



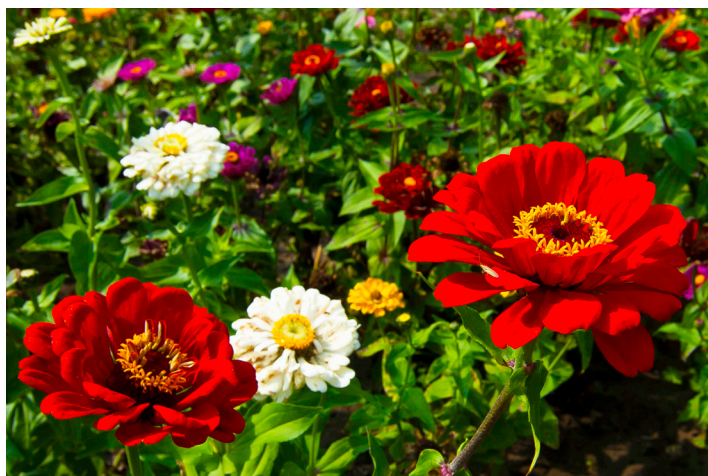
# Alabama 4-H Grows

Alabama Cooperative Extension System

## Raising Flowers for Fun and Profit

"The earth laughs in flowers."  
— Ralph Waldo Emerson

 **extension**  
ALABAMA A&M & AUBURN UNIVERSITIES



## Raising Flowers for Fun and Profit Project

During the past couple of decades, there has been a lot of interest in small-acreage agriculture through which people can generate an income. One such “crop” generating a lot of interest is the growing of flowers for the cut flower industry. These homegrown floral businesses are filling a niche by providing their local communities with fresh-cut flowers.

Encouraging Alabama’s youth to start their own cut-flower business is a great way to involve them in an Alabama 4-H program. The goal of the Alabama **4-H Raising Flowers for Fun and Profit** project is to provide youth with the opportunity to combine gardening with an entrepreneurial opportunity. Participants in the project will grow a variety of flowers and then develop their own cut-flower business, selling blooms to the public through the local farmers market and other outlets.

This project exposes youth to the field of horticulture with the possibility of encouraging them to at least maintain an interest in agriculture as a hobby or pursue a future in agriculture through further academic study and as a professional career.

This project will also provide youth with business and financial experience by recording their own investment of time, financial expenses and income, and other activities in a project journal. This project will also help youth develop self-confidence and life skills, while, hopefully making a profit when they sell the flowers.

## Who Can Participate in the Raising Flowers for Fun and Profit Project?

Alabama youth **ages 12–18 who are enrolled in Alabama 4-H** are eligible to participate in this project. Enrollment in this project is available through Alabama 4-H Online. Please contact your county’s 4-H representative for support. There is a **\$50 dollar project fee** required to be paid when a participant enrolls. *(The \$50 fee will be used to provide each participant with an assortment of flower seeds, selected to help each participant succeed.)* **The deadline to enroll in the project is March 30.**

## Important Dates

**March 30:** All participants, ages 12–18 must be enrolled through 4-H Online in the Raising Flowers for Fun and Profit project and pay their project fee of \$50.00 by March 30 so 4-H will have time to order their flower seeds. (The project fee is for the purchase of the seeds.)

**April 15–April 22:** All participants should receive their seeds for the coming growing season.

**April 15–May 17:** Participating youth need to plant their initial gardens. Participants may choose to hold a portion of the seeds in reserve for later plantings to extend their ability to sell blooms over a longer period.

**May 17–June 30:** Participants that reserved seeds for later plantings need to plant during this time. The participant may also purchase additional seeds to extend and expand their project.

**April 15–August 30:** Participating youth need to contact their county 4-H/Extension representative and turn in their project journals for evaluation.





## Getting Started as a Participant in the Alabama 4-H Raising Flowers for Fun and Profit

Contact your 4-H County Extension representative and sign up for **Raising Flowers for Fun and Profit** on 4-H Online and pay the required \$50 project fee. **Deadline to register is March 30.**

We want all our 4-H'ers to be successful but since this is an agriculturally based project, understand that many factors such as weather events are impossible to predict and beyond human control. To help reduce the risk factors, the following information is being provided. In addition, we will offer helpful information to participants throughout the project. If a participant has a question about growing flowers at any time during the project, they may contact the Alabama Master Gardeners helpline at (1-877) 252-4769 or contact their county Extension office for assistance.

