

4-H AND FFA FLORICULTURE CONTEST RESOURCE

I. PURPOSE

The purpose of the Floriculture Contest is to stimulate the study of, and interest in, the production and retailing of cut flowers, plants and foliage through the agricultural education curriculum. The event requires students to identify plant materials, tools, and pests common to the industry, demonstrate knowledge and understanding of scientific principles and management practices applied in the industry via a written exam, make observations, draw conclusions, and utilize higher order thinking skills in problem solving situations. This event has ties to the following agricultural science curriculum: Floral Design, Horticulture Science and Practicum in Agriculture, Food and Natural Sciences.

II. EVENT FORMAT

A. A team of three to four contestants must be present at contest for competition; individuals are not allowed to compete or participate in the event. Contestants must be bona fide members of the 4-H club or FFA chapter entered to compete. All members will be scored, and the top three scores will count towards the team total.

B. Equipment

1. Team members must provide their own sharpened pencils for the event. A pencil sharpener may not be available in each event room.
2. Team members must provide their own compliant clipboard and/or clean folder with the following optional items: Texas FFA CDE drop sheet and/or 2 sheets of lined or unlined blank paper.
3. Team members may use their own battery-operated non-programmable calculators.
4. Team members are not permitted to share calculators between teammates or among any other contestants.
5. No allowance will be made for malfunctioning or inoperable calculators. Electrical outlets will not be available for charging batteries, etc.
6. The "Universal Form C" scan sheet will be used for this Contest.

C. Event Schedule

1. Each contestant shall complete the event in the time allotted:
 - a. The identification of plant materials/pests/diseases/tools must be completed in 60 minutes. The identification section will be divided into two (30 minute) rotations.
 - b. The problem solving section must be completed in 30 minutes.
 - c. The placing classes must be completed in 15 minutes. The contestants will be able to work within the placing classes at their own pace during the 15 minutes.
 - d. The keep/cull section must be completed in 15 minutes. The contestants will be able to work within the keep/cull sections at their own pace during the 15 minutes.
 - e. The written examination must be completed in 30 minutes.
2. Observers are not permitted in the event area while the event is in progress, but observers may be allowed in the area following the event.
3. Providers are encouraged to leave contest materials in place for one hour following the conclusion of the event to allow teachers and students adequate time for review.

D. Identification of Plants/Tools/Pests/Diseases (600 points)

1. 60 specimens will be selected from the 170 plants/tools/pests/diseases listed on the Texas FFA Floriculture list.
2. Specimens will be identified in two rotations, 25 plants and five pests/diseases/tools in each rotation, with 30 minutes to complete each rotation. All contestants will be allowed to work within the rotation, at their own pace. Contestants cannot return to a rotation, once it is timed out.
3. A plant specimen may consist of any part of the plant commonly utilized in the floriculture industry for plant identification. The plant must match the plant listed on the Texas FFA Floriculture CDE list.

