

Illinois
Extension



Illinois 4-H Floriculture Resources

Plant Propagation Preview





WELCOME

The study and practice of Floriculture is a great way to learn plant science, develop creativity, and cultivate a lifelong appreciation for flowers, gardening, and outdoor spaces. A successful floriculture enthusiast needs to understand plant biology and care, master design principles, be detail-oriented with growing techniques, and know how to create beautiful arrangements, displays, and outdoor environments.

The 4-H Floriculture project area will help you identify resources to help you learn to be a skilled, creative, and successful flower grower, designer, and landscape planner through exciting hands-on practice. Explore the resources available, from books to videos, to in-person workshops and online tutorials, and choose the ones that are right for you!

Want help planning your learning journey? Use the Project Plans available for different ages on the Illinois 4-H website at go.illinois.edu/memberresources

We encourage you to identify an adult in your life who can help guide you in your learning as you prepare for the 4-H Fair season!



The focus of this project guide is **Floriculture: Plant Propagation**. Plant propagation is the process of creating new plants from existing ones. This fundamental skill will allow you as a grower to multiply desirable plants while preserving their characteristics, making it essential for producing flowers, vegetables, and ornamental plants for gardens, greenhouses, and landscapes. Home gardeners use propagation techniques to expand their collections and share plants with friends, while commercial operations rely on these methods to produce thousands of identical plants efficiently and cost-effectively.

Understanding plant propagation opens doors to diverse career pathways, including greenhouse manager, nursery production specialist, botanical garden horticulturist, floral designer, landscape contractor, plant breeding researcher, and agricultural extension educator. Whether someone dreams of running their own flower farm, developing new plant varieties, or teaching others about horticulture, mastering propagation techniques provides a strong foundation for success in the green industry.

As part of your learning journey, you're invited to share something you learned at your local 4-H show or fair through exhibits, demonstrations, or competitions. Make sure to reference the State Fair Guidelines and Score Sheets for your project area and pull together resources to guide your learning.

You can help develop this resource for the 4-H Floriculture project area! Please share your favorite resources, project ideas, and hands-on activities with the State 4-H Office using this form: go.illinois.edu/4HFloricultureProject. Upon review, the State 4-H Office will publish your ideas so other 4-H youth and families can be inspired to do more in Floriculture.

Good luck and happy growing!

Mark Becker, 4-H Food Systems Specialist | mbbecker@illinois.edu

Kathy Book, 4-H Educator | kbook@illinois.edu





PLANT PROPAGATION STATE FAIR GUIDELINES

Photo Collage (SF 50117)

Create a photo collage or a collection of pictures of flowers that you have raised. Label your flowers by name and tell if you started with a seed, cutting, or transplant. Mount pictures on a poster board.

Cut Flower Specimens (SF 50118)

4-H members must bring 3 containers, each featuring a different flower variety.

Each container must include:

- 3 stems of the same flower variety (unless specimen list states otherwise)
- All stems must match in variety, color, shape, and size
- Keep natural foliage attached (foliage below waterline may be removed)
- Flowers must be grown by the exhibitor from seed, seedlings, bulbs, or rhizomes

Specimen List:

Bachelor Buttons-3 stems

Celosia-3 plumes

Cleome-1 bloom

Cockscomb-1 bloom

Coneflower-3 stems

Dahlia-1 large bloom

Dahlia-3 small blooms

Daisy-3 blooms

Gladiola-1 spike

Lilies-1 stalk- Remove 1/3 of the foliage.

Marigold (dwarf)-3 stems

Marigold (large)-3 stems

Petunia (double)-3 stems

Petunia (single)-3 stems

Phlox-1 stalk

Rose-1 bloom

Rudbeckia-3 stems

Snapdragons-3 stems

Sunflower-1 bloom

Zinnia (large)-3 stems

Zinnia (small)-3 stems

Other small bloom (not listed above)-3 stems or 3 blooms

Other large bloom (not listed above)-1 stem or 1 bloom

Propagated Plants Cuttings/Layer/Division/Seed (SF 50119)

Exhibit a plant that you propagated from cuttings, layering, or division, or started from seed. Create a photo board showing the progression of growth. Tips for vegetative propagation of houseplants can be found in the University of Illinois Extension Gardener's Corner (go.illinois.edu/gardenerscorner). Any type of house plant or outdoor plant is appropriate here.

Forced Bulbs (SF 50120)

Create an exhibit of forced bulbs in a pot. Bulbs should be budding out or in bloom at the time of the exhibition.

Plant Propagation Poster (SF 50121) Poster on a topic related to plant propagation. Such as: Kinds of propagation, propagation methods, etc

PLANT PROPAGATION STATE FAIR SCORESHEETS

As you prepare for Fair season, be sure to reference the most recent scoresheets for Plant Propagation on the Illinois 4-H website under the Illinois 4-H State Fair event page:

4h.extension.illinois.edu/events/state-events/illinois-state-fair





GUIDING YOUR LEARNING

The purpose of the new classes and learning opportunities in the Floriculture project area for Illinois 4-H has been to allow 4-H members the opportunity to expand the project resources that they can utilize to guide their learning. The traditional Floriculture project booklets (available through Shop4-H.org) will continue to be acceptable.