## Selecting and Getting Your Gardening Site Ready

- **Garden Space.** It is estimated that this project will require a minimum of 200 square feet of garden space. With this amount of space, the grower will be very limited in the number of plants that can be grown. An area of 1,000 square feet would be better, providing the grower with more options.
- **Light and Heat.** Blooming plants need full sun (6 to 8 hours) per day, so plant in a sunny location. Most of these blooming plants also like warm temperatures so you do not want to plant too early in the spring. Daytime temperatures need to be in the 70s or above with lows in the upper 60s or above at night. It is also important that the soil temperature should be at least in the 60s degrees F.

In Alabama, you can start planting many of the flower seeds in the southern part of the state in early April, while in the central and northern part of the state, late April to early May is a good time to plant. Of course, additional crops of flowers can be planted throughout the summer until about the end of July. By staggering plantings over a period of weeks, you will help ensure that you have blooms for sale over a longer period.

- **Soil and Soil Preparation.** The best soil for many of these flower species is a sandy loam that is well drained. If you do not have this type of soil and want to improve what you have, amend the soil with organic matter such as compost, topsoil, or composted manure. Loosen the soil to a depth of 6 to 8" in the area where the flowers will be planted, working in the organic material. If you have heavy clay or compacted soil, you may want to consider constructing a raised bed that allows drainage.



- **Soil Test.** It is extremely important to conduct a soil test on your garden site before planting. By conducting a soil test, you will know what nutrients you need to add to the soil. In addition, the soil test will let you know about the soil's pH (acidic/neutral/basic). Many blooming plants need a pH between 5.5 and 7.5 (slightly acidic to neutral). To conduct a soil test, see "Submitting Samples for Soil Testing" on the Alabama Extension website at [www.aces.edu](http://www.aces.edu). The instructions for performing the test are on the form.

When you have followed the instructions, return your sample to your county Extension office, and they will send it to the Auburn University Soil, Forage, and Water Testing Laboratory. You should receive the results in about 2 weeks after submitting the report. If you need help understanding the results, contact your county Extension office for assistance.

## Adding Nutrients (Fertilizer)

Each type of blooming plant has its own specific nutrient needs. While one plant may respond well to nitrogen, another species may respond by providing a lot of vegetation with fewer blooms. If you are unsure which fertilizer blend to use, consider using a complete fertilizer such as 10-10-10 or 13-13-13. Once again, a soil test will help determine what type of fertilizer you need to use.



## Planting Your Flowers

- **Space.** Flowers, depending on the variety, have their own spacing needs. For example, depending on the variety of sunflower seeds, seed spacing may be 6 to 36" apart, with rows 2 to 3 feet apart. Make sure you read the spacing needs on the package of seeds.

Type of Plant	Depth to Plant Seeds	Final Spacing Between Plants	Spacing Between Rows
Sunflowers (depends on variety)	½" to 1½"	6" to 12"	2' to 3'
Zinnias (depends on variety)	¼"	9" to 18"	2' to 3'
Cosmos (Versailles mix)	1/8"	9" to 12"	2' to 3'

- **Planting Seeds.** For this project, we suggest that participants directly sow seeds into the garden even though they can be started indoors to get a jump on the season. The start-up cost to get started indoors is greater as you need to purchase plant starter packs, trays, and an artificial light source. You also need indoor space to accommodate the plants.

Most seed packets will instruct you to plant the seeds at a certain depth, distance them apart, and thin later to a greater distance between plants in a row. When sowing the seeds directly into the garden, you will start by planting them closer together than you want to leave them as they grow. During the thinning stage, you can carefully dig up the seedlings that need to be removed to provide the suggested spacing and replant them. This will give you more plants from which to harvest flowers.

Even though you may be tempted to plant all your seeds at once, remember that the flowers only last a few days. Therefore, to extend the length of time during which you have flowers to sell, staggering the planting of the seeds over several weeks is a great way to ensure that you have blooms over a longer period. It is suggested that you let 2 weeks pass between plantings.

- **Water.** Once the seeds are planted, keep the soil consistently moist but not wet for best seed germination and plant growth. Monitoring rainfall and soil moisture is helpful for a successful flower crop. Therefore, it is suggested that you place a rain gauge in or near the garden. The rain gauge will help you track and meet your garden's water needs.

A garden needs at least 1" to 2" of rain a week depending on soil type, whether you used mulch, and hot weather conditions. Therefore, if you don't receive the precipitation you need, additional moisture must





be added through irrigation. When you need to add water, avoid wetting the leaves to help prevent fungal disease. To avoid wetting the leaves, your best option is to lay drip tape immediately after planting your flower seeds. The drip tape will apply water evenly. If you don't want to go that route, a soaker hose will work, but it will not disperse water evenly along the row.

If you choose to use an overhead watering system, apply the water early enough in the day so the moisture on the leaves will evaporate before evening.

- **Mulch.** Mulching is covering the soil around a plant with some type of material so sunlight does not reach the soil. Some people prefer to mulch using organic matter such as leaves, straw, newspaper, or a combination of them. Plastic sheeting and landscape fabric can also be used, but they do not decompose.