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4. Plants to be identified will be presented as intact, live specimens. Tools may be either intact items or high quality photographs. Pests and diseases may be presented as intact specimens, photographs or preserved specimens (herbarium sheet, insect mount). Photographs will be 8.5" x 11" in size.
 5. When a pest or disease must be presented with an affected plant, a "Pest/Disease" label will be with the item to designate identification of the problem rather than the plant.
 6. Each contestant will be supplied with a list of the plants, pests, diseases and tools. Contest providers will distribute this list to the contestants at the start of the contest, to insure equal access to the information throughout the event.
 7. Each specimen will be designated with a number. Students bubble in the appropriate number in the space next to the specimen's name on the scan sheet.
 8. 10 points are given for each correctly identified specimen.
 9. Under no circumstances is any contestant allowed to touch or handle the photos or specimen used as part of the event. Any infraction of this policy is sufficient cause to eliminate the individual from the entire contest.
 10. If live pests are used, a magnifying device will be provided. (Enough devices for multiple students to identify at the same time – 6 preferred.)
 11. If live pests are used, there will only be one species of pest per ID. (Providers should ensure there are not multiple species on the same ID spot.)
- E. Placing Classes (150 points)
1. Contestants place three classes that are selected from the placing classes list.
 2. All plants in a class will be from the same species or cultivar.
 3. There will be classes from each of the following types:
 - a. 1 class of blooming container plants.
 - b. 1 class of foliage container plants.
 - c. 1 class of floral designs.
 4. Classes will consist of four items per placing class.
 5. Classes will be designated by number and class name.
 6. 50 points are given for each correctly placed class.
 7. Floral designs will be labeled by type (symmetrical, asymmetrical, round or horizontal/vertical line).
 8. Blooming Potted Plant classes will consist of all 4 specimens of the same variety and color.
 9. If quality plants from the suggested list of plants to be used in a placing class are not available, the provider may substitute plants/flowers from only those listed on the identification list.
 - a. One class of blooming container plants, which may include:**
 - i. Kalanchoe blossfeldiana cv. – Kalanchoe
 - ii. Rhododendron cv. – Azalea
 - iii. Saintpaulia ionantha cv. – African violet
 - iv. Chrysanthemum x morifolium cv. – Florist's chrysanthemum
 - v. Rosa cv. – Roses
 - vi. Begonia tuberhybrida cv. – Tuberous begonias
 - vii. Pelargonium x hortorum – Geraniums
 - 2. One class of foliage container plants, which may include:**
 - i. Epipremnum aureum cv. – Golden pothos, devil's ivy
 - ii. Ficus benjamina 'Exotica' – Benjamin fig, weeping fig
 - iii. Ficus elastica – Rubber tree
 - iv. Nephrolepis exaltata cv. – Boston fern
 - v. Spathiphyllum spp. – Spathiphyllum, Peace lily
 - vi. Codiaeum variegatum cv. – Croton
 - vii. Hedera helix cv. – English ivy

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3. One class of floral designs, which may include the following design styles:

- i. Symmetrical triangle
- ii. Asymmetrical triangle
- iii. Round
- iv. Horizontal or Vertical Line

F. Cut Flower Keep/Cull Classes (150 points)

1. One class each of line, form and mass flowers (eight specimens per class/ three classes total).
2. The guidelines will follow A Manual for Flower Judging (See reference section) in determining the keep/cull classes.
3. Contestants should designate the four best plant specimens from the eight specimens presented, using visual appraisal. Students are not permitted to handle any plant specimen.
4. Event officials will assign a point value to each one of the individual plant specimens, within the class, with the greatest number of points assigned to the most desirable specimen and the least points assigned to the least desirable specimen. If the student selects the best four plant specimens, within the provided class full credit will be given (50 points). The selection of less desirable plant specimens will reduce the points awarded within each keep/cull class.
5. Classes will only contain 1 specimen per container for the Keep/Cull section. Example: If roses are used as a class, each of the 8 vases will only contain 1 rose to evaluate.
6. If quality specimens from the suggested list of specimens to be used in a Keep/Cull class are not available, the provider may substitute plants/flowers (keeping within the same type, Mass, Line, Form) from only those listed on the identification list.

a. One class of cut line flowers which may include:

- *Antirrhinum majus* cv. – Snapdragon
- *Delphinium elatum* – Delphinium
- *Gladiolus x hortulanus* cv. – Gladiolus
- *Consolida ambigua* cv. – Larkspur
- *Liatris spicata* – Liatris
- *Matthiola incana* – Stock
- *Moluccella laevis* cv. – Bells of Ireland

b. One class of cut form flowers which may include:

- *Anthurium andraeanum* – Anthurium
- Bulbous Flowers – Iris, Daffodil, Tulip
- *Zantedeschia aethiopica* – Calla
- *Gerbera jamesonii* cv. – Gerbera
- *Lilium* cv.
- *Helianthus annuus* cv. – Sunflower
- *Protea* cv. – Protea

c. One class of cut mass flowers which may include:

- *Chrysanthemum morifolium* cv. – Standard Type
- *Dendranthema grandiflorum* cv. – Spray Type
- *Dianthus caryophyllus* cv. – Standard carnation
- *Rose* cv. – Rose
- *Eustoma grandiflorum* – Lisianthus
- *Alstroemeria aurantiaca* – Alstroemeria

G. General Knowledge Examination (100 points)

1. Contestants will complete a 50 question multiple choice exam.
2. Questions will be taken from a data bank of questions located on the Texas FFA website.
3. Contestants are given 30 minutes to complete the examination.
4. Two points are awarded for each question answered correctly.

