

Middle Tennessee FFA

**Floriculture
Handbook
2017-2021**

Purpose

The Middle Tennessee FFA Floriculture Career Development Event is designed to create an interest in career preparation for all current and future aspects of the floriculture industry through leadership development and hands on technical skill development using industry standards which are delivered through the agriculture education curriculum.

Floriculture is a discipline of horticulture concerned with the cultivation of flowering and ornamental plants for gardens and the floral industry.

The floriculture industry encompasses the following:

- Greenhouse and field production and management.
- Garden center and floral shop management.
- Floral design and management.

Objectives

- Identify plant materials, supplies, and equipment utilized in the floriculture industry.
- Demonstrate an understanding of the biological and scientific principles and develop the skills underlying propagation, variety development, growth requirements, growing techniques, harvesting, marketing and maintenance of established floriculture plants.
- Identify and recommend solutions for plant disorders.
- Demonstrate the use of principles of design and develop related skills.
- Identify, select, operate and maintain appropriate supplies and equipment for floriculture production, design and marketing.
- Demonstrate the use of safety procedures and practices in floriculture operations.
- Operate, manage and maintain facilities for floriculture operations.
- Demonstrate interpersonal skills necessary for successful employment in the floriculture industry.
- Demonstrate proper sales and customer service skills.
- Demonstrate general business practices appropriate to the floriculture industry.
- Effectively work together as a team.

Event Rules

Each team will be comprised of four members.

- All four scores will be used to determine total team score.
- FFA Official Dress is NOT required for this event.
- Under no circumstances will any participant be allowed to touch or handle plant material during the event except when instructed by the event staff.
- Any communication between participants during the event will be sufficient cause to eliminate the team from the event. The exception to this is the team activity.
- Any participant caught cheating during the event will be expelled from the event.
- All participants are expected to be prompt at their stations throughout the event. No provision will be made for tardiness, which will in most cases cause the late participant to lose event points.
- The event superintendent will assign the participants to group leaders who will escort them to various event staging sites. Participants must know their participant number and stay in their assigned group at all times or until told to change leaders by the event superintendent.
- Any assistance given to a participant from any source during the event, other than a floriculture official, will be sufficient cause to eliminate the team from the event.
- All participants will be given an identification number by which they will be designated throughout the event.
- Various computer applications may be utilized throughout the floriculture event.
- Any participant in possession of an electronic and/or communication device in the event area is subject to disqualification.

Event Format

Materials students need to provide:

- Clear, transparent clipboard, free of notes
- Two sharpened No. 2 pencils
- Floral cutters/clippers
- Ribbon shears
- Wire cutters
- Floral knife
- Calculator- Should be battery operated, non-programmable and non-scientific (basic five function only). No other calculators are allowed to be used during the event.
- Participants may also bring an apron, and/or a tool belt and towels.

TEAM ACTIVITY (800 POINTS)

Each team will perform an assignment routinely performed in some phase of the floriculture industry that requires teamwork. Prior to the event, the Middle Tennessee FFA Floriculture Career Development Event committee will select a theme and series of floriculture industry assignments that span the breadth of the industry from production to design. These tasks will be described in situational terms for presentation to each team. Forty-five minutes will be allowed for completing the activity. There will be an additional fifteen minutes for preparation and clean up. All materials needed to complete the assignment will be provided.

The type of assignments that may be used in this phase of the event are but are not limited to:

- Prepare floral products for an event.
- Prepare and pack floral products for shipping and updating inventory.
- Create a floral product display.
- Create a greenhouse production and task schedule to meet the needs of a given customer

Scoring criteria for the team preparation and presentation are on the team activity scorecard which will be recorded by a judge.

INDIVIDUAL ACTIVITIES

IDENTIFICATION OF PLANT MATERIALS AND EQUIPMENT (200 POINTS)

Fifty specimens from the floriculture plant and equipment identification list will be displayed for participants to identify by technical and common names. A number will designate each specimen. Four points will be awarded for each specimen that is correctly identified. Each participant will be allowed 25 minutes to complete this phase of the event.

