

***FLORICULTURE
CAREER DEVELOPMENT EVENT***

RULES AND REGULATIONS

TEAM COMPETITION



ALABAMA FFA ASSOCIATION

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Alabama State Department of Education, Dr. Eric G. Mackey, State Superintendent of Education

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Floriculture CDE

FLORICULTURE CAREER DEVELOPMENT EVENT

PURPOSE

To give FFA members an opportunity to use the floriculture skills they have acquired in Agriscience Education courses and to make FFA members more fully aware of the horticultural enterprises in Alabama.

ELIGIBILITY AND REGULATIONS

- For specific eligibility of participants, refer to the Contests and Awards Booklet.
- Only district eliminations will be held prior to the state event.
- The top four winners in the North, Central and South Districts will compete in the state finals.
- CDE Scantrons will be used at District and State Eliminations.
- If a cell phone or smart watch is seen or heard in the possession of a competitor, that individual student will be disqualified from competition and receive a score of zero.
- Competitors must enter **their first and last name** as well as their **chapter number and name on the scorecard** or they will receive a score of zero. Judges will not attempt to figure out who the card belongs to.
- Scantrons cards that are incorrectly completed (i.e. chapter numbers are not correctly shaded in, stray marks, etc.) will not be scored thus receiving a score of zero.

DISCLAIMER

In the event that contests (CDE, LDE, TDE's) cannot be held in person, a virtual option may be conducted. Contest rules and guidelines are subject to change to meet the needs of a virtual experience

DRESS CODE

Participants must wear closed toed shoes/boots (no sandals, crocs or slides) and long pants (jeans with no holes/ khakis/dress pants) or skirts (for religious reasons) that cover the knees if not in official dress. Leggings, jogging pants, yoga, lycra, are not permitted. Shirts should be long enough to be tucked in (no crop tops or midriff showing) and not contain vulgar or suggestive material or language. Contest where oral reasons are given should respect the professionalism of the event, and dress aligning with the profession is preferred. Official FFA Dress is an allowable form of dress for all events. **Consequences for not being in dress code will result in disqualification, and the participant will not be allowed to compete.**

ALTERNATE POLICY

For district level events, if a chapter brings alternates there will be no more than two alternates allowed per team. Alternates will use a copy of the scan form (not an original) for those events scored via judgingcard.com. If more than four official scan forms are turned in for a chapter in one event, the highest score(s) for that team will be disqualified and deleted until the chapter only has

four team members in the scoring system. Alternates must not be in groups with official team members.

For state level events, alternates are not allowed.

DISTRICT EVENT

1. The event will be held at regular district event eliminations.
2. A team will consist of a maximum of four members. The three highest scorers will make up the team score. (National FFA Contest requires 4 members with all scores counting)
3. The event will have three required phases.

DISTRICT EVENT PHASES

 Strictly enforce time limits. Do not extend time.

- **Identification of Plant Materials, and Equipment** (Artificial plants, pictures, and cuttings may be used as specimens) 25 Specimens | 6 points each | Time 45 seconds per specimen.
 - **General Knowledge Examination** 50 questions | 4 points each | Time 30 minutes
 - **Problem Solving** 5 questions | 20 points each | Time 20 minutes.
 - Participants will have 30 minutes to complete the written examination and 30 minutes to complete the Problem-Solving portion of the event. Participants will be given 45 seconds per specimen for the identification of plant materials. When the participant identifies the item, its name is then located on the identification list. The participant then records the number by that name on a scan form at the respective station. All this must be done within the 45 second per item time constraint.
6. The district event will be scored as follows.
 - Individual scores will be the sum of the scores on the three required phases of the event plus scores of other phases, if any.

<u>Phase</u>	<u>450 Possible Points per Member</u>
Written Examination.....	200 points
Identification of Plant Materials	150 points
Problem Solving	100 points

Individual and team tiebreakers: 1. Highest score(s) in the general knowledge exam; 2. Highest score(s) plant materials phase; 3. Highest score(s) problem solving.

STATE EVENT

1. The team will consist of a maximum of four members. The team's total score will be based on the sum of the points earned by the three highest scoring participants on the team.
2. Participants entering the Floriculture Career Development Event may not enter the FFA Nursery and Landscape Career Development Event the same year.

3. The state event will have 5 phases.
 - Identification of Plant Materials (Live specimens, artificial plants, pictures, cuttings)
 - General Knowledge Examination
 - Problem-Solving/Decision-Making
 - Practicum
 - Three Rotational Practicums
4. Any communication between participants during the event will be sufficient cause to eliminate the team(s) involved from the event. If a cell phone is seen or heard in the possession of a competitor, that individual student will be disqualified from competition and receive a score of zero.
5. Any assistance given to a team member from any source during the event will be sufficient cause to eliminate the team from the event.
6. Under no circumstance will any participant be allowed to touch or handle plant material in the Identification of Plant Materials phase of the event. Any infraction of this policy will be sufficient cause to eliminate the team from the event.
7. References - A list of references for use as a guide in training teams is printed in this booklet, but the event will not be based exclusively on these references. See the Recommended References section.
8. Coaches/Advisors may not enter the event area until the event has been completed.
9. The state event will be held during the State FFA Convention.
10. Competitors must enter their name on the scorecard, or they will receive a score of zero. Judges will not attempt to figure out to whom the card belongs.

STATE EVENT PHASES Strictly enforce time limits. Do not extend time.

PHASE 1 -- IDENTIFICATION OF PLANT MATERIALS -- (200 points) 50 Specimens | 4 points each | Time 45 seconds per specimen.

Fifty (50) specimens from the plant list will be displayed for participants to identify. Each specimen will be designated by a number (1-50). Participants will be given **45 seconds per specimen** for the identification of plant materials. When the participant identifies the item, its name is then located on the identification list. The participant then records the number by that name on a scan form at the respective station. All this must be done within the 45 second per item time constraint. Four (4) points will be given for each specimen that is correctly identified. No plants may be touched or handled in any way. Artificial plants, cuttings, pictures may be used as specimens.

PHASE 2 -- GENERAL KNOWLEDGE EXAMINATION -- (200 points) 50 questions | 4 points each | Time 30 minutes.

