



Introduction to Horticulture CDE

Purpose

The Introduction to Horticulture Career Development Event is unique to North Carolina. The event is designed to allow students to demonstrate their proficiency in plant identification, weed and pest identification, and general horticultural knowledge.

Sponsor

The North Carolina Nursery & Landscape Association currently sponsors this event.

Superintendent

The superintendent for this event is Mr. Andy VonCanon, Western Region Agricultural Education Coordinator, Department of Agricultural and Human Sciences, NC State University, 455 Research Dr., Mills River, NC 28759 | Phone: 828-553-6296 Email: asvoncan@ncsu.edu

Eligibility

This event is open to FFA members in good standing. Students cannot compete if they have completed Horticulture II (students are eligible to participate if they are enrolled in Horticulture II but have not completed the course). Members of a previous state winning team are ineligible.

Teams shall consist of four members. Only the top three scores will count towards the team total. No alternates are allowed in state events. Any alternate found participating in a state event will result in team disqualification.

The use or possession of cellular phones or any other mobile electronic communication device is prohibited during any state-level career development event. Any violation of this rule by any team member will result in total team disqualification.

FFA members participating in career development events that require the use of calculators may only use non-programmable/graphing calculators that do not have the ability to communicate with other calculators. Calculators will be screened prior to the start of a CDE for acceptability. Students caught using data stored on a calculator or communicating with other calculators will result in a total team disqualification for the event.

Any member found cheating in any state-level career development event will result in total team disqualification for that event.

The North Carolina FFA Association, in keeping with the FFA mission and purposes, does not permit the use of tobacco products, e-cigarettes, vapes, or Juuls at any FFA facility or at any FFA activity.



At the North Carolina FFA State Convention, participation in more than one FFA CDE is permitted as long as events are not being held concurrently and no special provisions are required to facilitate participation with the exception that parliamentary procedure and public speaking and parliamentary procedure and Creed speaking which are held concurrently will allow dual participation and special provisions for flighting.

In compliance with the Americans with Disabilities Act, NC FFA will honor requests for reasonable accommodations made by individuals with disabilities. Please direct accommodation requests to: Carmen Bracey at carmen_bracey@ncsu.edu. Requests can be served more effectively if notice is provided at least 10 days before the event.

Middle School Participation

Middle school students and teams may participate in any Career Development Event or Leadership Development Event. The top three middle school participants will be recognized in each division of an event. Middle school participants should designate during registration.

State Career Development Event Participation

The appropriate number of teams based on event participation from each region are eligible to compete in the state career development event. The top three individuals in the regional event are eligible to participate in the state event as individuals regardless of their team placing. Teams and individuals advancing to state event participation must be certified by the regional FFA advisor.

Dress Code

Participants are required to follow the North Carolina FFA Career Development Event Dress Code. Participants are allowed to wear long pants, an appropriate shirt with a collar, or an appropriate high school or FFA t-shirt.

The North Carolina FFA Association strives to promote a positive image at all Official FFA Events. The dress code policy was established to address the issue of appropriate attire at all Official FFA Events. Members should adhere to this policy for all events. A ten percent reduction will be applied to all individual scores from a chapter if a participant from that chapter violates the dress code during that career event.

Procedures for Administering the Event

Any communication between participants during the event will result in both individuals getting a zero on that phase of the event. If an individual is suspected of cheating, the participant will be given a personal quiet warning on the first offense and a zero on that phase of the event for any second offense in addition to the team being disqualified.

Participants are allowed and encouraged to bring and use clipboards in order to hold event score cards. Clipboards should be examined by an official prior to the event to determine that they are free of written materials.



Regional Event Set-Up

The event coordinator will have the responsibility in setting up the career development event, choosing career development event officials, judges, and materials. Regions may purchase Horticulture CDE #105482 scan sheets for participants to use if they wish. Scan sheets will not be provided from the state for regional use. Students will also be given a copy of the plant list to reference the correct number for bubbling purposes. Students will not need to memorize the Plant ID #.