GENERAL KNOWLEDGE EXAMINATION (200 POINTS)

Participants will answer 50 multiple choice questions that cover all areas of the floriculture industry as reflected in the event objectives. The test will be made up of the previous five years National FFA Floriculture General Knowledge Exams located on ffa.org. 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 50 minutes to complete the exam. Each answer has a value of four points.

ANNUAL PRACTICUM (100 POINTS)

Each participant will complete an annual practicum, specified by event coordinators:

1. Growing procedures

GROWING PROCEDURES

One or more of the three below will be demonstrated on an annual basis. Twenty minutes will be allowed for this section including questions from the judges.

Potting of Young Plants (Plugs or Liners) (2018/2021)

- 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.
- Scoring criteria are presented on the plant potting practicum scorecard which will be recorded by a judge.

Asexual Propagation of Plants (2019)

- 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 cuttings from the plant before them and stick them in rooting media labeled correctly. Participants should sanitize all equipment and use appropriately in a safe manner.
- Scoring criteria are presented on the asexual plant propagation scorecard which will be recorded by a judge.

Pinching Plants (2020)

- 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.
- Scoring criteria are presented on the pinching plant scorecard which will be recorded by a judge.

Scoring

PHASE	Individual Points	Team Points
Identification of Plant Material and Equipment	200	800
General Knowledge	200	800
Annual Practicum	100	400
Team Activity	0	800
Total	500	2800

TIEBREAKERS

If ties occur the following events will be used in order to determine award recipients:

INDIVIDUAL

1. Written Exam
2. Plant and Equipment Identification
3. Practicum

TEAM

1. Team Activity
2. Written Exam
3. Plant and Equipment Identification

References

This list of references is not intended to be all-inclusive.

- Old General Knowledge Exams located on ffa.org
- 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.
- National FFA Core Catalog—Past CDE Q&A's (<http://shop.FFA.org/cde-qas-c1413.aspx>)
- Principal of Floral Design, Pat Diehl Scace, James M. DelPrince – Goodheart Wilcox Publisher www.g-w.com
- The AIFD Guide to Floral Design: Terms, Techniques, and Traditions – The American Institute of Floral Design
- Introduction to Horticulture Science and Technology. – 5th edition 2015 Schroeder, Seagle Felton, Ruter, Interstate Publishers, Inc.
- Introductory Horticulture – Carroll Shry, Edward Reiley – Eight Edition
- Greenhouse Operation and Management – Paul V. Nelson – Seventh Edition (Specific Reference for the disorders rotational practicum)
- Ball Publishing: Ball Redbook, Volume 1&2, 18th Edition