Participants will answer 50 multiple choice questions that cover all areas of the floriculture industry. This phase of the event will test participants' knowledge and understanding of basic biological and scientific principles of producing and marketing flowers, plants and foliage. Each participant will be allowed 30 minutes to complete the exam. Each answer has a value of four points.

PHASE 3 -- PROBLEM-SOLVING/DECISION-MAKING -- (200 points) 10 questions | 20 Points each | Time 40 minutes.

Each participant will solve 10 problems related to the various aspects of the floriculture industry. Each problem will describe the situation or create the problem and list four possible solutions to the problem. The participant must decide on the best possible solutions to the problem. All materials and information necessary to solve the problem will be available to the participant as he/she solves the problem. Each participant will be allowed 50 minutes to complete this phase of the event. Each correct solution has a value of 20 points.

Phase 4 – PRACTICUM-- (250 points) Time 50 minutes

Each participant will perform the two activities listed below. Score sheet(s) for each practicum is (are) included in this publication.

1. Floral Arrangement-- 100 points | Time 30 minutes

Make a \$55 floral arrangement. The event superintendent will announce the type of arrangement during the team orientation meeting. Using the materials provided, participants will be allowed 20 minutes to complete their arrangements and itemized bills. The event assistant at the beginning of the practicum will provide participants the RETAIL price of the flowers and foliage that they will use in their arrangements. The MARKUP will be built into the retail price. When the participant has determined the total arrangement cost, he or she has included the markup. Retail cost of flowers and foliage given to the participant will be determined after polling florists to determine their current retail prices on the flowers and foliage used in the event. Artificial flowers/plants may be used during this phase of the contest. Scoring criteria are presented on the floral arrangement practicum scorecard which will be recorded by a judge.

2. Growing Procedures-- 100 points per practicum | Time 5- 10 minutes Dependent on activity.

One of the following three events in growing procedures will be used each year. The event chosen will not be announced until the event. Each event will use the score card with assigned criteria for that event.

i. Potting of Young Plants (Plugs or Liners) – 100 points

Participants will be asked to plant young plants in the pots provided. Each participant will be given a group of young plants from which to select their transplants from; an appropriate pot or pots; potting medium at the correct moisture level, ID stake and a marking pencil. **Ten minutes** will be allowed for completion of this practicum including the judging of the participant's performance in completing the practicum.

ii. Asexual Propagation of Plants – 100 points

Each participant will be provided the parent plant materials and all other materials needed to propagate plants asexually. Using the available materials, participants will take five cuttings from the plant before them and stick them in rooting media. **Five minutes** will be allowed for completion of this practicum including the judging of the participant's performance in completing the practicum.

iii. Pinching Plants – 100 points

A plant will be placed before each participant. The participant will be given instructions as to what they are to do to the plant by the event assistant in charge of the practicum. Participants will be judged on the procedures they follow in pinching the plant. **Five minutes** will be allowed for completion and judging of this practicum. Pinching section may be completed and scored by multiple choice, true false, short answer, or scored using the provided pinching rubric.

Phase 5 – Rotational Practicums -- 75 points per practicum | Time 10 – 20 minutes dependent on activity selected.

Two of the following practicums will be selected from the list below. The two selected will be identified by the event coordinator and made available prior to the contest.

a. One-on-One (Selling)

Each participant will assume the role of a salesperson in a floriculture business (grower, florist shop, garden center, etc.) A customer (judge) with a specific need will approach the participant. The participant will help the customer meet his/her need by using sales skills. All supplies, information, and the business setting in which the participant works will be provided. **Ten minutes** will be allowed for this practicum (five minutes for dialogue with the customer and completion of the sales form and five minutes for the judge to score participant).

b. Media Selling

Each participant will be asked to create or evaluate advertising from the following: newspaper/catalog ad; radio script; newsletter; brochure/flyer; email; social media – face book, twitter, video – You Tube, web homepage. All information and materials needed to develop the advertisement will be provided. **Fifteen minutes will be allowed for this practicum. Of the 15 minutes, 10 will be allotted for preparation, five minutes for oral/written presentation and three for judges to score. Participants will be pulled from other areas to participate in this practicum.**

c. Make a Mixed Planter Combination

Each participant will make a \$35 mixed planter combination. All plant materials, growing media and containers will be provided. **Ten minutes** will be allowed for each participant to make their mixed planter combination and complete the itemized listing of costs. At the beginning of the practicum, the participant will be provided with the retail price of plants and other materials to be used in their mixed planter combination. The markup is built into the retail price.

d. Make and Package a Corsage

Each participant will make and package a \$25 corsage. All plant and non-plant materials needed to construct and package the corsage will be provided. Each participant will be allowed **20 minutes** to complete the construction of the corsage and complete an itemized listing of costs for the corsage constructed.

e. Identifying and Controlling Plant Disorders

Pest and disorder items may be presented as an intact specimen, photograph, or preserved specimen (herbarium sheet, insect mount, etc.) Each specimen will be designated by a station number. The participant must identify the item and its classification (nutritional/environmental, insect/pest, or disease). The participant then must determine the damage location as well as chemical and culture controls for the disorder. Each participant will identify 15 specimens total for this event.

No specimens or items may be touched or handled in any way. **Fifteen minutes** will be allowed for this event. The plant disorders will come from the following list of disorders. Please disregard the numbering scheme found on the Disorder Practicum Scorecard, unless otherwise noted by contest officials. Contestants will mark their card with the following number in the Floriculture Disorders Practicum on Scantron scorecard.