Once the seeds you planted germinate and are a couple of inches tall, weed between the rows and then spread a 2 to 3" layer of mulch between the rows. This mulch will help keep the weeds from germinating, hold moisture in the soil, and provide an excellent soil cover to walk on while working in the garden. This is also a good time to thin and move plants.

Since natural mulch is not a solid cover, some weeds will germinate and grow up through the mulch. Carefully hand pull these weeds as needed and cover the area where the weeds grew with mulch. One of the benefits of using natural mulch is that over time it will decompose, adding nutrients and organic material to the garden soil. In addition, at the end of the gardening season, unlike plastic that must be picked up and placed in the trash, natural mulch can be left as a ground cover during the winter and then worked into the soil for the next gardening season.



## Additional Information

The flowering seed varieties provided through this project were selected due to their ease of growing and potential demand as cut flowers. If participants want to add to this collection of plant varieties or purchase and plant more of the included varieties, they are free to do so. Just make sure to record this information in the project journal.



## Monitoring Your Flowers

Once the various flower species germinate, participants must monitor for weeds, insects, other pests, and plant diseases. If any of these are left unchecked, your flower crop could be negatively affected.

**Weeds.** A weed is any unwanted plant that competes with what you want to grow. Therefore, for this project, any plant besides the flowers you have planted is considered a weed. Weeds compete with your flowers for nutrients and space, therefore possibly limiting both your yield and the quality of the blooms. Some species of weeds may attract insect pests that feed on your other plants.

Using mulch will help block many weeds from germinating and make it easier to pull those that do grow. Remove the weeds that sprout while they are small so there is less

chance of damaging the flowering plants. Learn to identify the seedling of the flowering plants so you can start weeding as soon as the plants emerge. Failure to weed early and often can lead to root systems that are hard to pull without causing damage to your flowering plants.

**Insects and Other Pests.** Several species of insects are attracted to blooming plants. It is important to monitor the garden a couple of times a week while looking for pests or the damage they cause. Once a pest or the damage it causes is noticed, try to identify the culprit and use best management practices to address the issue.

The following are photos of some insect pests that may feed on your blooming plants. Contact your Extension regional home grounds specialist for control ideas and treatment methods.



### Aphids

(Photo credit: Jim Occi, BugPics, Bugwood.org)



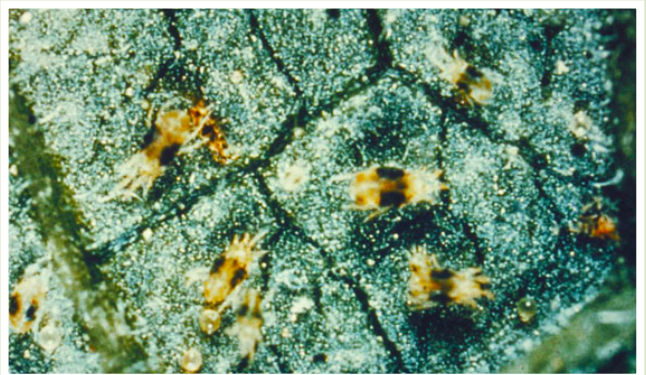
### Japanese Beetle

(Photo credit: Roger Schmidt, University of Wisconsin-Madison, Bugwood.org)



### Earwig

(Photo credit: Whitney Cranshaw, Colorado State University, Bugwood.org)



### Spider Mites

(Photo credit: John A. Weidhass, Virginia Polytechnic Institute and State University, Bugwood.org)



## Whiteflies

(Photo credit: John C. French Sr., Retired, Auburn University, Bugwood.org)



## Leafhoppers

(Photo credit: J. L. Danet, INA Centre de Recherches de Bordeaux, Bugwood.org)

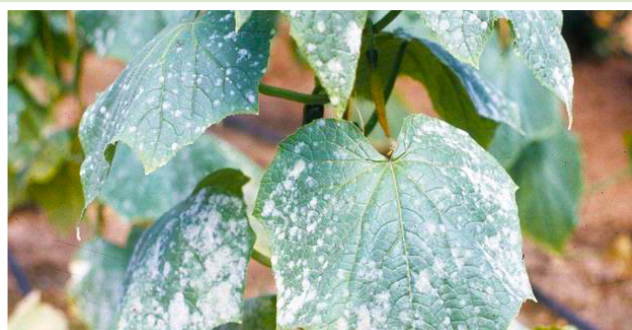
In addition to insect pests, animals such as rabbits, squirrels, and deer may eat the plant or dig up the seeds. The best deterrent for these animals is to fence in the garden. A repellent may also be used, but it needs to be reapplied frequently.