As part of this process, 4-H members will be encouraged to find new project resources, hands-on activities, and learning opportunities. Below, we provide some guidance on finding trusted, evidence-based, and educational resources. Helping youth learn how to judge information quality is just as important as the information itself.

As you start out looking for resources, here are some helpful things that can help youth determine the quality of an information source:

Credible - Resources that are known to be research-based.

- University / Land Grant programs (often ending in .edu)
- Botanical gardens and professional horticulture organizations
- Established publishers of gardening and horticulture books
- 4-H, FFA, or Master Gardener materials

Accurate - Consistent across multiple, reputable sources.

- Compare 2-3 different sources
- Look for agreement on:
 - Propagation methods
 - Timing
 - Environmental Conditions
 - Plant care recommendations

Current - Plant science information changes as best practices evolve.

- Check the publication or update date
- Focus on resources from the last 10-15 years

Clear - Resources that explain why something works.

- Step-by-step explanations
- Photos or diagrams
- References to research, trials, or Extension guidance
- Clear cause-and-effect explanations

Educational - Resources that are about teaching and not about selling.

- Encourages learning and experimentation
- Explains options, not just one 'perfect' method
- Educational in tone, not pushing a product





SHOWING YOUR LEARNING

The 4-H program is about learning by doing, and 4-H participants are encouraged to demonstrate their learning in this project by preparing a photo collage, preparing cut flowers, a display, a presentation, or a video to exhibit at their local county 4-H project show. Consult your county's show book for exhibit rules and guidelines. You can choose to make your project about anything you learned while doing this project! You may find exhibit ideas in the project resources that you use to guide your learning.

Whether you use the resources recommended in the Project Resource Guide or those of your own choosing, it will be important to be able to explain your choice. As you prepare for your exhibit, you can ask yourself:

- Why did you trust this resource?
- How did this resource help you?
- Would you use this resource again? Why or why not?

Some other ideas for ways that 4-H members can demonstrate their learning in Plant Propagation are included below.

Photo Collage - SF50117

- Photo collection showing the progression of flower varieties.
- Photos comparing different propagation techniques.
- Photos of pollinator plants.
- Photos comparing indoor/outdoor starts.

Cut Flower Specimens - SF50118

- Flower varieties grown from seed or seedlings.
- Flower varieties grown from bulbs or rhizomes.

Propagated Plants Cuttings/Layer/Division/Seed- SF 50119

- Grow and document the growth of a houseplant from cuttings.
- Divide a perennial plant and show how the divisions grew.
- Grow the same plant variety from seed and cutting, and document differences.
- Air-layer or ground layer an outdoor plant, document results.

Forced Bulbs - SF 50120

- Track chilling time, planting date, and bloom timing of forced bulbs.
- Force Spring bulbs indoors and document the chilling process.
- Compare bulb growth under different light circumstances.
- Experiment with bulb forcing timing for peak bloom at fair time.

Plant Propagation Poster - SF 50121

- Document different kinds of propagation methods, compare and contrast.
- Explain the when and why of different propagation methods (seed, cutting, layering, division, grafting, etc.)
- Document which plants do best with which propagation methods.
- Educational exhibit on common propagation mistakes and how to avoid them.
- Exhibit displaying the essential propagation tools and explaining their proper use.





FEEDBACK FORM

Please take a moment to share your best resources, activities, and project ideas with the rest of the Illinois 4-H program! Your feedback will help us develop a more extensive project resource guide for the 4-H Floriculture project area: go.illinois.edu/4HFloricultureProject

CREDITS

Mark Becker, 4-H Food Systems Specialist, and Kathy Book, 4-H Educator, compiled this resource. It was originally published in February 2026.

PHOTO CREDITS

All photos accessed under the Canva Teams Pro licensing agreement.

Cover: Floriculture industry by Scharfsinn86 ; Kid gardeners potted plant by Anna Ostanina;
Plants in a Room by Karola G.

Page 2: Indoor plant succulent plant in pot by Merinka

Page 6: Kid Watering Some Plants at Home by Odua Images

Page 7: Gardening flat lay by RTimages





University of Illinois College of ACES • United States Department of Agriculture
Local Extension Councils Cooperating

University of Illinois Extension provides equal opportunities in programs and employment.

If you need a reasonable accommodation to participate in an Illinois Extension program, please contact your local University of Illinois Extension office. Early requests are strongly encouraged to allow sufficient time for meeting your access needs.

© 2026 University of Illinois Board of Trustees.
For permission to reprint, revise or otherwise use material, contact extension@illinois.edu.



Illinois Extension
UNIVERSITY OF ILLINOIS URBANA-CHAMPAIGN