Part 1: Identification (60 points)

- 20 minutes are allotted for this portion.
- 20 different plants will be chosen from the current PLANT IDENTIFICATION BASE list of ID plants and each plant will be numbered.
- Each participant will be assigned a plant to begin the identification portion of the event. Each participant will remain at each plant for one minute then progress on to the next plant.
- No participant will be permitted to return to a plant a second time.
- Each plant will be worth 3 points.
- Event officials will grade papers.
- Grading will be done by awarding 3 points for each plant correctly identified; if it is observed that a participant uses the same number twice, both numbers will be marked incorrect.

Part 2: Knowledge Test (25 points)

- 25 minutes are allotted for this portion.
- A written test will be made of questions from: Horticulture Today. Goodheart-Willcox.
- Chapters 7-12 will be used each year. The following rotation will be used for remaining chapters.
 - Even years - Chapters 13-17
 - Odd years - Chapters 29-33
- Copies of written tests will not be made available to teachers.

Part 3: Practicum (15 points)

- 5 minutes are allotted for this portion.
- Each participant will be asked to identify 5 pests.
- Officials will rotate students through 5 pest identification stations.
- To expedite the practicum process, the event coordinator may provide more than one set of five pests to identify.
- Students may earn a maximum of 3 points per pest for a total of 15 points.

Regional Event Scoring

<i>Maximum Score</i>	100
Identification	60
Knowledge Test	25



State Event Set-Up

The event coordinator shall be responsible for setting up the event, choosing event officials, judges, and materials. At the state level, students will use the Horticulture CDE #105482 scan sheet to bubble in their answers. Students will also be given a copy of the plant list to reference the correct number for bubbling purposes. Students will not need to memorize the Plant ID #.

Part 1: Identification (120 points)

- 40 minutes are allotted for this portion
- 40 different plants will be chosen from the current PLANT IDENTIFICATION BASE list of ID plants and each plant will be numbered.
- Each participant will be assigned a plant to begin the identification portion of the event. Each participant will remain at each plant for one minute then progress on to the next plant.
- No participant will be permitted to return to a plant a second time.
- Each plant will be worth 3 points.
- Grading will be done by awarding 3 points for each plant correctly identified; if it is observed that a participant uses the same number twice, both numbers will be marked incorrect.
- Teachers will grade the papers but should not grade papers of their own team.

Part 2: Knowledge Test (25 points)

- 30 minutes are allotted for this portion.
- A written test will be made of questions from: *Horticulture Today*. Goodheart-Willcox.
- Chapters 7-12 will be used each year. The following rotation will be used for remaining chapters.
 - Even years - Chapters 13-17
 - Odd years - Chapters 29-33
- There will be 25 questions; each question will be valued at one point.
- Copies of written tests will not be made available to teachers.

Part 3: Practicum (55 points)

- 30 minutes are allotted for this portion.
- The practicum will consist of the identification of ten pests, as well as five multiple-choice questions related to any of the pests identified on the practicum identification list.
- To expedite the practicum process, the event coordinator may provide more than one set of ten pests to identify.
- Questions will be based on pest management using the NC Chemical Manual. A digital manual may be used.
- Each identified pest is worth 3 points, and each multiple-choice question is worth 5 points.
- No participants will be given extra time.

State Event Time Summary



Identification	40 Minutes
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Knowledge Test	30 Minutes
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Practicum	30 Minutes
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State Event Scoring

<i>Maximum Score</i>	<i>200</i>
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Identification	120
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Knowledge Test	25
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Practicum	55
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Procedure for Determining the State Event Winner When Scores are Tied

In the event a tie score exists, apply the following methods in sequential order until the tie is broken:

1. Compare the alternate scores. The lowest team member score is the alternate score.
2. Compare the total team scores for the knowledge followed by the identification component. The higher scoring team will be determined the winner.
3. If these methods fail to break a tie, co-winners will be declared.

