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WILDFLOWERS AND FERNS

Wildflowers and ferns will enhance any garden. Most of them require little care. To ensure obtaining well-rooted specimens, it is best to purchase the plants from a nursery or garden center. The names and addresses of places that specialize in wildflowers and ferns can be found in the classified section of many popular gardening magazines.

Most ferns require a moist, shady location (such as the north side of a house) and will lend interesting form and texture to the landscape. However, many varieties will do

well in partial or full sun.

The following is a brief list of some familiar wildflowers and ferns. Those marked with an asterisk (*) are protected by law in the state of Michigan and therefore should not be disturbed in the wild. The names of these plants are taken from *Gray's Manual of Botany* (1950), which is one of the standard books used for identifying plants in the northeastern United States. For additional information on native plants, see the *References*, page 35.

WILDFLOWERS

Common Name	Scientific Name	Natural Habitat	Season
bee balm	<i>Monarda didyma</i>	dry thickets	August
black-eyed-susan	<i>Rudbeckia hirta</i>	fields and roadsides	July to October
bloodroot	<i>Sanguinaria canadensis</i>	rich, open woods	April and May
blue phlox	<i>Phlox divaricata</i>	open woods	May and June
butterfly weed	<i>Asclepias tuberosa</i>	dry, open woods	July and August
cardinal flower	<i>Lobelia cardinalis</i>	swamps and other wet sites	August and September
chicory	<i>Cichorium intybus</i>	fields and roadsides	June to October
Dutchmans-breeches	<i>Dicentra cucullaria</i>	rich woods	May and June
gentians*	<i>Gentiana</i> species	meadows and low woods	August and September
goldenrod	<i>Solidago canadensis</i>	meadows and roadsides	July to October
hepatica	<i>Hepatica americana</i>	upland woods	April to June
jack-in-the-pulpit	<i>Arisaema triphyllum</i>	moist woods	April to June
joe-pye-weed	<i>Eupatorium purpureum</i>	wet meadows	July to October
lady'slipper* (yellow)	<i>Cypripedium calceolus</i>	moist woods	May
marsh marigold	<i>Caltha palustris</i>	wet meadows and stream banks	April and May
mayapple	<i>Podophyllum peltatum</i>	rich woods	May and June
New England aster	<i>Aster novae-angliae</i>	fields and roadsides	July to October
oxeye-daisy	<i>Chrysanthemum leucanthemum</i>	meadows and roadsides	June to August
pitcher plant (insectivorous)	<i>Sarracenia purpurea</i>	bogs	May to July
prickly pear cactus	<i>Opuntia humifusa</i>	sandy and rocky areas	June and July
spring beauty	<i>Claytonia virginica</i>	rich, moist woods	April to June
sundew (insectivorous)	<i>Drosera rotundifolia</i>	bogs; moist, acid soils	June to August
trailing arbutus*	<i>Epigaea repens</i>	dry woods	April and May
trillium*	<i>Trillium</i> species	open woods	May and June
trout lily	<i>Erythronium americanum</i>	moist woods	May and June
violets	<i>Viola</i> species	woods and grassland	May and June
Virginia bluebells	<i>Mertensia virginica</i>	rich, moist woods	May
wild columbine	<i>Aquilegia canadensis</i>	woodland clearings	June and July
wild geranium	<i>Geranium maculatum</i>	woods and meadows	May and June
wild ginger	<i>Asarum canadense</i>	rich woods	April and May
wind flower	<i>Anemone thalictroides</i>	open woods	May and June