Floriculture Plant Identification List

101	<i>Aechmea fasciata</i> cv.	<i>Silver Vase Bromeliad</i>
102	<i>Ageratum houstonianum</i>	<i>Ageratum</i>
103	<i>Alstroemeria</i> hybrid cv.	<i>Peruvian Lily</i>
104	<i>Anemone coronaria</i>	<i>Anemone</i>
105	<i>Anethum graveolens</i> cv.	<i>Dill</i>
106	<i>Angelonia</i> hybrid cv.	<i>Angelonia</i>
107	<i>Anthurium</i> x <i>andraeanum</i> cv.	<i>Flamingo Plant</i>
108	<i>Antirrhinum majus</i> cv.	<i>Snapdragon</i>
109	<i>Aphelandra squarrosa</i> cv.	<i>Zebra Plant</i>
110	<i>Araucaria heterophylla</i>	<i>Norfolk Island Pine</i>
111	<i>Asparagus densiflorus</i>	<i>Sprengeri Fern</i>
112	<i>Aster pringlei</i>	<i>Monte Cassino Aster</i>
113	<i>Astilbe</i> hybrid cv.	<i>Astilbe</i>
114	<i>Begonia</i> x <i>semperflorens</i> –cultorum	<i>Wax Begonia</i>
115	<i>Begonia</i> x <i>tuberhybrida</i> cv.	<i>Tuberous Begonia</i>
116	<i>Caladium</i> x <i>hortulanum</i> cv.	<i>Caladium</i>
117	<i>Calibrachoa</i> hybrid cv.	<i>Million Bells</i>
118	<i>Callistephus chinensis</i> cv.	<i>China Aster</i>
119	<i>Campanula</i> hybrid cv.	<i>Campanula</i>
120	<i>Canna</i> x <i>generalis</i> cv.	<i>Garden Canna</i>
121	<i>Capsicum annuum</i>	<i>Ornamental Pepper Plant</i>
122	<i>Catharanthus roseus</i>	<i>Periwinkle</i>
123	<i>Celosia argentea</i> cv.	<i>Cockscomb</i>
124	<i>Chamaedorea elegans</i>	<i>Parlor Palm</i>
125	<i>Chamelaucium uncinatum</i>	<i>Waxflower</i>
126	<i>Cholorophytum comosum</i> cv.	<i>Spider Plant</i>
127	<i>Chrysanthemum</i> x <i>morifolium</i>	<i>Florist's Chrysanthemum</i>
128	<i>Clematis</i> hybrid cv.	<i>Clematis</i>
129	<i>Codiaeum variegatum pictum</i>	<i>Croton</i>
130	<i>Crassula argentea</i>	<i>Jade Plant</i>
131	<i>Cycas revoluta</i> cv.	<i>Sago Palm</i>
132	<i>Cyclamen</i> x <i>persicum</i> cv.	<i>Florist's Cyclamen</i>
133	<i>Cymbidium</i> cv.	<i>Cymbidium Orchid</i>
134	<i>Cymbopogon</i> cv.	<i>Lemongrass (herb)</i>
135	<i>Dahlia</i> hybrid cv.	<i>Dahlia</i>
136	<i>Delphinium consolida</i> cv.	<i>Larkspur</i>
137	<i>Dendrobium</i> cv.	<i>Dendrobium Orchid</i>
138	<i>Dianthus caryophyllus</i> cv.	<i>Carnation</i>
139	<i>Dracaena cincta</i>	<i>Red Edge Dracaena</i>