Classification

1. Diseases
2. Insects/Pests/Mites
3. Nutritional/Environmental

Nutritional and environmental disorders

01. cold temperature (freeze)
02. cold water damage
03. ethylene damage
04. insufficient water damage
05. iron deficiency
06. nitrogen deficiency
07. phosphorus deficiency

Insects and Pests

16. Aphids
17. Fungus gnats
18. Leaf miner
19. Leafhopper
20. Mealybugs
21. Scale
22. Shore flies
23. Snails/slugs
24. Spider mites
25. Thrips
26. Whiteflies

Diseases

08. Botrytis – gray mold
09. Damping off
10. Downy mildew
11. Leaf spot (black)
12. Powdery mildew
13. Root rot
14. Stem rot
15. Tospovirus (INSV & TSWV)

Chemical Controls

1. Fungicide
2. Insecticide
3. Miticide
4. Molluscicide
5. No Treatment Listed

Cultural Control

1. Apply Complete Fertilizer
2. Correct/Adjust Temperature
3. Correct/Adjust Watering
4. Lady Bird Beetles (Lady Bugs)
5. Nematodes
6. Parasitic Wasps
7. Predatory Mites
8. Reduce Relative Humidity
9. No Treatment Listed

f. Handling A Hazardous Situation

Each participant will be presented with a hazardous situation that could develop in a floriculture business. The participant will be asked to explain how to resolve the problem. The participant will be evaluated on their understanding of the problem and procedures and practices followed in resolving the problem. **Ten minutes** will be allowed for this practicum.

SCORING THE STATE EVENT

Phase

Possible Points

1. Identification of Plant Materials	200
2. General Knowledge Examination	200
3. Problem-Solving/Decision-Making	200
4. Practicums	200
5. Rotational Practicums	<u>150</u>
Individual's Total	950

Note: The three highest scorers will make up the team score.

Team scores will be sum of the top 3 scoring team members. (2,850 points possible)

If the event ends in a tie at the state CDE, the total scores of the three team members in the order listed below will determine the winner:

- 1) General Knowledge Exam
- 2) Problem Solving
- 3) Plant and Equipment ID
- 4) Practicums

RECOMMENDED REFERENCES

This list of references is not intended to be inclusive. Other sources may be utilized, and teachers are encouraged to make use of the very best instructional materials available. The following list contains references that may prove helpful during event preparation.

All About Perennials. 1981. Ortho Books. Chevron Chemical Company, 6001 Bolinger Canyon Road, San Ramon, CA 94583.

Color With Annuals. 1987. Ortho Books. Chevron Chemical Company.

Arranging Cut Flowers. 1985. Ortho Books. Chevron Chemical Company.

All About Growing Orchids. 1988. Ortho Books. Chevron Chemical Company.

Controlling Lawn and Garden Insects. 1987. Ortho Books. Chevron Chemical Company.

All About Houseplants. 1982. Ortho Books. Chevron Chemical Company.

Gardening in Containers. 1983. Ortho Books. Chevron Chemical Company.

The ORTHO Problem-Solver. 1984. Ortho Books. Chevron Chemical Company.

Complete Guide to Gardening. 1979. Better Homes and Gardens, Meredith Corporation, Des Moines, Iowa.

Floral Design and Marketing. 1988. Ohio Agricultural Education Curriculum Materials Service, The Ohio State University, Room 254, 2120 Fyffe Road, Columbus, Ohio 43210.

Hortus, Third. 1977. L. H. Bailely Hortorium. The Macmillan Co., N.Y. (Latest authority on nomenclature).

The Greenhouse Worker, 2nd Edition. 1984. Peter J. Wotowiec. Ohio State University, 2120 Fyffe Road, Columbus, OH 43210.

The Retail Florist Business, 4th Edition. 1983. Peter B. Pfahl, Interstate Publishers and Printers, Danville, IL.

Introduction to Floriculture. 1980. Roy A. Larson, Academic Press, New York, N.Y.

Flower Shop Management. Ohio State Curriculum Service, Ohio State University, 2120 Fyffe Road, Columbus, OH 43210.

American Style Flower Arranging. 1982. Peter B. Pfahl and Elwood W. Kalin, Prentice-Hall, Inc., Englewood Cliffs, NJ.

Ornamental Horticulture for Agribusiness Education in Alabama. Agriscience Education, 3410 Skyway Drive, Auburn, AL 36830-6444.

Horticulture/Floriculture Student Study Guide. Agriscience Education, 3410 Skyway Drive, Auburn, AL 36830-6444.

Horticulture Test Bank. Agriscience Education, 3410 Skyway Drive, Auburn, AL 36830-6444.

Floriculture Plant ID List

Number Botanical Name/Common Name	Number Botanical Name/Common Name
101 Aechmea fasciata cv. / Silver Vase Bromeliad	102 Ageratum houstonianum / Ageratum
103 Alstroemeria hybrid cv. / Peruvian Lily	104 Anemone coronaria / Anemone
105 Anethum graveolens cv. Dill	106 Angelonia hybrid cv. / Angelonia
107 Anthurium x andraeanum cv. / Flamingo Plant	108 Antirrhinum majus cv. / Snapdragon
109 Aphelandra squarrosa cv. / Zebra Plant	110 Araucaria heterophylla / Norfolk Island Pine
111 Asparagus densiflorus / Sprengeri Fern	112 Aster pringlei / Monte Cassino Aster
113 Astilbe hybrid cv. / Astilbe	114 Begonia x semperflorens- cultorum / Wax Begonia
115 Begonia x tuberhybrida cv. / Wax Begonia	116 Caladium x hortulanum cv. / Caladium
117 Calibrachoa hybrid cv. / Million Bells	118 Callistephus chinensis cv. / China Aster
119 Campanula hybrid cv. / Campanula	120 Canna x generalis cv. / Garden Canna
121 Capsicum annuum / Ornamental Pepper Plant	122 Catharanthus roseus / Periwinkle
123 Celosia argentea cv. / Cockscomb	124 Chamaedorea elegans / Parlor Palm
125 Chamelaucium uncinatum / Waxflower	126 Cholorophytum comosum cv. / Spider Plant
127 Chrysanthemum x morifolium / Florist Chrysanthemum	128 Clematis hybrid cv. / Clematis
129 Codiaeum variegatum pictum / Croton	130 Crassula argentea / Jade Plant
131 Cycas revolute cv. / Sago Palm	132 Cyclamen x persicum cv. / Florist's Cyclamen
133 Cymbidium cv. / Cymbidium Orchid	134 Cymbopogon cv. / Lemongrass (herb)
135 Dahlia hybrid cv. / Dahlia	136 Delphinium consolida cv. / Larkspur
137 Dendrobium cv. / Dendrobium Orchid	138 Dianthus caryophyllus cv. / Carnation
139 Dracaena cincta / Red Edge Dracanena	140 Echinocactus cv. / Barrel Cactus
141 Epipremnum aureum cv. / Golden Pothos	142 Erica carnea cv. / Spring Heather
143 Eucalyptus polyanthemos / Silver Dollar Eucalyptus	144 Euphorbia puplcherrima cv. / Poinsettia
145 Eustoma grandiflorum / Lisianthus	146 Exacum affine / Persian Violet
147 Ficus benjamina cv. / Benjamin Fig	148 Ficus elastic cv. / Rubber Plant
149 Fragaria x ananassa cv. / Strawberry Plant	150 Freesia x hybrid / Freesia
151 Gardenia jasminoides / Gardenia	152 Gerbera jamesonii / Gerbera Daisy
153 Gladiolus x hortulanus cv. / Garden Gladiolus	154 Gomphrena hybrid cv. / Globe Amaranths
155 Gypsophila elegans cv. / Baby's Breath	156 Hedera helix cv. / English Ivy
157 Helianthus annuus / Sunflower	158 Hemerocallis cv. / Daylily
159 Hippeastrum hybrid cv. / Amaryllis	160 Hosta cv. / Hosta
161 Hoya carnosa / Wax Plant	162 Hyacinthus orientallis cv. / Hyacinth