State Awards

The awards for the state event will be presented annually at the state FFA convention to include a team 1st, 2nd, and 3rd place plaque. The high scoring individual will receive a plaque.

References

Riedel, Jodi Songer, and Elizabeth Driscoll. *Horticulture Today*. Goodheart-Willcox Company, Inc., 2017.



Plant Identification - Base List

Plant #	Botanical Name	Common Name	Plant #	Botanical Name	Common Name
101	<i>Abelia x grandiflora</i>	Glossy Abelia	141	<i>Iris x germanica var florentina</i>	Bearded Iris
102	<i>Acer palmatum</i>	Japanese Maple	142	<i>Juniperus conferta</i>	Shore Juniper
103	<i>Acer rubrum</i>	Red Maple	143	<i>Juniperus horizontalis</i>	Creeping Juniper
104	<i>Ageratum houstonianum</i>	Ageratum	144	<i>Lagerstroemia indica</i>	Crepe Myrtle
105	<i>Ajuga reptans</i>	Carpet Bugle	145	<i>Leucanthemum x superbum</i>	Shasta Daisy
106	<i>Antirrhinum majus</i>	Snapdragon	146	<i>Ligustrum japonicum</i>	Japanese Privet
107	<i>Araucaria heterophylla</i>	Norfolk Island Pine	147	<i>Liquidambar styraciflua</i>	Sweetgum
108	<i>Asparagus densiflorus 'Sprengeri'</i>	Sprengeri Fern	148	<i>Liriope muscari</i>	Lilyturf
109	<i>Astilbe hybrida</i>	Astilbe Hybrids	149	<i>Magnolia grandiflora</i>	Southern Magnolia
110	<i>Aucuba japonica</i>	Japanese Aucuba	150	<i>Malus species</i>	Flowering Crabapple
111	<i>Begonia x semperflorens-cultorum</i>	Wax Begonia	151	<i>Maranta leuconeura</i>	Prayer Plant
112	<i>Berberis thunbergii</i>	Japanese Barberry	152	<i>Myrica cerifera</i>	Wax Myrtle
113	<i>Betula nigra</i>	River Birch	153	<i>Nandina domestica</i>	Dwarf Nandina
114	<i>Buddleia davidii</i>	Butterfly Bush	154	<i>Narcissus pseudonarcissus</i>	Daffodil
115	<i>Buxus sempervirens</i>	Common Boxwood	155	<i>Nephrolepis exaltata</i>	Boston Fern
116	<i>Camellia japonica</i>	Common Camellia	156	<i>Ophiopogon japonicus</i>	Mondo Grass
117	<i>Canna x generalis</i>	Canna	157	<i>Paeonia hybrid</i>	Peony
118	<i>Catharanthus roseus</i>	Vinca or Periwinkle	158	<i>Pelargonium peltatum</i>	Ivy Leaf Geranium