FERNS

Common Name	Scientific Name	Natural Habitat	Height
Christmas fern	<i>Polystichum acrostichoides</i>	rocky slopes	1' - 2'
cinnamon fern	<i>Osmunda cinnamomea</i>	moist woods	1' - 4'
common polypody	<i>Polypodium virginianum</i>	dry rock ledges, partial shade	6" - 8"
interrupted fern	<i>Osmunda claytoniana</i>	moist woods, sun or shade	2' - 4'
lady fern	<i>Athyrium filix-femina</i>	rich, moist soil, sun	1' - 1½'
maidenhair fern	<i>Adiantum pedatum</i>	dry shade	1' - 2'
ostrich fern	<i>Matteuccia pensylvanica</i>	moist woodlands	2' - 6'
rattlesnake fern	<i>Botrychium virginianum</i>	rich woods in sun	1' - 2'
sensitive fern	<i>Onoclea sensibilis</i>	moist soil in sun	2' - 3'

BULBS

Culture of Bulbs

Bulb plants include hardy or nonhardy plants having an enlarged underground portion that serves as a storage organ.

Uses—Bulbs can be used for naturalizing, as cut flowers, in mixed borders with annuals and perennials, and in foundation plantings. One of the big advantages of bulbs is that some species flower very early or very late in the season providing masses of bright colors at a time when most annuals and perennials are not in flower.

Culture—Most bulbs will do best in a medium-sandy loam. The soil must have excellent drainage. Spring-flowering hardy bulbs should be planted in the fall. Fall-flowering hardy bulbs should be planted in the spring. Lilies are usually planted in August. Tender bulbs should be planted in spring after the soil has warmed. Information from bulb growers usually accompanies bulbs when they are sold.

Fertilizing—Bulbs should be fertilized in early June using 2 pounds of 5-10-5 fertilizer per 100 square feet.

Watering—Water thoroughly once a week unless there is sufficient rain.

Mulching—Summer mulches conserve moisture and reduce the soil temperature. A summer mulch is necessary to grow good lilies. Good mulching materials are pine needles, buckwheat hulls, sawdust, and peat moss. For a winter mulch, apply straw after the ground freezes; this is especially important for lilies.

Removal of Leaves—The leaves of hardy bulbs should be removed after they turn brown. Bulbs can be lifted and replanted at this time. Sometimes annuals are interplanted with bulbs to provide some color while the bulb foliage is turning from green to yellow or brown. Since the foliage is producing food for next year's flowers, it is important not to cut it off until after it has turned brown naturally. If the leaves are unsightly, it may help to tie them together with a string to keep them from looking straggly.

Bulbs for Specific Conditions and Uses

Shade	Cut Flowers	Beginners
calla	calla lily	colchium
grape hyacinth	daffodil	daffodil
Siberian squill	gladiolus	gladiolus
tuberous-rooted	iris	Siberian squill
begonia	Siberian squill	crocus
camassia	canna	dahlia
guinea hen flower	dahlia	grape hyacinth
snowdrop	grape hyacinth	tulip
Moist Conditions	lily	
caladium	tulip	
calla		

FLOWERING SEASON AND PLANTING DEPTH

Season	Bulb	Planting Depth Inches*	Hardy or Tender**
SPRING	bulbous iris	3-4	H
	camassia	3-4	H
	crocus	3-4	H
	daffodil	6	H
	glory-of-the-snow	3	H
	grape hyacinth	2	H
	guinea hen flower	3-4	H
	netted iris	3-4	H
	Siberian squill	2-3	H
	snowdrop	3	H
	tulips	4-7	H
	SUMMER	caladium	2-3
canna		2	T
dahlia		6	T
gladiolus		4	T
summer hyacinth		3-4	T
tuberose		1-2	T
tuberous-rooted begonias		Surface	
AUTUMN	autumn crocus	3-4	H
	colchicum	4-5	H
	hardy cyclamen	1-1½	H
	sternbergia	4	H

*The planting depth is the distance from the soil surface to the top of the bulb.

**Tender bulbs must be dug and replanted annually.

PROJECT EVALUATION

The main objectives of a flower garden project are for you to be able to grow and use several new kinds of annuals, perennials, bulbs, ferns, and wildflowers each year in appropriate places around the home, and for you to identify at least 10 new kinds of flowers each year.