140	<i>Echinocactus</i> cv.	<i>Barrel Cactus</i>
141	<i>Epipremnum aureum</i> cv.	<i>Golden Pothos</i>
142	<i>Erica carnea</i> cv.	<i>Spring Heather</i>
143	<i>Eucalyptus polyanthemos</i>	<i>Silver Dollar Eucalyptus</i>
144	<i>Euphorbia pulcherrima</i> cv.	<i>Poinsettia</i>
145	<i>Eustoma grandiflorum</i>	<i>Lisianthus</i>
146	<i>Exacum affine</i>	<i>Persian Violet</i>
147	<i>Ficus benjamina</i> cv.	<i>Benjamin Fig</i>
148	<i>Ficus elastica</i> cv.	<i>Rubber Plant</i>
149	<i>Fragaria</i> x <i>ananassa</i> cv.	<i>Strawberry Plant</i>
150	<i>Freesia</i> x <i>hybrida</i>	<i>Freesia</i>
151	<i>Gardenia jasminoides</i>	<i>Gardenia</i>
152	<i>Gerbera jamesonii</i>	<i>Gerbera Daisy</i>
153	<i>Gladiolus</i> x <i>hortulanus</i> cv.	<i>Garden Gladiolus</i>
154	<i>Gomphrena</i> hybrid cv.	<i>Globe Amaranths</i>
155	<i>Gypsophila elegans</i> cv.	<i>Baby's Breath</i>
156	<i>Hedera helix</i> cv.	<i>English Ivy</i>
157	<i>Helianthus annuus</i>	<i>Sunflower</i>
158	<i>Hemerocallis</i> cv.	<i>Daylily</i>
159	<i>Hippeastrum</i> hybrid cv.	<i>Amaryllis</i>
160	<i>Hosta</i> cv.	<i>Hosta</i>
161	<i>Hoya carnosa</i>	<i>Wax Plant</i>
162	<i>Hyacinthus orientalis</i> cv.	<i>Hyacinth</i>
163	<i>Hydrangea macrophylla</i>	<i>Big Leaf Hydrangea</i>
164	<i>Impatiens</i> hybrid cv.	<i>Impatiens</i>
165	<i>Impomoea batatas</i> cv.	<i>Ornamental Sweet Potato</i>
166	<i>Iris</i> x <i>xiphium</i> cv.	<i>Dutch Iris</i>
167	<i>Senecio cineraria</i>	<i>Dusty Miller</i>
168	<i>Justica brandegeana</i>	<i>Shrimp Plant</i>
169	<i>Kalanchoe</i> x <i>blossfeldiana</i> cv.	<i>Kalanchoe</i>
170	<i>Leucanthemum</i> x <i>superbum</i>	<i>Shasta Daisy</i>
171	<i>Leucospermum</i> hybrid cv.	<i>Pin Cushion Protea</i>
172	<i>Liatris spicata</i>	<i>Liatris</i>
173	<i>Lilium</i> hybrid cv.	<i>Asiatic or Oriental Lily</i>
174	<i>Limonium sinuatum</i>	<i>Statice</i>
175	<i>Lobularia maritima</i>	<i>Alyssum</i>
176	<i>Maranta leuconeura</i>	<i>Prayer Plant</i>
177	<i>Matthiola incana</i> cv.	<i>Stock</i>
178	<i>Monstera deliciosa</i>	<i>Split Leaf Philodendron</i>

179	Narcissus hybrid cv.	<i>Daffodil or Narcissus</i>
180	Nephrolepis exaltata cv.	<i>Boston Fern</i>
181	Ocimum basilicum cv.	<i>Basil</i>
182	Opuntia cv.	<i>Cactus</i>
183	Paeonia cv.	<i>Peony</i>
184	Paphiopedilum hybrid cv.	<i>Ladyslipper Orchid</i>
185	Pelargonium x hortorum cv.	<i>Zonal Geranium</i>
186	Pelargonium peltatum cv.	<i>Ivy Geranium</i>
187	Pentas hybrid cv.	<i>Pentas</i>
188	Petroselinum crispum cv.	<i>Parsley</i>
189	Petunia x hybrida cv.	<i>Petunia</i>
190	Phalaenopsis cv.	<i>Moth Orchid</i>
191	Philodendron scandens oxycardium	<i>Heartleaf Philodendron</i>
192	Pilea cadierei	<i>Aluminum Plant</i>
193	Portulaca oleracea cv.	<i>Portulaca</i>
194	Primula malacoides cv.	<i>Primrose</i>
195	Ranunculus hybrid cv.	<i>Ranunculus</i>
196	Rhododendron simsii cv.	<i>Florist Azalea</i>
197	Rosa hybrid cv	<i>Hybrid Tea Rose</i>
198	Rumohra adiantiformis	<i>Leatherleaf Fern</i>
199	Saintpaulia ionantha cv.	<i>African Violet</i>
200	Salvia splendens cv.	<i>Salvia</i>