Floriculture Plant ID List (p.2)

163 Hydrangea macrophylla / Big Leaf Hydrangea	164 Impatiens hybrid cv. / Impatiens
165 Ipomoea batatas cv. / Ornamental Sweet Potato	166 Iris x xiphium cv. / Dutch Iris
167 Senecio cineraria / Dusty Miller	168 Justicia brandegeana / Shrimp Plant
169 Kalanchoe x blossfeldiana cv. / Kalanchoe	170 Leucanthemum x superbum / Shasta Daisy
171 Leucospermum hybrid cv. / Pin cushion Protea	172 Liatris spicata / Liatris
173 Lilium hybrid cv. / Asiatic or Oriental Lily	174 Limonium sinuatum / Statice
175 Lobularia maritima / Alyssum	176 Maranta leuconeura / Prayer Plant
177 Matthiola incana cv./ Stock	178 Monstera deliciosa / Split Leaf Philodendron
179 Narcissus pseudonarcissus cv. / Daffodil or Narcissus	180 Nephrolepis exaltata cv. / Boston Fern
181 Ocimum basilicum cv. / Basil	182 Opuntia cv. / Cactus
183 Paeonia cv. / Peony	184 Paphiopedilum hybrid cv. / Ladyslipper Orchid
185 Pelargonium x hortorum cv. / Zonal Geranium	186 Pelargonium peltatum cv. / Ivy Geranium
187 Pentas hybrid cv. / Pentas	188 Petroselinum crispum cv. / Parsley
189 Petunia x hybrida cv. / Petunia	190 Phalaenopsis cv. / Moth Orchid
191 Philodendron scandens oxycardium / Heartleaf Philodendron	192 Pilea cadierei / Aluminum Plant
193 Portulaca oleracea cv. / Portulaca	194 Primula malacoides cv. / Primrose
195 Ranunculus hybrid cv. / Ranunculus	196 Rhododendron simsii cv. / Florist Azalea
197 Rosa hybrid cv. / Hybrid Tea Rose	198 Rumohra adiantiformis / Leatherleaf Fern
199 Saintpaulia ionantha cv. / African Violet	200 Salvia splendens cv. / Salvia
201 Sansevieria trifasciata cv. / Snake Plant	202 Schefflera arboricola / Octopus Plant
203 Schlumbergera bridgesii / Christmas Cactus	204 Sempervivum hybrid cv. / Hens and Chicks
205 Senecio x hybridus cv. / Cineraria	206 Saxifraga stolonifera / Strawberry Plant
207 Sinningia speciosa Fyfiana Group cv. / Gloxinia	208 Solenostemon scutellarioides / Coleus
209 Spathiphyllum / Peace Lily	210 Stephanotis floribunda / Stephanotis
211 Strelitzia reginae / Bird-of-Paradise	212 Syngonium podophyllum / Nephthytis
213 Tagetes species cv. / Marigold	214 Zebrina pendula cv. / Wandering Jew
215 Tulipa cv. / Tulip	216 Verbena hybrid cv. / Verbena
217 Vinca hybrid cv. / Vinca	218 Viola x wittrockiana cv. / Pansy
219 Zantedeschia hybrid cv. / Calla Lily	220 Zinnia elegans / Zinnia

Floriculture Equipment and Supply Identification List

301 Anvil-and-blade pruner	335 Hearing protection	368 Wire cutter
302 18 Gauge floral wire	336 Glue pan	369 PVC (polyvinylchloride) pipe
303 28 Gauge floral wire	337 Glue sticks	370 Wooden pick
304 #3 Ribbon (satin, sheer, wired)	338 Hook-and-blade pruners (bypass pruners)	371 Resin-coated fertilizer
305 #9 Ribbon (satin, sheer, wired)	339 Hose punch	372 Respirator
306 #40 Ribbon (satin, sheer, wired)	340 Hose repair coupling	373 Wrist corsage holder
307 #100 Ribbon (satin, sheer, wired)	341 Hose-end repair fitting	374 PVC pipe cutter
308 Floral adhesive	342 Hose-end sprayer	375 Greenhouse thermostat
309 Coconut coir	343 Hose-end washer	376 Safety goggles
310 Bulb planter	344 Impulse sprinkler	377 Sand
311 Bouquet sleeve	345 Irrigation timer	378 Scoop shovel
312 Cell pack containers	346 Irrigation tape	379 Shade fabric
313 Cardette	347 Sphagetti tubing (1/4" diameter or less)	380 Sharpening Stone
314 Ceramic container	348 Nosegay holder	381 Siphon injector
315 Compressed air sprayer	349 Ribbon shears	382 Chemical resistant gloves
316 Chenille stem	350 Sheet moss	383 Soil moisture meter
317 Drip emitter, irrigation	351 Mist nozzle (mist bed)	384 Goggles
318 Dust mask	352 Spanish moss	385 Solenoid valve
319 Duster	353 Nursery container	386 Pest strips
320 Corsage box	354 Oscillating sprinkler	387 Propagation trays
321 Corsage pin	355 Peat moss	388 Sphagnum moss
322 Corsage snips	356 Peat pots	389 Spray suit
323 Dry foam	357 pH testing meter	390 Square point (flat) shovel
324 Enclosure card	358 Fogger	391 Rockwool propagation cubes
325 Fern greening pins	359 Styrofoam	392 Fertilizer injectors
326 Floral foam	360 Surestik cling	393 Ellpot propagation cubes
327 Gas mask	361 Polyethylene film	394 Rice hulls
328 Floral knife	362 Polyethylene pipe	395 Pot covers
329 Floral preservative	363 Tulle	396 Rose and stem flower stripper
330 Granular fertilizer	364 Water picks	397 Backflow preventer
331 Floral stem tape	365 Water tubes	398 Vermiculite
332 Glass vase	366 Waterproof container tape	400 Water soluble fertilizer
333 Glue gun	367 Propagation mat	
334 Hanging Basket		