**Diseases.** Diseases that affect flowering plants will vary depending on the plant species. Many of these diseases are either soilborne or transmitted by insect pests. In all cases, these diseases are caused by microorganisms (pathogens) that include fungi, bacteria, viruses, and nematodes. The following are examples of diseases that may show up in your flower garden.



## Bacterial Leaf Spot

(Photo credit: Howard R. Schwartz, Colorado State University, Bugwood.org)



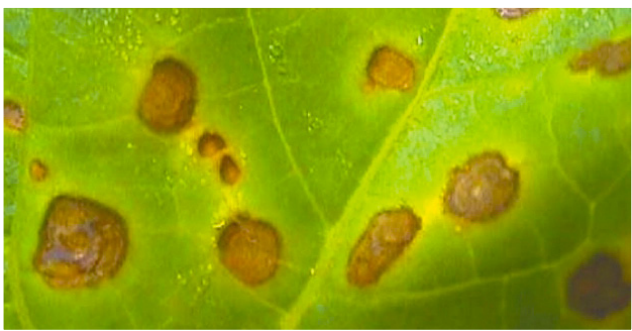
## Powdery Mildew

(Photo credit: Charles Averre, North Carolina State U., Bugwood.org)



## Cercospora Leaf Spot

(Photo credit: Environmental Microbiology, Penn State U., Bugwood.org)



## Alternaria Leaf Blight

(Photo credit: David B. Landston, University of Georgia, Bugwood.org)



To help reduce the chance of these diseases showing up in your garden, follow these strategies:

- **Crop rotation:** Some fungi, bacteria, and nematodes that cause soilborne and foliar diseases survive in the soil and crop debris. To avoid this carryover, use a 3- to 4-year rotation of growing the same plants in the same location.
- **Garden site:** As mentioned in Selecting a Garden Site, well-drained soil with the right pH will help plants avoid root rot.
- **Sanitation:** Clean up the garden at the end of the garden season or between plantings. Crop debris can harbor plant pathogens. Either remove the debris and dispose of it in the trash or work it into the soil so it will quickly decompose.
- **Disease-resistant varieties:** One way to help avoid disease problems is to select flowering plant varieties, if available, that are disease resistant.
- **Irrigation:** Avoid frequent watering with small amounts of water as one deep watering per week of at least an inch is better than several shallow watering. The best way to apply water is through a drip tape system. If possible, avoid overhead sprinklers as these wet the foliage and splash pathogens from the soil onto the leaves.
- **Chemical control:** You may need to spray the plants with fungicides or bactericides to help control diseases. Guidance will be provided during the project, or you may contact your Extension regional home grounds specialist.
- **Monitoring/scouting:** You should closely inspect your garden at least a couple of times per week for signs of disease. By keeping an eye on the garden, you will be able to detect a problem early, allowing you to initiate a management practice before the problem gets out of control.

## Tips on Growing Flowers and Selling Their Blooms

The following is a list of things you can do to help you accomplish your goal of growing and selling cut flowers.

- If possible, select a gardening site that receives lots of sunlight, has sandy-loam soil, and a pH of 5.5 to 7.5.
- Get a soil test.
- Plant seeds directly into the soil only after the soil temperature stays above 65 degrees F and air temperature is upper 60s+ at night and upper 70s or higher during the day.

- Give the plants the required spacing between plants and rows.
- Provide the plants with a well-balanced fertilizer at planting and then sidedress again when the plant starts blooming.
- Monitor the garden at least a couple of times a week for signs of pests and disease.
- Mulch the garden to help control weeds and hold moisture.
- Keep the flowers cut. Do not allow blooms to remain on plants to make seeds. These are annual plants, and their goal is to produce seeds. If you allow flowers to make seeds, the plant will stop blooming sooner.
- Apply fungicides as needed. It is important to avoid insecticides, if possible, as many beneficial insects, including pollinators visit the blooms.

## Harvesting Your Blooms

- Always use sharp shears or a clean, sharp knife to avoid crushing the stems.
- Once cut, immediately place flowers in a picking bucket that contains a few inches of water. This helps keep the flowers hydrated.
- Cut flowers at the proper stage of development.
- Cut flowers on a 45-degree angle to increase the surface area for water to be absorbed. A slant cut will also keep the stem from lying flat on the bottom of the container.
- Harvest the flowers early in the morning when they are fully hydrated.
- Remove all foliage on stems that will be below the water level in a vase.
- Never lay flowers on the ground or a dirty surface after cutting.
- Disinfect cutting tools frequently or at least twice each day.
- Grade and bunch flowers immediately after harvest.







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**For more information,** contact your county Extension office. Visit [www.aces.edu/directory](http://www.aces.edu/directory).

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