The first objective—growing and using flowers around the home—is best evaluated where the project is done (e.g., at the member's home). Leaders, teen leaders, and members can rate one another for progress and accomplishment by observing the following:

1. Number of new flowers grown
2. Size and quality of plants grown
3. Suitability of location (landscaping, light, access to water, etc.)
4. Length of flowering season (early spring through October is possible)
5. Planning (spacing, height, colors, etc.)
6. Other (labeling if needed)

A good time to evaluate garden projects is from early to mid-August.

The second objective—identification of different flowers—can be evaluated by having a contest to see how many different plants you can identify. Members who do well in club or county contests should be encouraged to participate in the State Horticulture Contest.

If you grow flowers for cutting or for arrangements, you may want to exhibit some of your specimens or arrangements at fairs, churches, senior citizen centers, schools, Spring Achievements or Achievement Days, or other appropriate locations. This activity could be an important part of the evaluation. Earning income from selling cut flowers, arrangements, or corsages could also be an important project objective. A *Project Evaluation Sheet* (on page 23) is included for use in evaluating projects. (Leaders: Although the form may be completed individually with a leader talking to one member at a time, it would probably be easier and of more benefit if the members filled them out together with you taking them through it, item by item, with examples.)

Exhibiting Specimen Blooms

Many garden projects are evaluated overall by the single exhibit a member enters at a fair or show. Judges can only evaluate what they see before them. However, they may be able to ask an exhibitor questions if there is sufficient time and the exhibitor is present. It is very difficult for judges to accurately evaluate how much a member has done and has learned in a project by seeing just a small sample of it.

Exhibiting specimens or flower arrangements will require you to learn new information. Your knowledge of plan-

ning a garden, buying and sowing seeds, fertilizing, transplanting, watering, cultivating, and other horticultural techniques will probably not be covered in the project evaluation at a fair or show. Therefore, learning the exhibiting techniques needed to exhibit specimen blooms is important. Leaders and members should be careful, however, not to focus too much on this portion of the project by growing only plants that will flower at show time and are easy to exhibit.

Most perennials and bulbs are not in flower when shows are held. Consequently, many members exhibit annuals such as zinnias, marigolds, and bachelor buttons. Since this becomes less challenging after a year or two, older members should grow and exhibit a different flower each year.

Remember that the exhibit is usually only a small portion of a project and cannot be a true evaluation of all that you have learned in a project. In some cases, you might prepare an educational or experimental exhibit to tell about your project, if you have no flowers to exhibit.

The first thing for you to do as an exhibitor is to study the schedule and classes. Review the rules governing the class or classes that you plan to enter, including entry dates. The *Flower Identification List* on page 24 will help you review your progress in the flower gardening project.

Things a Judge Looks For

The following criteria will be used to evaluate garden project exhibits:

Form or Shape

- A. Individual blooms (may include dahlias, roses, peonies, daisies, marigolds, zinnias, pansies, or chrysanthemums)
 1. Merits
 - Even spacing and length of petals
 - Good development in head or crown
 - Good placement of flower on stem
 - Evenly spaced foliage
 - Flower at correct stage of opening (usually having just opened fully)
 2. Faults
 - Irregular or unequal length of petals
 - One-sided or lopsided shape
 - Voids in the face of the flower
 - Underdeveloped, overdeveloped or poorly-formed centers
 - Poor angle of placement of flower on stem
 - Flowers too far open or not open enough

PROJECT EVALUATION SHEET

MEMBER'S NAME _____ DATE _____ AGE _____

	Year	Year	Year	Year	Year	Year	Year
Number of kinds of flowers that member can identify							
Number of kinds of flowers that member grew this year							
Number of kinds of new flowers grown this year							
Size and quality of plants grown (Excellent, Good, Fair, Poor)							
Length of flowering season (number of months)							
Planning, spacing, height, colors (Excellent, Good, Fair, Poor)							
Number of county or state contests, workshops, or meetings in which member participated							
Number of demonstrations or illustrated talks given by member							
Number of seed or plant catalogs, bulletins, books, radio or television programs that member read, listened to, or saw related to flower gardening							
Number of flower gardens, greenhouses, garden centers, botanical gardens or similar places visited							
Number of places where member's flowers were shown (church, fair, Achievement Days, senior citizen centers, etc.)							
Income from flowers or plants sold (Dollars)							
Overall progress of member (Excellent, Good, Fair, Poor)							