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H. Problem Solving (100 points)

1. This practicum is designed to evaluate participant's knowledge and ability related to floricultural practices in the industry and selection, care and handling of interior plants in various settings. Contestants will be provided a written scenario that they must assess to determine the correct answers.
2. Contestants will complete 10 multiple-choice questions.
3. Contestants are given 30 minutes to complete the problem solving.
4. 10 points are awarded for each question answered correctly.
5. No more than 5 of the 10 multiple choice questions will require calculations from the pricing and calculating section.
6. A formula chart will be provided as part of the practicum section. This formula chart will be designed and added as a resource in regards to pricing, rounding, and calculations.

The practicums will be as noted:

2023

- Pricing and Calculating a Bill of Materials including Marketing, Pricing and Sales; and
- Principles and Elements of Design

2024

- Pricing and Calculating a Bill of Materials for Weddings; and
- Creating Wedding Designs

2025

- Pricing and Calculating a Bill of Materials for Sympathy Flowers; and
- Creating Sympathy Designs

2026

- Pricing and Calculating Specialty Designs (i.e., homecoming, holidays, corsages/boutonnieres); and
- Plant Structures and Functions

III. SCORING

Identification of Plant Materials	600 points
Placing Classes	150 points
Cut Flower Keep/Cull Classes	150 points
General Knowledge Exam	100 points
Problem Solving	100 points
TOTAL INDIVIDUAL POINTS	1,100 points
TOTAL TEAM POINTS	3,300 points

IV. TIE BREAKERS

A. Ties for individual awards will be broken using the following criteria:

1. The individual with the higher score in the identification section wins. If still tied:
2. The individual with the higher score in the placing class of floral designs wins. If still tied:
3. The individual with the higher score in the problem solving wins. If still tied:
4. The individual will be accompanied by their advisor and will meet with the contest officials who will conduct a coin toss to determine the higher placing individual.

B. Ties for team awards will be broken using the following criteria:

1. The team with the higher score in the identification section wins. If still tied:
2. The team with the higher score in the placing class of floral designs wins. If still tied:
3. The team with the higher score in the problem solving wins. If still tied:
4. The team with the highest alternate score wins. If still tied:
5. The team will be accompanied by their advisor and will meet with the contest officials who will conduct a coin toss to determine the higher placing team.

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V. REFERENCES

Printed Materials

8942 Complete Set AgSc 362 – Horticultural Plant Production, IMS

8959 Complete Set AgSc 363 – Principles and Elements of Floral Design, IMS

8188 Complete Set AgSc 365 – Advanced Floral Design, IMS

[Pi Alpha Xi Floral Judging Manual](#)

Videos References

9531D Techniques in Flower Judging

9736 Competitive Flower Arranging

9841 Horticulture Plant Identification – Floral, CEV

9842 Horticulture Plant Identification – Foliage, CEV

9844 Practice Horticultural Plant Identification, CEV

Computer Software

9430NC – Floriculture CDE Placing Classes, IMS

Keep/Cull Cut Flower References

A Manual for Flower Judging. (11th Edition) Prepared by Pi Alpha Xi is available from:

ASHS

1018 Duke Street

Alexandria, VA 22314

(p) 703.836.4606

(f) 703.836.2024

email: pax@ashs.org

Cost is \$12 each plus shipping.