Floriculture Disorders Practicum

Classifications	Identification	Chemical Controls	Cultural Controls
1 Diseases	<u>Nutritional and environmental disorders</u>	1 Fungicide	1 Apply Complete Fertilizer
2 Insects/Pests/Mites	01 cold temperature (freeze)	2 Insecticide	2 Correct/Adjust Temperature
3 Nutritional/Environmental	02 cold water damage	3 Miticide	3 Correct/Adjust Watering
	03 ethylene damage	4 Molluscicide	4 Lady Bird Beetles
	04 insufficient water damage	5 No Treatment Listed	5 Nematodes
	05 iron deficiency		6 Parasitic Wasps
	06 nitrogen deficiency		7 Predatory Mites
	07 phosphorus deficiency		8 Reduce Relative Humidity
	<u>Diseases</u>		9 No Treatment Listed
	08 Botrytis – gray mold		
	09 Damping off		
	10 Downy mildew		
	11 Leaf spot (black)		
	12 Powdery mildew		
	13 Root rot		
	14 Stem rot		
	15 Tospovirus (INSV & TSWV)		
	<u>Insects and Pests</u>		
	16 Aphids		
	17 Fungus gnats		
	18 Leaf miner		
	19 Leafhopper		
	20 Mealybugs		
	21 Scale		
	22 Shore flies		
	23 Snails/slugs		
	24 Spider mites		
	25 Thrips		
	26 Whiteflies		

Problem Solving Examples

Chemical/Fertilizer

1. Your horticulture teacher asked you to figure how much Osmocote, as a slow-release fertilizer, you will need to apply to the fall mum containers that your program is growing. You are given the table below to use in your calculation. You have planted sixty (60) mums in 6.5-inch azalea pots and forty (40) mums in 8-inch mum pans. You are told that the application rate needs to be at a medium level for the 6.5-inch pots and at the high level for the 8-inch mum pans. How many pounds of Osmocote will you need for all 100 mums?

<u>Application Rates Per Container (Grams)</u>			
Container Size	Low	Medium	High
6 inch azalea	3	7	11
6.5 inch azalea	3	8	13
6.5 inch standard	4	9	13
8 inch azalea	6	14	22
8 inch mum pan	6	15	23
9 inch mum pan	10	23	36
10 inch basket	11	26	39

Conventional Measurers:

1 tsp. = 5 grams
1 tbsp. = 16 grams
1/4 cup = 71 grams

1/3 cup = 95 grams
1/2 cup = 142 grams
1 cup = 285 grams

28 grams = 1 ounce
454 grams = 1 pound

- A. 1.0 B. 1.98 C. 2.71 D. 3.08

Volume/Area

2. Your school greenhouse has 575 poinsettias in 8" azalea pots. You are planning on wrapping the poinsettias with foil and putting a bow on the pot when they are ready for sale to the public. You need to buy the ribbon for the bows and dressing the pots. You calculate that it will take 9 feet of ribbon to make the bow and dress the pot. You are going to use #40 ribbon and it is available in 75-yard rolls. How many rolls of ribbon do you need to purchase to get your poinsettias ready for the customers?



*There are 3 feet in 1 yard.

- A. 17 rolls B. 12 rolls C. 23 rolls D. 27 rolls

Media

3. Your school has purchased new planters to go on each side of the doors at every school entrance. It will be the horticulture class's responsibility to get these planted and looking nice each season. These containers stand 33 inches tall and are 3 feet by 3 feet wide. There are 11 separate entrances to your school. You will be using 2.8 cubic feet bags of soil to fill these containers. A pallet contains 100 bags of soil. How many pallets of soil are needed to fill the containers?

- A. 1 pallet B. 2 pallets C. 3 pallets D. 4 pallets

Pricing

4. Your horticulture class has been growing succulents and plans to make dish gardens as a school fundraiser. You hope to make \$10 profit off of each container. Each container will contain the following items at wholesale cost:

- Succulents at \$1.00 each
- Small rocks - \$2.50
- Dish Garden Container - \$4.00

You plan to sell these containers for \$25 retail. If the retail markup is 3x on plant material and 2x on hard goods, how many succulents can you put in each container to make the \$25 retail cost?

- A. 2 B. 3 C. 4 D. 6

Irrigation

5. In a greenhouse there is a drip line irrigation tube running the length of the entire growing bench. There are **three (3)** of these growing benches in the greenhouse. The benches are 42 feet long. On each of these irrigation lines there are inline drip emitters installed every 6 inches. Each emitter is a ½ GPH (gallons per hour) rate emitter. If you turn the water valve on that controls the water flow to all three greenhouse bench drip lines, how much water will be used for the plants in 30 minutes?