201	Sansevieria trifasciata cv.	<i>Snake Plant</i>
202	Schefflera arboricola	<i>Octopus Plant</i>
203	Schlumbergera bridgesii	<i>Christmas Cactus</i>
204	Sempervivum hybrid cv.	<i>Hens and Chicks</i>
205	Senecio x hybridus cv.	<i>Cineraria</i>
206	Sinningia speciosa Fyfiana Group cv.	<i>Florist Gloxinia</i>
207	Solidago hybrid cv	<i>Solidago</i>
208	Solenostemon scutellarioides	<i>Coleus</i>
209	Spathiphyllum	<i>Peace Lily</i>
210	Stephanotis floribunda	<i>Stephanotis</i>
211	Strelitzia reginae	<i>Bird of Paradise</i>
212	Syngonium podophyllum	<i>Nephtytis</i>
213	Tagetes species cv.	<i>Marigold</i>
214	Tradescantia zebrine	<i>Wandering Jew</i>
215	Tulipa cv.	<i>Tulip</i>
216	Verbena hybrid cv.	<i>Verbena</i>
217	Vinca hybrid cv.	<i>Vinca</i>
218	Viola x wittrockiana cv.	<i>Pansy</i>
219	Zantedeschia hybrid cv.	<i>Calla Lily</i>
220	Zinnia cv.	<i>Zinnia</i>

Floriculture equipment and supply identification list

301	Anvil-and-blade pruner
302	18 Gauge floral wire
303	28 Gauge floral wire
304	#3 Ribbon (satin, sheer, wired)
305	#9 Ribbon (satin, sheer, wired)
306	#40 Ribbon (satin, sheer, wired)
307	#100 Ribbon (satin, sheer, wired)
308	Floral adhesive
309	Coconut coir
310	Bulb planter
311	Bouquet sleeve
312	Cell pack containers
313	Cardette
314	Ceramic container
315	Compressed air sprayer
316	Chenille stem
317	Drip emitter, irrigation
318	Dust mask
319	Duster
320	Corsage box
321	Corsage pin
322	Corsage snips
323	Dry foam
324	Enclosure card
325	Fern greening pins
326	Floral foam
327	Gas mask
328	Floral knife
329	Floral preservative
330	Granular fertilizer
331	Floral stem tape
332	Glass vase
333	Glue gun
334	Hanging basket

335	Hearing protection
336	Glue pan
337	Glue sticks
338	Hook-and-blade pruners (bypass pruners)
339	Hose punch
340	Hose repair coupling
341	Hose-end repair fitting
342	Hose-end sprayer
343	Hose-end washer
344	Impulse sprinkler
345	Irrigation timer
346	Irrigation tape
347	Sphagetti tubing (1/4" diameter or less)
348	Nosegay holder
349	Ribbon shears
350	Sheet moss
351	Mist nozzle (mist bed)
352	Spanish moss
353	Nursery container
354	Oscillating sprinkler
355	Peat moss
356	Peat pots
357	pH testing meter
358	Fogger
359	Styrofoam
360	Surestik cling
361	Polyethylene film
362	Polyethylene pipe
363	Tulle
364	Water picks
365	Water tubes
366	Waterproof container tape
367	Propagation mat

368	Wire cutter
369	PVC (polyvinylchloride) pipe
370	Wooden pick
371	Resin-coated fertilizer
372	Respirator
373	Wrist corsage holder
374	PVC pipe cutter
375	Greenhouse thermostat
376	Safety goggles
377	Sand
378	Scoop shovel
379	Shade fabric
380	Sharpening stone
381	Siphon injector
382	Chemical resistant gloves
383	Soil moisture meter
384	Goggles
385	Solenoid valve
386	Pest strips
387	Propagation trays
388	Sphagnum moss
389	Spray suit
390	Square point (flat) shovel
391	Rockwool propagation cubes
392	Fertilizer injectors
393	Ellepot propagation cubes
394	Rice hulls
395	Pot covers
396	Rose and stem flower stripper
397	Backflow preventer
398	Vermiculite
399	Water breaker
400	Water soluble fertilizer