Problem Solving Resources

Hunter, Norah T. *The Art of Floral Design*. Second edition (2000). Albany, New York: Delmar Publishers, Inc. www.agriscience.delmar.com

Scace, Pat Diehl., and James M. DelPrince. *Principles of Floral Design: An Illustrated Guide*. N.p.: n.p., n.d. Print. <http://aggiehorticulture.tamu.edu/archives/parsons/publications/houseplant/houseplant.html>

Georgia Agriculture Curriculum Resource website: <http://www.gaaged.org/page.aspx?ID=76>

Goodhart Wilcox 978-1-61960-889-4 *Principles of Floral Design*. Copyright 2015. Pat Diehl Scace and James M. DelPrince

Hunter, Norah T. *The Art of Floral Design*. Third edition. ISBN-13: 978-1418063030

Judging Resource

Pi Alpha Xi Flower Judging Manual

Other Websites

Interiorscape Plants Database <http://aggiehorticulture.tamu.edu/databases/interiorscape>

National FFA website www.ffa.org

Texas FFA website (test bank questions) www.texasffa.org

FLORICULTURE ID LIST

PLANTS		
ID	Scientific Name	Common Name
001	<i>Adiantum spp.</i>	Maidenhair Fern
002	<i>Aechmea cv.</i>	Bromeliad
003	<i>Agapanthus africanus</i>	African Lily
004	<i>Aglaonema commutatum cv.</i>	Aglaonema, Chinese Evergreen
005	<i>Alpinia purpurata</i>	Red Ginger
006	<i>Alstroemeria aurantiaca</i>	Alstroemeria, Peruvian Lily
007	<i>Amaranthus sp.</i>	Amaranthus, Amaranthus cv.
008	<i>Ammi majus</i>	Queen Anne's Lace, Laceflower
009	<i>Anthurium andraeanum</i>	Anthurium
010	<i>Antirrhinum majus cv.</i>	Snapdragon
011	<i>Araucaria heterophylla</i>	Norfolk Island Pine
012	<i>Asparagus densiflorus 'Myriocladus'</i>	Ming Fern
013	<i>Asparagus densiflorus 'Sprengeri'</i>	Sprengeri Fern
014	<i>Asparagus setaceus</i>	Plumosa Fern
015	<i>Asparagus setaceus 'Pyramidalis'</i>	Tree Fern
016	<i>Asplenium nidus</i>	Bird's Nest Fern
017	<i>Aster pringlei</i>	Monte Cassino Aster
018	<i>Beaucarnea recurvata</i>	Ponytail Palm
019	<i>Begonia x tuberhybrida cv.</i>	Tuberous Begonia
020	<i>Brassaia actinophylla</i>	Schefflera, Octopus Tree
021	<i>Calathea roseopicta</i>	Calathea
022	<i>Callistephus chinensis hybrids</i>	Chinese Aster
023	<i>Capsicum annuum</i>	Ornamental pepper
024	<i>Celosia argentea cv.</i>	Celosia, Cockscomb
025	<i>Chamaedorea elegans</i>	Parlor Palm, Commodore Palm
026	<i>Chamelaucium uncinatum</i>	Waxflower
027	<i>Chlorophytum comosum var.</i>	Spider Plant
028	<i>Chrysanthemum x morifolium cv.</i>	Florist's Chrysanthemum
029	<i>Chrysanthemum x morifolium cv.</i>	Spider Chrysanthemum
030	<i>Codiaeum variegatum cv.</i>	Croton
031	<i>Consolida ambigua cv.</i>	Larkspur
032	<i>Cordyline terminalis</i>	Ti Plant
033	<i>Crassula argentea</i>	Jade Plant
034	<i>Cyclamen persicum cv.</i>	Florist's Cyclamen
035	<i>Cymbidium cv.</i>	Cymbidium orchid
036	<i>Dahlia cv.</i>	Dahlia
037	<i>Delphinium elatum</i>	Delphinium
038	<i>Dendrobium spp.</i>	Dendrobium Orchid
039	<i>Dianthus caryophyllus cv.</i>	Florist's Carnation
040	<i>Dieffenbachia spp.</i>	Dumbcane
041	<i>Dizygotheca elegantissima</i>	False Aralia
042	<i>Dracaena cv.</i>	Dracaena
043	<i>Dracaena marginata var.</i>	Red-margined Dracaena
044	<i>Echeveria elegans</i>	Hens & Chickens
045	<i>Epipremnum aureum cv.</i>	Golden pothos, Devil's Ivy
046	<i>Erica carnea</i>	Spring Heather