119	<i>Cercis canadensis</i>	Eastern Red Bud	159	<i>Pelargonium x hortorum</i>	Geranium
120	<i>Chlorophytum comosum</i>	Spider Plant	160	<i>Pennisetum species</i>	Purple Fountain Grass
121	<i>Chrysanthemum morifolium</i>	Florist Chrysanthemum	161	<i>Petunia hybrida</i>	Petunia
122	<i>Clematis x jackmanii</i>	Clematis	162	<i>Philodendron scandens oxycardium</i>	Parlor Ivy
123	<i>Cornus florida</i>	Flowering Dogwood	163	<i>Prunus serrulata 'Kwanzan'</i>	Japanese Flowering Cherry
124	<i>x Cupressocyparis leylandii</i>	Leyland Cypress	164	<i>Pyrus calleryana 'Bradford'</i>	Bradford Pear
125	<i>Dieffenbachia maculata</i>	Spotted Dumbcane	165	<i>Quercus palustris</i>	Pin Oak
126	<i>Dracaena species</i>	Dracaena	166	<i>Quercus phellos</i>	Willow Oak
127	<i>Echinacea purpurea</i>	Cone Flower	167	<i>Rhododendron catawbiense</i>	Catawba Hybrid Rhododendron
128	<i>Epipremnum aureum</i>	Golden Pothos	168	<i>Rhododendron kiusianum</i>	Azalea
129	<i>Euonymus alata</i>	Winged Euonymus	169	<i>Rosa species</i>	Shrub Rose/Landscape Rose
130	<i>Ficus benjamina</i>	Benjamin or Weeping Fig	170	<i>Salvia splendens</i>	Salvia
131	<i>Ficus elastica 'Decora'</i>	Decora Rubber Plant	171	<i>Schefflera arboricola or S.actinophylla</i>	Schefflera
132	<i>Forsythia x intermedia</i>	Border Forsythia	172	<i>Sedum species</i>	Sedum
133	<i>Gardenia jasminoides</i>	Gardenia	173	<i>Solenostemon scutellarioides</i>	Coleus
134	<i>Hedera helix</i>	English Ivy	174	<i>Spathiphyllum cvs.</i>	Peace Lily
135	<i>Hemerocallis</i>	Day Lilly	175	<i>Tagetes species</i>	Marigold
136	<i>Hosta species</i>	Hosta	176	<i>Tradescantia zebrina</i>	Wandering Jew
137	<i>Hydrangea macrophylla</i>	French Hydrangea	177	<i>Tulipa species</i>	Tulip
138	<i>Ilex cornuta</i>	Chinese Holly	178	<i>Verbena hybrida</i>	Garden Verbena
139	<i>Ilex crenata</i>	Japanese Holly	179	<i>Viola x wittrockiana</i>	Pansy
140	<i>Impatiens hybrid</i>	Impatiens	180	<i>Zinnia elegans</i>	Zinnia