FLOWER IDENTIFICATION LIST

List names of all annuals, perennials, bulbs, ferns, and wildflowers that you can identify. Then, indicate by a check mark (✓) after the name if you have grown or cared for the plant.

NAMES	NAMES	NAMES
1. _____	25. _____	49. _____
2. _____	26. _____	50. _____
3. _____	27. _____	51. _____
4. _____	28. _____	52. _____
5. _____	29. _____	53. _____
6. _____	30. _____	54. _____
7. _____	31. _____	55. _____
8. _____	32. _____	56. _____
9. _____	33. _____	57. _____
10. _____	34. _____	58. _____
11. _____	35. _____	59. _____
12. _____	36. _____	60. _____
13. _____	37. _____	61. _____
14. _____	38. _____	62. _____
15. _____	39. _____	63. _____
16. _____	40. _____	64. _____
17. _____	41. _____	65. _____
18. _____	42. _____	66. _____
19. _____	43. _____	67. _____
20. _____	44. _____	68. _____
21. _____	45. _____	69. _____
22. _____	46. _____	70. _____
23. _____	47. _____	71. _____
24. _____	48. _____	72. _____

B. Spike (may include glads, delphinium, snapdragon, stock, lythrum, or salvia)

1. Merits

- Even spacing of florets on stem and well-faced
- Progressive opening of florets from bottom to top
- Good proportion of open florets to buds; roughly 1/3 open, 1/3 showing color, 1/3 buds not showing color
- Uniformity of size and development

2. Faults

- Uneven spacing and facing
- Voids or overcrowding
- Too few open florets
- Buds too tight or immature
- Tips broken or bent
- Clubby shape
- Presence of side shoots, especially in glads (side shoots should be removed)

Substance and Texture

Substance is the tissue and cell structure—thick or thin, fine or coarse, rough or smooth. Texture is the surface quality—dull or shiny, velvety or satiny, smooth or rough.

A. Merits

- Firm, crisp, fresh, turgid, even throughout

B. Faults

- Limp, soft, uneven substance

Color

A. Merits

- Clear, clean, bright, fresh, pure, uniform

B. Faults

- Muddy, cloudy, sun-faded or scorched
- Discolored or streaked by disease
- Blues in red and pink flowers
- Green tinge in yellow flowers
- Soiled or dirty effect in whites
- Many color faults are easily observed by looking at the underside of a flower

Foliage and Stem

All specimens in a show must have natural foliage on the flower stem—except for scapes (leafless flower stalks such as daylily) which must have their own foliage accompanying the flower.

A. Merits

- Stem straight, strong, and long enough to support the flower head proportionately
- Spike tips must be straight
- Clear, green foliage well-placed on the stem
- Lower third of the foliage should be removed

B. Faults

- Weak, crooked, or bent stems
- Weak, cracked, or twisted necks
- Stem tips crooked, bent, broken, or removed
- Foliage too crowded or sparse

- Leaves torn, broken with disease or insect damage
- Spray residue
- Dull, dirty, or faded foliage

Condition

Good grooming is very important. Both flowers and foliage should be carefully cleaned with a soft brush or a damp cloth. The use of oils to improve appearance is prohibited.

A. Merits

- Fresh, crisp, turgid flowers at their peak of development, free from bruise or blemish, dust, dirt, spray residue, insect damage, or disease damage

B. Faults

- Faded, wilting, over or underdeveloped flowers
- Outer row of petals browning
- Water-spotting
- Notched, torn, or bruised leaves or petals
- Dust, dirt, or insects
- Spray residue and damage from disease or pests
- Removal of lower florets
- In glads, the lowest floret may be removed very carefully.