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PLANTS		
ID	Scientific Name	Common Name
047	<i>Eryngium planum</i>	Blue Thistle
048	<i>Eucalyptus cv.</i>	Eucalyptus
049	<i>Euphorbia milii var.</i>	Crown of Thorns
050	<i>Euphorbia pulcherrima cv.</i>	Poinsettia
051	<i>Eustoma grandiflorum</i>	Lisianthus
052	<i>Ficus benjamina 'Exotica'</i>	Benjamin Fig, Weeping Fig
053	<i>Ficus elastica 'Decora'</i>	Rubber Tree
054	<i>Ficus Lyrata</i>	Fiddle Leaf Fig
055	<i>Forsythia x intermedia</i>	Forsythia
056	<i>Freesia x hybrida</i>	Freesia
057	<i>Galax urceolata</i>	Galax
058	<i>Gardenia jasminoides</i>	Gardenia
059	<i>Gaultheria shallon</i>	Salal, Lemon Leaf
060	<i>Gerbera jamesonii cv.</i>	Gerbera, Transvaal Daisy
061	<i>Gladiolus x hortulanus cv.</i>	Gladiolus
062	<i>Gypsophila elegans v.</i>	Baby's Breath
063	<i>Hedera helix cv.</i>	English Ivy
064	<i>Helianthus annuus cv.</i>	Sunflower
065	<i>Hippeastrum x hybridum v.</i>	Amaryllis
066	<i>Hoya carnosa cv.</i>	Wax Plant
067	<i>Hyacinthus orientalis cv.</i>	Hyacinth
068	<i>Hydrangea macrophylla</i>	Hydrangea
069	<i>Hypericum spp.</i>	Hypericum Berries
070	<i>Iris spp.</i>	Iris
071	<i>Kalanchoe blossfeldiana cv.</i>	Kalanchoe
072	<i>Leucospermum hybrid cv.</i>	Pin Cushion Protea
073	<i>Liatris spicata</i>	Liatris
074	<i>Lilium (Asiatic hybrids)</i>	Lilium (Asiatic hybrids)
075	<i>Lilium (Oriental hybrids)</i>	Lilium (Asiatic hybrids)
076	<i>Lilium longiflorum cv.</i>	Trumpet Easter Lily
077	<i>Limonium ferulaceum</i>	Caspia, Misty Blue
078	<i>Limonium sinuatum cv.</i>	Statice
079	<i>Maranta leuconeura cv.</i>	Prayer Plant
080	<i>Matthiola incana</i>	Stock
081	<i>Moluccella laevis</i>	Bells of Ireland
082	<i>Monstera deliciosa</i>	Split-leaf Philodendron
083	<i>Myrtus communis</i>	Myrtle
084	<i>Narcissus hybrid</i>	Daffodil
085	<i>Nephrolepis cordifolia cv.</i>	Flat Fern
086	<i>Nephrolepis exaltata cv.</i>	Boston Fern
087	<i>Ozothamnus diosmifolius</i>	Rice Flower
088	<i>Pachystachys lutea</i>	Shrimp Plant
089	<i>Paeonia lactiflora cv.</i>	Peony
090	<i>Pedilanthus tithymaloides</i>	Zigzag Plant
091	<i>Pelargonium x hortorum</i>	Zonal Geranium
092	<i>Peperomia cv.</i>	Peperomia