- A. 63 gallons
B. 396 gallons
C. 33 gallons
D. 132 gallons

Answer Key

1. D. 3.08

$$60 \times 8 \text{ grams/pot} = 480 \text{ grams}$$

$$40 \times 23 \text{ grams/pot} = 920 \text{ grams}$$

$$480 + 920 = 1,400 \text{ grams} \quad 1,400 / 454 \text{ grams/pound} = 3.08$$

2. C. 23

$$575 \text{ pots} \times 9 \text{ feet/pot} = 5,175 \text{ feet}$$

$$5,175 / 3 = 1,725 \text{ yards of ribbon}$$

$$1,725 / 75 \text{ yards in a roll} = 23 \text{ rolls}$$

3. B. 2 pallets

$$33 \text{ inches} / 12 = 2.75 \text{ ft} \times 3 \text{ ft} \times 3 \text{ ft} = 24.75 \text{ cubic feet per container}$$

$$2 \text{ planters per door (one on each side)} \times 11 \text{ entrances} = 22 \text{ containers}$$

$$22 \times 24.75 = 544.50 \text{ cubic feet needed total}$$

$$544.50 / 2.8 \text{ cubic feet bags} = 194.46 \text{ bags} / 100 \text{ bags per pallet} = 1.94 \text{ or } 2 \text{ pallets needed}$$

4. C. 4

$$\text{Rocks} - \$2.50 \times 2 = \$5.00 \text{ and container} - \$4.00 \times 2 = \$8.00 \text{ so hard goods would cost } \$13.00$$

$$\$25.00 - \$13.00 = \$12.00$$

$$\text{Succulents} - \$1.00 \text{ each} \times 3 = \$3.00 \text{ retail}$$

$$\$12.00 / 3 = 4 \text{ succulents per container}$$

5. A. 63 gallons

$$42 \text{ foot line} \times 12 \text{ inches} = 504 \text{ inches divided by emitter every } 6 \text{ inches} = 84 \text{ emitters per line}$$

$$84 \text{ emitters} \times 3 \text{ lines} = 252 \text{ emitters in the greenhouse}$$

$$\frac{1}{2} \text{ gallon of water per hour} - \text{running the system for } 30 \text{ minutes} = \frac{1}{4} \text{ gallons of water}$$

$$252 \text{ emitters} \times 0.25 \text{ gallon per emitter} = 63 \text{ gallons of water}$$

Floral Arrangement Practicum Rubric

100 POINTS

Name	Member Number	Chapter/State	Team Number
Judge Name	Judge's Signature		Date

	Excellent	Good	Needs Improvement	Member Score
Arrangement	85			
Category Interpretation	4-5 points Design follows given scenario within provided parameters and correlates to the appropriate style, shape and design	2-3 points Design slightly followed given scenario but is somewhat lacking in appropriate style, shape, or design	0-1 points Design does not follow given scenario and/or lacks in following the given style, shape, or design	
Balance	7-10 points Design is both visually and physically balanced	4-6 points Design is slightly off balanced	0-3 points Design is not balanced visually or physically	
Creativity	7-10 points Design expresses advanced creative ability and advanced design techniques	4-6 points Design expresses some creative ability and minimal advanced design techniques	0-3 points Design lacks creative ability and Demonstrates limited design techniques	
Depth	7-10 points Placement of materials at different levels is evenly distributed throughout	4-6 points Placement of materials are somewhat distributed evenly	0-3 points Placement of items are not distributed evenly	
Color	7-10 points Color is used evenly/harmoniously throughout	4-6 points Color is used somewhat correctly	0-3 points Color is not used correctly	
Focal emphasis	7-10 points Design has one area of design that attracts the eye	4-6 points Design somewhat has a clear focal point	0-3 points Design does not have a clear focal point	
Line / Rhythm	7-10 points Design has a clear sense of movement created visually by the placement of floral materials	4-6 points Design has a somewhat clear sense of movement created visually by the placement of floral materials	0-3 points Design has no clear sense of movement created visually by the placement of floral materials	
Mechanics	7-10 points Techniques used to keep floral material secure and stable are hidden or done neatly	4-6 points Techniques used to keep floral material secure and stable are somewhat hidden or done neatly	0-3 points Techniques used to keep floral material secure and stable are not hidden or done neatly	
Scale / Proportion	4-5 points Design is the correct size based on container given	2-3 points Design is slightly out of proportion	0-3 points Design is not in proportion with container given	
Unity	4-5 points All principles of designs are present and executed well	2-3 points Some principles of design are executed well	0-1 points None or few principles of design are executed well	
ITEMIZED LIST OF COSTS	15			
Bill of Sale Completion	4-5 points Bill of Sale is completed entirely with a complete list of all items used and totaled	2-3 points Bill of Sale is not entirely complete or missing some items used in the design	0-1 point Bill of Sale is missing a lot of detail and/or missing several items used in the design	
Individual Pricing and Quantity Used	4-5 points All items used in the design are individually listed with correct individual price and quantity totally accurately	2-3 points Some items added incorrectly, or quantity used listed incorrectly.	0-1 point Significant number of items added or listed incorrectly	
Total Bill of Sale Pricing Accuracy	4-5 points Overall bill is legible with labor calculated correctly, and total price is listed accurately within +/- \$0.50 of \$55.00	2-3 points Overall bill includes minor errors, includes parts that are difficult to read or final price slightly off target goal of \$55.00	0-1 points Overall bill includes major errors, difficult to read, or well off target goal of \$55.00.	
TOTAL SCORE (100 points possible)				

Floral Arrangement Itemized List of Costs

Name	Member Number	Chapter/State	Team Number
Judge Name	Judge's Signature		Date

Quantity	Flower/Foliage	Unit Cost	Total
TOTAL FLOWER/FOLIAGE MATERIAL COST			

Quantity	Material Used	Unit Cost	Total
TOTAL HARD GOODS COST			
Total Plant Material Cost			
Total Hard Goods Cost			
Sub Total			
Labor 20%			
TOTAL ARRANGEMENT COST*			

**Participants will be provided the retail price of flowers and foliage that they will use in their arrangement by the event official at the beginning of the practicum. The markup is built into the retail price of the flowers and the foliage used in the arrangement.*