North Carolina FFA Association

Introduction to Horticulture Practicum – State Pest ID List

Contestant Name _____ Contestant # _____ Score _____

Pest specimens will be numbered 1-10. Contestant is to write the appropriate number in the space beside the name of the specimen. Each correctly identified pest is worth three points.

Weeds

- _____ Buckhorn Plantain
- _____ Broadleaf Plantain
- _____ Crabgrass
- _____ Chickweed
- _____ Dandelion
- _____ Goose grass
- _____ Henbit
- _____ Oxalis
- _____ Spurge (prostrate)
- _____ White Clover
- _____ Wild Garlic
- _____ Yellow Nutsedge

Diseases

- _____ Black Spot
- _____ Chlorosis
- _____ Damping off
- _____ Fire blight
- _____ Powdery Mildew
- _____ Root Rot
- _____ Rust

Insects

- _____ Aphid
- _____ Bagworms
- _____ Caterpillar
- _____ Japanese Beetle
- _____ Lacebug
- _____ Mealybugs
- _____ Scale
- _____ Spider Mites
- _____ Thrips
- _____ White Fly



HORTICULTURE

CDE# 105482



Incorrect Marks

Correct Mark

Team Name

This sheet is for demonstration and practice only. You must use a real scan sheet for actual competition.

Team Number	State	Last Name	First Name
0 0 0 0			
1 1 1 1	A A A A A A A A A A A A A A	A A A A A A A A A A A A A A	A A A A A A A A A A A A A A
2 2 2 2	B B B B B B B B B B B B B B	B B B B B B B B B B B B B B	B B B B B B B B B B B B B B
3 3 3 3	C C C C C C C C C C C C C C	C C C C C C C C C C C C C C	C C C C C C C C C C C C C C
4 4 4 4	D D D D D D D D D D D D D D	D D D D D D D D D D D D D D	D D D D D D D D D D D D D D
5 5 5 5	E E E E E E E E E E E E E E	E E E E E E E E E E E E E E	E E E E E E E E E E E E E E
6 6 6 6	F F F F F F F F F F F F F F	F F F F F F F F F F F F F F	F F F F F F F F F F F F F F
7 7 7 7	G G G G G G G G G G G G G G	G G G G G G G G G G G G G G	G G G G G G G G G G G G G G
8 8 8 8	H H H H H H H H H H H H H H	H H H H H H H H H H H H H H	H H H H H H H H H H H H H H
9 9 9 9	I I I I I I I I I I I I I I	I I I I I I I I I I I I I I	I I I I I I I I I I I I I I
	J J J J J J J J J J J J J J	J J J J J J J J J J J J J J	J J J J J J J J J J J J J J
	K K K K K K K K K K K K K K	K K K K K K K K K K K K K K	K K K K K K K K K K K K K K
	L L L L L L L L L L L L L L	L L L L L L L L L L L L L L	L L L L L L L L L L L L L L
	M M M M M M M M M M M M M M	M M M M M M M M M M M M M M	M M M M M M M M M M M M M M
	N N N N N N N N N N N N N N	N N N N N N N N N N N N N N	N N N N N N N N N N N N N N
	O O O O O O O O O O O O O O	O O O O O O O O O O O O O O	O O O O O O O O O O O O O O
	P P P P P P P P P P P P P P	P P P P P P P P P P P P P P	P P P P P P P P P P P P P P
	Q Q Q Q Q Q Q Q Q Q Q Q Q Q	Q Q Q Q Q Q Q Q Q Q Q Q Q Q	Q Q Q Q Q Q Q Q Q Q Q Q Q Q
	R R R R R R R R R R R R R R	R R R R R R R R R R R R R R	R R R R R R R R R R R R R R
	S S S S S S S S S S S S S S	S S S S S S S S S S S S S S	S S S S S S S S S S S S S S
	T T T T T T T T T T T T T T	T T T T T T T T T T T T T T	T T T T T T T T T T T T T T
	U U U U U U U U U U U U U U	U U U U U U U U U U U U U U	U U U U U U U U U U U U U U
	V V V V V V V V V V V V V V	V V V V V V V V V V V V V V	V V V V V V V V V V V V V V
	W W W W W W W W W W W W W W	W W W W W W W W W W W W W W	W W W W W W W W W W W W W W
	X X X X X X X X X X X X X X	X X X X X X X X X X X X X X	X X X X X X X X X X X X X X
	Y Y Y Y Y Y Y Y Y Y Y Y Y Y	Y Y Y Y Y Y Y Y Y Y Y Y Y Y	Y Y Y Y Y Y Y Y Y Y Y Y Y Y
	Z Z Z Z Z Z Z Z Z Z Z Z Z Z	Z Z Z Z Z Z Z Z Z Z Z Z Z Z	Z Z Z Z Z Z Z Z Z Z Z Z Z Z

Code

0 0
1 1
2 2
3 3
4 4
5 5
6 6
7 7
8 8
9 9

Place	Class	Placing Classes									Place	
		1	2	3	4	5	6	7	8	9		
1	1234										1234	1
2	1243										1243	2
3	1324										1324	3
4	1342										1342	4
5	1423										1423	5
6	1432										1432	6
7	2134										2134	7
8	2143										2143	8
9	2314										2314	9
10	2341										2341	10
11	2413										2413	11
12	2431										2431	12
13	3124										3124	13
14	3142										3142	14
15	3214										3214	15
16	3241										3241	16
17	3412										3412	17
18	3421										3421	18
19	4123										4123	19
20	4132										4132	20
21	4213										4213	21
22	4231										4231	22
23	4312										4312	23
24	4321										4321	24

