	Item Name
<b>Pests</b>	
217	Aphid
218	Bagworm
219	Borer
220	Leafhopper
221	Leaf Miner
222	Scale
223	Spider Mite
224	Snail/Slug
225	Whitefly
226	White Grub
<b>Diseases</b>	
227	Anthracnose
228	Apple Scab
229	Black Spot
230	Botrytis
231	Canker
232	Cedar-Apple Rust
233	Crown Gall
234	Fire blight
235	Powdery Mildew
236	Root Rot
<b>Weeds</b>	
237	Annual Bluegrass
238	Broadleaf Plantain
239	Buckhorn Plantain
240	Chickweed
241	Crabgrass
242	Dandelion
243	Henbit
244	Nutsedge
245	Oxtails
246	Purslane
247	Clovers
<b>Physiological Problems</b>	
248	Frost/Free 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
<b>Beneficial Insects</b>	
255	Praying Mantis
256	Lady Beetle
257	Paper Wasp
258	Lacewing
259	Spider

## Equipment and Supplies Identification

Number	Item Name
260	Anvil-and-blade pruner
261	Ball cart (B&B truck)
262	Bark mulch
263	Bow saw
264	Broadcast (cyclone) spreader
265	Bubbler head, irrigation
266	Bulb planter
267	Bunker rake
268	Burlap
269	Compressed air sprayer tank pressurized
270	Core aerifier
271	Chain saw
272	Cut-off machine
273	Drip emitter, irrigation
274	Dry-lock wall block
275	Edger (power or hand)
276	Edging
277	Erosion netting
278	Fertilizer injector
279	Fertilizer tablet
280	Garden spading fork
281	Garden (bow) rake
282	Grafting band
283	Grafting knife
284	Granular fertilizer
285	Gravity (drop) spreader
286	Ground/pelleted limestone
287	Hedge shears
288	Hoe
289	Hook-and-blade pruners
290	Hose-end repair fitting
291	Hose-end sprayer
292	Hose-end washer
293	Hose repair coupling
294	Impact sprinkler
295	Landscape fabric
296	Leaf rake
297	loppers
298	Mattock
299	Measuring wheel
300	Mist nozzle (mist bed)
301	Mower blade balancer
302	Nursery container
303	Oscillating sprinkler
304	Peat moss
305	Pick
306	Planting/earth/soil auger
307	Pole pruner
308	Polyethylene pipe
309	Pop-up irrigation head
310	Post-hole digger
311	Power blower
312	Power hedge trimmer

313	Pot-in-pot units
315	Propagation mat
316	Pruning saw
317	Reel mower
318	Resin-coated fertilizer
319	Rotary mower
320	Rototiller
321	Round point shovel
322	Scoop shovel
323	Shade fabric
324	Sharpening stone
325	Siphon proportioner
326	Soaker hose
327	Soil sampling tube
328	Solenoid valve
329	spade
330	Sphagnum moss
331	Square point (flat) shovel
332	String trimmer injury
333	Thatch rake
334	Tree caliper
335	Tree wrap
336	Trowel
337	Vertical mower
338	Water breaker
339	Wire tree basket