Asexual Plant Propagation Rubric

100 POINTS

Name _____ Member Number _____ Chapter/State _____ Team Number _____

Judge Name _____ Judge's Signature _____ Date _____

	Excellent	Good	Needs Improvement		Member Score
Proper sanitation and equipment use	4-5 points Thoroughly covering cutting instrument with a sterile solution	2-3 points Cleaning cutting instrument with solution	0-1 point No sanitation procedures followed or not followed properly	(X2)	
Selection of cuttings	4-5 points Small uniform terminal shoot cuttings	2-3 points Used some cuttings of the same size and type	0-1 point too large, nonterminal shoots, or not uniform in size	(X2)	
Making cuttings	5-6 points Straight, flush even cut of the basal end	3-4 points Some cuttings cut properly and some incorrectly cut	0-2 points basal end cut at angle or damaged	(X2)	
Preparation of cuttings for sticking in growing media	5-6 points Selected/ prepared cuttings that did not require further preparation	3-4 points Selected cuttings that required removal of damaged and/or unneeded foliage	0-2 points left damaged and/or unnecessary foliage on plant	(X2)	
Use of rooting hormone	4-5 points Poured correct amount of rooting hormone into separate container, applied hormone & tapped off excess amount	2-3 points Too much or too little put in separate container, applied correctly but did not tap off extra hormone	0-1 point applied directly from source container and/or did not use rooting hormone	(X2)	
Selection of growing media	5-6 points Select best rooting medium for optimum rooting	3-4 points Select moderate but not best choice for optimum rooting	0-2 points selected incorrect rooting medium	(X2)	
Sticking of cuttings in growing media	5-6 points Creating a dibble in media prior to placing cutting, placing at proper depth, firming media correctly	3-4 points Correctly demonstrated at least 1 or 2 of the correct principles	0-2 points no prior hole made, planted too deep, or left unstable	(X2)	
Cuttings labeled correctly	4-5 points Labeled with date propagated, plant name, and cultivar	2-3 points Labeled with some but not all information required	0-1 point no label present or labeled with incorrect information	(X2)	
Response to questions	5-6 points Answered judges questions correctly	3-4 points Answered some questions correctly	0-2 points Did not or incorrectly answered questions	(X2)	
TOTAL SCORE (100 POINTS POSSIBLE)					

Pinching Plants Rubric

100 POINTS

Name	Member Number	Chapter/State	Team Number		
Judge Name	Judge's Signature			Date	
	Excellent 8-10 points	Good 4-7 points	Needs Improvement 0-3 points		Member Score
Selection of plant part to pinch	Followed given scenario to determine correct pinch	Some pinches were made in incorrect places on plant	Most all pinches were made on incorrect places	(x2)	
Use of proper procedures in making pinches	Used proper tools and/or techniques in making pinches	Used some but not all proper tools and/or techniques in making pinches	Used few or not any of proper tools and/or techniques in making pinches	(x2)	
Made proper pinches	Plant pinched correctly to get desired effect per instructions	Some pinches were too little or too much to get desired effect per instructions	Most or all of plant pinches would not allow the plant to reach desired effect per instructions	(x2)	
Overall effect of making pinches	The plant will reach desired outcome after pinching, no damage to plant parts left after pinch, and pinches correctly done	The plant will have some difficulty achieving desired outcome, some plant parts left have damage, and some pinches not done correctly	The plant will not be able to achieve desired outcome, much damage to plant part left, and most pinches not done correctly	(x2)	
Answered questions correctly	Answered questions correctly	Answered some questions correctly	Did not or incorrectly answered questions	(x2)	
TOTAL SCORE (50 POSSIBLE POINTS)					

Potting of Young Plants Practicum Rubric

100 POINTS

Name	Member Number	Chapter/State	Team Number			
Judge Name	Judge's Signature	Date				
	Excellent	Good	Needs Improvement		Member Score	
Potting Process						
Selection of plugs or liners	5-6 points Plugs/liners are uniform in size and shape, correct number selected based on pot size provided	3-4 points Plugs/liners are somewhat uniform in size and shape, just slightly off in selecting the correct number	0-2 points Plugs/liners are not uniform in size and shape, correct number not selected based on pot size provided	(x2)		
Proper planting depth	5-6 points Hole is made prior to placing plant in soil, the entire root system is covered, leaving proper stem length visible	3-6 points minor amount of roots are showing, planted slightly too deep	0-2 points A large amount of roots are showing or plant stem is covered with soil	(x2)		
Labeling of plant/pot	5-6 points Labeled with date planted, plant name, and cultivar	3-4 points Labeled with some but not all information required	0-2 points no label present or labeled with incorrect information	(x2)		
Correct growing medium level in pot	5-6 points Growing media is filled to the inner lip of the pot, leaving enough room to water the plant	3-4 points Growing media is filled slightly too high or too low	0-2 points Growing media is left very low or completely fills up the pot	(x2)		
Plug or liner arrangement and angle	5-6 points Plugs/Liners evenly spaced for pot size given and plugs/liners planted in upright position	3-4 points plugs/liners planted slightly too close or too far apart, planting slightly tilting	0-2 points Plugs/liners not spaced corrected and not planted upright	(x2)		
Firmness of growing medium	5-6 points After planting, growing media is tapped/ pressed firmly around each plant leaving the plant upright	3-4 points Growing media is left slightly loose or left slightly too firm restricting plant growth	0-2 points Growing media is not firmed after planting or left entirely too firm restricting plant growth	(x2)		
General appearance (free from handling damage)	5-6 points Final product presented to the judge with plants upright, pot clean, and in sellable condition	3-4 points Final product presented to the judge in slightly sellable condition	0-2 points Final product presented to judge in non-sellable condition	(x2)		
Response to questions	5-6 points Answered questions correctly	3-4 points Answered some questions correctly	0-2 points Did not or incorrectly answered questions	(x2)		
TOTAL (100 POINTS POSSIBLE)						