Team Activity

Team	Ind.
0 0 0 0 0 0 0	
1 1 1 1 1 1 1	
2 2 2 2 2 2 2	
3 3 3 3 3 3 3	
4 4 4 4 4 4 4	
5 5 5 5 5 5 5	
6 6 6 6 6 6 6	
7 7 7 7 7 7 7	
8 8 8 8 8 8 8	
9 9 9 9 9 9 9	

Practicums (Judges)

1	2	3	4	5	6
0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0					
1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1					
2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2					
3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3					
4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4					
5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5					
6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6					
7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7					
8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8					
9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9					

Exam

1 A B C D 26 A B C D
2 A B C D 27 A B C D
3 A B C D 28 A B C D
4 A B C D 29 A B C D
5 A B C D 30 A B C D
6 A B C D 31 A B C D
7 A B C D 32 A B C D
8 A B C D 33 A B C D
9 A B C D 34 A B C D
10 A B C D 35 A B C D
11 A B C D 36 A B C D
12 A B C D 37 A B C D
13 A B C D 38 A B C D
14 A B C D 39 A B C D
15 A B C D 40 A B C D
16 A B C D 41 A B C D
17 A B C D 42 A B C D
18 A B C D 43 A B C D
19 A B C D 44 A B C D
20 A B C D 45 A B C D
21 A B C D 46 A B C D
22 A B C D 47 A B C D
23 A B C D 48 A B C D
24 A B C D 49 A B C D
25 A B C D 50 A B C D

Exam 2/Team

1 A B C D
2 A B C D
3 A B C D
4 A B C D
5 A B C D
6 A B C D
7 A B C D
8 A B C D
9 A B C D
10 A B C D
11 A B C D
12 A B C D
13 A B C D
14 A B C D
15 A B C D
16 A B C D
17 A B C D
18 A B C D
19 A B C D
20 A B C D
21 A B C D
22 A B C D
23 A B C D
24 A B C D
25 A B C D

Assessment and Solution

1 A B C D 6 A B C D 11 A B C D 16 A B C D 21 A B C D
2 A B C D 7 A B C D 12 A B C D 17 A B C D 22 A B C D
3 A B C D 8 A B C D 13 A B C D 18 A B C D 23 A B C D
4 A B C D 9 A B C D 14 A B C D 19 A B C D 24 A B C D
5 A B C D 10 A B C D 15 A B C D 20 A B C D 25 A B C D



Introduction to Horticulture – (REGIONAL) Scorecard

Name: _____ Chapter: _____ Contestant No: _____

Plant Identification			
Plant 1		Plant 11	
Plant 2		Plant 12	
Plant 3		Plant 13	
Plant 4		Plant 14	
Plant 5		Plant 15	
Plant 6		Plant 16	
Plant 7		Plant 17	
Plant 8		Plant 18	
Plant 9		Plant 19	
Plant 10		Plant 20	

TOTAL SCORE (3 pts. each): _____ / 60 points



Introduction to Horticulture - Pest ID List - (REGIONAL) Practicum

Contestant Name _____ Contestant # _____ Score _____

Pest specimens will be numbered 1-5. Contestant is to write the appropriate number in the space beside the name of the specimen. Each correctly identified pest is worth three points.

Weeds

- _____ Buckhorn Plantain
- _____ Broadleaf Plantain
- _____ Crabgrass
- _____ Chickweed
- _____ Dandelion
- _____ Goose grass
- _____ Henbit
- _____ Oxalis
- _____ Spurge (prostrate)
- _____ White Clover
- _____ Wild Garlic
- _____ Yellow Nutsedge

Insects

- _____ Aphid
- _____ Bagworms
- _____ Caterpillar
- _____ Japanese Beetle
- _____ Lacebug
- _____ Mealybugs
- _____ Scale
- _____ Spider Mites
- _____ Thrips
- _____ White Fly

Diseases

- _____ Black Spot
- _____ Chlorosis
- _____ Damping off
- _____ Fire blight
- _____ Powdery Mildew
- _____ Root Rot
- _____ Rust