Potting of Young Plants Practicum Rubric

100 points

NAME

MEMBER NUMBER

CHAPTER

STATE

TEAM NUMBER

Potting Process	Excellent	Good	Needs Improvement	Multiplier	Member Score
Selection of plugs or liners	5-6 points	3-4 points	0-2 points	x2	
Proper planting depth	6-8 points	3-6 points	0-2 points	x2	
Labeling of plant/pot	5-6 points	3-4 points	0-2 points	x2	
Correct growing medium level in pot	5-6 points	3-4 points	0-2 points	x2	
Plug or liner arrangement and angle	5-6 points	3-4 points	0-2 points	x2	
Firmness of growing medium	5-6 points	3-4 points	0-2 points	x2	
General appearance (free from handling damage)	5-6 points	3-4 points	0-2 points	x2	
Response to questions	5-6 points	3-4 points	0-2 points	x2	
TOTAL POSSIBLE:				100	

JUDGE'S NAME

JUDGE'S SIGNATURE

DATE

Asexual Plant Propagation Rubric

100 points

NAME

MEMBER NUMBER

CHAPTER

STATE

TEAM NUMBER

	Excellent	Good	Needs Improvement	Multiplier	Member Score
Proper sanitation and equipment use	5-6 points	3-4 points	0-2 points	x2	
Selection of cuttings	4-5 points	2-3 points	0-1 points	x2	
Making cuttings	5-6 points	3-4 points	0-2 points	x2	
Preparation of cuttings for sticking in growing media	5-6 points	3-4 points	0-2 points	x2	
Use of rooting hormone	4-5 points	2-3 points	0-1 points	x2	
Selection of growing media	5-6 points	3-4 points	0-2 points	x2	
Sticking of cuttings in growing media	5-6 points	3-4 points	0-2 points	x2	
Cuttings labeled correctly	4-5 points	2-3 points	0-1 points	x2	
Response to questions	5-6 points	3-4 points	0-2 points	x2	
TOTAL SCORE: 100					

JUDGE'S NAME

JUDGE'S SIGNATURE

DATE

Pinching Plants Rubric

NAME

MEMBER NUMBER

CHAPTER

STATE

TEAM NUMBER

	Excellent	Good	Needs Improvement	Multiplier	Member Score
Selection of plant part to pinch	8-10	4-7	0-3	x2	
Use of proper procedures in making pinches	8-10	4-7	0-3	x2	
Made proper pinches	8-10	4-7	0-3	x2	
Overall effect of making pinches	8-10	4-7	0-3	x2	
Answered questions correctly	8-10	4-7	0-3	x2	
TOTAL SCORE: 100					

JUDGE'S NAME

JUDGE'S SIGNATURE

DATE

Team Activity Rubric

NAME _____ MEMBER NUMBER _____

CHAPTER _____ STATE _____ TEAM NUMBER _____

INDICATOR	Very strong evidence skill is present 5-4 points	Moderate evidence that skill is not present 3-2 points	Strong evidence skill is not present 1-0 points	Points Earned	Weight	Total Score
Established team leadership role	One member seemed to assume leadership and others cooperated.	One member seemed to assume leadership..	No leadership role(s) were established.		X 10	
Member participation in planning activity	All members participated in discussion before work began.	Limited member discussion occurred before work began.	No member discussion occurred before work began.		X 25	
Developed a workable plan	Duties were assigned and all had equal parts.	Duties were assigned and all had near equal parts.	Duties were not assigned and participation varied.		X 25	
Membership responsibilities were outlined and assigned	Responsibilities were assigned with interaction between members.	Responsibilities were assigned with little interaction.	Responsibilities were not verbally assigned.		X 10	
Material was organized prior to commencing activity	Material was organized and distributed.	Most material was organized.	Material was left as presented until needed.		X 10	
Member participation in carrying out activity functions	All members participated with leadership provided.	All members participated.	One or more members had almost no participation.		X 20	
Followed proper procedures in carrying out activity	All activities resulted in completed product.	Most activities resulted in completed product.	Some activities resulted in completed product.		X 25	
Quality of activity product	Products exceed minimum industry standard.	Products meet minimum industry standards.	Products below industry standard.		X 35	
TOTAL POINTS: 800						

JUDGE'S NAME _____ JUDGE'S SIGNATURE _____ DATE _____