Making a Mixed Combination Planter Rubric

75 POINTS

Name	Member Number	Chapter/State	Team Number	
Judge Name	Judge's Signature	Date		
	Excellent	Good	Needs Improvement	Member Score
Selection of products	6-8 points Plants selected correctly to match scenario given and pot size	3-5 points Some of the plant selected match pot size and given scenario	0-2 points Plants selected do not match pot size or scenario	
Preparation of plant materials	6-7 points Soil is filled to the correct level, plants are planted at correct depth, and soil firmed after planting	3-5 points Some of the items for correct planting are missing or incorrectly demonstrated	0-2 points Plants were not prepared properly and/or soil was not prepared properly	
Labeling of combo	7-10 points Labeled with date planted, plant names, and cultivars	4-6 points Labeled with some but not all information required	0-3 points no label present or labeled incorrectly	
Balance	9-12 points Plants are evenly spaced within the pot, plants are physically and visually balanced with container size	5-8 points Plants are slightly off balance, placement of plants does not align with physical or visual display	0-4 points Plants are not balanced visually or physically	
Design	11-15 points Principles of design are followed while completing the mixed planter	6-10 points Some of the principles of design are followed	0-5 points None or few of the principles of design we followed when completing the planter	
Attractiveness	10-13 points Mixed Planter is presented in a sellable fashion, no broken pieces/part, pot clean, and plants faced in pot	5-9 points Mixed Planted is presented in a somewhat sellable condition	0-4 points Mixed Planter is presented in poor, unfinished, or non-sellable condition	
Pricing	7-10 points Price sheet has each plant used identified correctly with correct quantity used. Sheet includes no or minor calculation errors and within +/- \$0.50 of \$35	4-6 points Price sheet has 1 or 2 missing plants. Sheet also includes errors on quantity used or totaled incorrectly	0-3 points Price sheet is incomplete and/or totaled inaccurately	
TOTAL SCORE (75 POINTS POSSIBLE)				

Mixed Combination Planter Itemized List of Costs

Name	Member Number	Chapter/State	Team Number
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Judge Name	Judge's Signature	Date
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Quantity	Plant Material	Unit Cost	Total
TOTAL FLOWER/FOLIAGE MATERIAL COST			

Quantity	Material Used	Unit Cost	Total
TOTAL HARD GOODS COST			

	Total Plant Material Cost	
	Total Hard Goods Cost	
	<i>Sub Total</i>	
	TOTAL MIXED PLANTER COST	

_____ Date

Making and Packing a Body Flower Piece Rubric

75 POINTS

Name	Member Number	Chapter/State	Team Number
Judge Name	Judge's Signature		Date
	Excellent	Good	Needs Improvement
	11-15 points	6-10 points	0-5 points
Mechanical Application	Techniques used to keep floral material secure and stable are hidden or done neatly	Techniques used to keep floral material secure and stable are somewhat hidden or done neatly	Techniques used to keep floral material secure and stable are not hidden or done neatly
Color	7-10 points Color is used evenly/harmoniously throughout	4-6 points Color is used somewhat correctly	0-3 points Color is not used correctly
Creativity	11-15 points Design expresses a high level of creative ability and advanced design techniques.	6-10 points Design expresses some creative ability and minimal advanced design techniques	0-3 points Design lacks creative ability and demonstrated limited design techniques
Balance	7-10 points Design is physically and visually balanced	4-6 points Design is slightly off balance	0-3 points Design does not follow the principles of design regarding balance
Design & Category Interpretation	4-5 points Design follows scenario given for an overall cohesive design	2-3 points Design somewhat follows scenario given and overall design is somewhat cohesive	0-1 points Design does not follow given scenario
Bill of Sale Completion	7-10 points Bill of Sale is completed entirely with a complete list of all items used	5-8 points Bill of Sale is not entirely complete or missing some items used in the design	0-4 points Bill of Sale is missing a lot of detail and/or missing several items used in the design
Pricing Accuracy (accuracy of pricing identification)	7-10 points All items used in the design are listed with correct price, totally accurately, labor calculated corrected, within 50 cents up or down of \$25.00	4-6 points Some items added incorrectly and/or final price slightly off target goal of \$25.00	0-3 points Significant number of items added incorrectly or way off target goal of \$25.00.
TOTAL SCORE (75 POINTS POSSIBLE)			

Body Flower Piece Itemized List of Costs

Name	Member Number	Chapter/State	Team Number
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Judge Name	Judge's Signature	Date
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Quantity	Flower/Foliage Used	Unit Cost	Total
TOTAL FLOWER/FOLIAGE MATERIAL COST			

Quantity	Material Used	Unit Cost	Total
TOTAL HARD GOODS COST			

Total Flower/Foliage Material Cost

Total Hard Goods Cost

Subtotal

Labor 20 %

TOTAL CORSAGE COST

Media Selling Practicum Rubric

75 POINTS

Name	Member Number	Chapter/State	Team Number		
Judge Name		Judge's Signature		Date	
		Excellent	Good	Needs Improvement	Member Score
Identified and appealed to target group		9-12 points	5-8 points	0-4 points	
Informed the consumer		7-9 points	4-6 points	0-3 points	
Creativity		7-9 points	4-6 points	0-3 points	
Easy to read or view		7-9 points	4-6 points	0-3 points	
Presented one idea		7-9 points	4-6 points	0-3 points	
Contained essential information		7-9 points	4-6 points	0-3 points	
Grammar, spelling, accuracy		7-9 points	4-6 points	0-3 points	
Proper use of space and format		7-9 points	4-6 points	0-3 points	
TOTAL SCORE (75 possible points)					

One-on-One Practicum Rubric

75 POINTS

Name	Member Number	Chapter/State	Team Number	
Judge Name	Judge's Signature	Date		
	Excellent	Good	Needs Improvement	Member Score
Took initiative	9-11 points Student started dialogue, greeting and/or introduction given	5-8 points Dialogue required prompting by judge	0-4 points No introduction given, no dialogue started by student	
Communicated effectively	9-11 points Modeled active listening skills and asked appropriate questions	5-8 points Did not ask enough questions or had to be prompted by judge	0-4 points Student did not ask any questions	
Exhibited ambition and efficiency	9-11 points Student able to gauge customer service and move further with the sale	5-8 points Judge had to help, offer suggestions to accomplish the sale	0-4 points Low energy and judge had to pull information from student	
Diplomatic and courteous	9-11 points Displayed proper customer service, used polite terminology	5-8 points Sometimes displayed proper customer service skills	0-4 points Did not display proper customer service or polite terminology	
Knew merchandise, prices and policies	9-11 points Explain accurately what options were available while using correct terminology	5-8 points Was able to explain partial information/options to judge	0-4 points Did not give correct information about selling options	
Accuracy of information collected	9-11 points Order form filled out correctly with all required information	5-8 points Missing some information or some information listed incorrectly on order form	0-4 points Order form not filled out or filled out incorrectly	
Closed sale properly	7-9 points Student tried to increase the sale, displayed proper customer service, offered a thank you	4-6 points Did not increase sales or did not say thank you	0-3 points Did neither up sale or offer thank you	
TOTAL SCORE (75 POINTS POSSIBLE)				