FLORICULTURE ID LIST

PLANTS		
ID	Scientific Name	Common Name
093	<i>Phalaenopsis cv.</i>	Phalaenopsis, Butterfly Orchid
094	<i>Philodendron scandens oxycardium</i>	Heartleaf Philodendron
095	<i>Pittosporum tobira cv.</i>	Pittosporum, Mock Orange
096	<i>Plectranthus australis</i>	Swedish Ivy
097	<i>Polianthes tuberosa</i>	Tuberose
098	<i>Protea cynaroides/magnifica</i>	King/Queen Protea
099	<i>Proteaceae leucadendron cv. "safari sunset"</i>	Safari Sunset
100	<i>Ranunculus asiaticus</i>	Ranunculus
101	<i>Rhododendron cv.</i>	Azalea
102	<i>Rosa cv.</i>	Hybrid Tea Rose
103	<i>Rumohra adiantiformis</i>	Leatherleaf Fern
104	<i>Ruscus danae racemosa</i>	Italian Ruscus
105	<i>Ruscus hypophyllum</i>	Israeli Ruscus, Butcher's Broom Ruscus
106	<i>Saintpaulia ionantha cv.</i>	African Violet
107	<i>Salix discolor cv.</i>	Pussy Willow
108	<i>Salix matsudana cv.</i>	Curly Willow
109	<i>Sansevieria trifasciata cv.</i>	Sansevieria, Snake Plant
110	<i>Scabiosa cv.</i>	Scabiosa/Pincushion flower
111	<i>Schlumbergera truncata cv.</i>	Thanksgiving cactus
112	<i>Senecio cineraria</i>	Dusty Miller
113	<i>Solidago canadensis</i>	Solidago, Goldenrod
114	<i>Spathiphyllum spp.</i>	Spathiphyllum, Peace Lily
115	<i>Stephanotis floribunda</i>	Stephanotis, Bridal Wreath
116	<i>Strelitzia reginae</i>	Bird of Paradise
117	<i>Syngonium podophyllum</i>	Nephtytis
118	<i>Tulipa cv.</i>	Tulip
119	<i>Xerophyllum tenax</i>	Bear Grass
120	<i>Zamioculcas zamiifolia</i>	ZZ plant
121	<i>Zantedeschia aethiopica</i>	Calla
122	<i>Zebrina pendula cv.</i>	Wandering Jew

PESTS	
ID	Description
123	Aphid - adult stage
124	Fungus Gnat - adult stage
125	Leaf Miner - adult stage damage
126	Leafhopper - adult
127	Mealybug - adult stage
128	Scale - adult stage
129	Snail/Slug - adult stage
130	Spider Mite - adult stage
131	Thrip - adult stage
132	Whitefly - adult stage

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DISEASES	
ID	Description
133	Black Spot – damage
134	Botrytis – damage
135	Damping Off - damage
136	Iron Deficiency
137	Mosaic Virus – damage
138	Nitrogen Deficiency
139	Phosphorous Deficiency
140	Powdery Mildew – damage

TOOLS	
ID	Description
141	#18 Florist's Wire
142	#24 Florist's Wire
143	#28 Florist's Wire
144	#3 Ribbon
145	#9 Ribbon
146	#40 Ribbon
147	Anchor Tape
148	Bouquet Sleeve
149	Boutonniere Pin
150	Bulb Planter
151	Bullion Wire
152	Candle Pick/Holder
153	Cardette/Card Holder
154	Casket Saddle
155	Cellophane
156	Chenille Stems
157	Corsage Pin
158	Dixon Pin
159	Dry Foam
160	Enclosure Card
161	Flat Aluminum Decorative Wire
162	Floral Knife
163	Floral Tape
164	Foam Bouquet Holder
165	Glue Gun
166	Greening Pins
167	Hyacinth Stake
168	Pick Machine & Metal Picks
169	Pin Holder (Frog)
170	Polyfoil
171	Rose and Stem flower stripper
172	Sheet Moss
173	Spanish Moss
174	Stem Cutter
175	Styrofoam

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TOOLS	
ID	Description
176	Tulle
177	Water Picks
178	Water Tubes
179	Wet Floral Foam (Oasis)
180	Wire Cutter
181	Wire Easel
182	Wooden Pick
183	Wrist Corsage Holder