Conditioning (or Hardening)

Proper conditioning of a specimen is essential if it is to remain fresh. This is done by filling it with water until the tissues can absorb no more, and the flower and leaves are crisp or turgid.

Cutting

- Specimens should be cut hours before show time. Cutting may be done in early morning or late afternoon.
- Use a sharp knife and avoid mashing the stem. Use a straight or slant cut.
- Strip the lower one-third to one-half of the leaves.
- Cut a specimen just before the flower is fully developed. It will continue to open after cutting.

Hardening

- Plunge the specimen into warm water (90° to 110°F) up to the flower head immediately after cutting. You need not carry a bucket of warm water into the garden, but be sure to cut off the lower 1/2 to 1 inch of the stem just before plunging the specimen into warm water. This removes the air bubble that has formed in the stem during the time it takes to carry it from the garden to the house.
- Leave the specimen in the warm water until the flower is crisp, turgid, and full of water. For most garden flowers, this takes about a half hour. Pour off the water to a level below the lowest leaf; put the specimen in a cool, dark place until you are ready to take it to the show.

- A flower preservative will help prolong flower life. A flower preservative can be made by adding 2 tablespoons of fresh lemon juice, 1 tablespoon sugar, and ½ teaspoon household bleach to 1 quart of water.
- Flowers that bleed (e.g., dahlia) should be immediately placed in ice water for 5 to 15 minutes. This forms a seal and prevents the loss of the fluid. Carry a can of ice water with you when you cut. Then pour off the ice water and fill the can with lukewarm water up to the flower head. When the flower is turgid, pour off the water to below the level of the lowest leaf and place the specimen in a cool, dark room.

Transporting and Grooming

Use a soft brush or a damp cloth and carefully remove all dust, dirt, and spray residue from both flowers and foliage. Foliage may be gently rubbed to improve gloss, but oiling is not permitted. The stamens of lilies should be picked off since pollen grains on the petals are a fault.

It is best to transport specimens in water though most garden flowers can be carefully packed in flat boxes without harm. Be sure to support the flower head and do not pack too tightly or crowd. Crushing must be avoided.

Protect the flower head by wrapping it lightly in florist's tissue or polyethylene covering. Flowers that bruise easily (e.g., iris) should always be carried in an erect position.

Other flowers that must be carried in an erect position are those that will turn their tips upward if carried flat. This is especially true of glads, snaps, stock, and lythrum. Once the tips have curved, they cannot be returned to their original straightness. A six-pack pop bottle container also

works for carrying flowers. Additional information on arranging flowers for exhibit is included in North Central Regional bulletin NCR 211, *Flower Arranging*.

Viewing Other Exhibits

You can learn about exhibiting flowers by viewing other flower exhibits at fairs or shows. Try to view exhibits soon after the specimens have been judged and are still fresh. Notice the good and bad points of some of the specimens. See if you can identify the kinds of flowers on exhibit. This may help you to choose the new flowers to grow next year if you re-enroll in the project.

Talk with exhibitors who received top prizes to learn about some of their techniques. Dates and locations of flower shows or exhibits can usually be found from posters in libraries or other public buildings; in newsletters, magazines, and newspapers; or from your local Cooperative Extension Service office.

Another way to learn about exhibiting is to set up an exhibit at a club meeting and judge or evaluate each other's exhibits. This helps you see things you may not have noticed before and illustrates how opinions enter into judging.

Flower Arranging—Once you have learned to use and exhibit flowers from your garden, you may want to start arranging flowers. Some information is included in the member's bulletin. (Leaders may refer to NCR 211, *Flower Arranging*, which is available through your county Cooperative Extension Service office. Leaders may want to enroll in an adult education class that teaches the basic principles of flower arranging, or participate in the flower arranging option at 4-H Exploration Days. Perhaps leaders might find another person to help teach this portion of the project.)