

Plant Rotation in the Garden Based on Plant Families

Knowing what family a plant belongs to can be useful in making decisions about rotating plants for managing pests and soil fertility in the garden. Plants in a family are genetically related, so they have similar characteristics. As an example, members of the Cucurbitaceae, among other shared characteristics, have deeply lobed or divided leaves, separate male and female flowers on each plant (termed “monoecious” plants) with five fused petals, similar fruit types and tendrils for climbing. Besides having similarities in appearance, plants in the same family often have similar susceptibilities to various garden pests such as diseases, insects and/or nematodes.

In general, it is not recommended that an area be planted with plants of the same family in succession to avoid the buildup of shared pests. Some plants should not follow members of other families either because of susceptibility to common pests. For example, strawberries (and other members of the Rosaceae) should not be planted after members of the Solanaceae (and vice versa) because they are all susceptible to the disease verticillium wilt. Keep in mind that various weeds also belong to these same families and can also host the same pests. Knowing plant families can also be useful in determining appropriate pesticides to use, when warranted. This can apply to both targeted effects and non-targeted effects such as being toxic to desirable garden plants.

Plants can be rotated to manage soil fertility. This is done by including plants in the rotation to improve the fertility status of the garden soil and rotating among plants that are heavy users of certain nutrients. For example, members of the Fabaceae (legume family) can

be grown to add nitrogen to the soil and many members of the Liliaceae are heavy users of potassium.

The table on the following pages lists several vegetables, herbs, fruit, cut flowers, bedding plants, cover crops and weeds by plant family. Plant family names can be easily identified because they end in “-aceae”; however, some families also have “old” or traditional names that end in “-ae.” Traditional names as well as common names are included in the table. Note that some plants are listed in more than one grouping.

Family Name	Aliases	Crops and Cover Crops	Members	
			Herbaceous Ornamentals	Weeds
Solanaceae	solanaceous crops; potato, tomato or nightshade family	peppers (bell and chile), tomatoes, potatoes, eggplant, tobacco, tomatillo	petunia, million bells	nightshade, jimsonweed, henbane, groundcherry, buffalobur, horsenettle
Brassicaceae	Cruciferae; brassicas; cole crops; cruciferous crops; mustard family	horseradish, cabbage, cauliflower, broccoli, kohlrabi, kale, Brussels sprouts, turnips, Chinese cabbage, radish, rapeseed, mustard, collards, watercress, pak choi, bok choi, rutabaga	stock, alyssum, candytuft	shepherd's-purse, field pennycress, yellow rocket
Cucurbitaceae	cucurbits; cucumber family; squash family	cucumber, melons, watermelon, summer squash, pumpkin, gourds, winter squash		
Rosaceae	rose family, rosaceous plants	apples, peaches, apricots, nectarines, plums, strawberries, blackberries, raspberries, pears, cherries, quince, almond		multiflora rose
Fabaceae	Leguminosae; leguminous crops; legumes; bean, pea or legume family	beans, peas, lentils, peanut, soybean, edamame, garbanzo bean, fava bean, hairy vetch, vetches, alfalfa, clovers, cowpea, birdsfoot trefoil, black medic		various vetches, clovers, black medic
Poaceae	Gramineae; grass family	corn, wheat, barley, oats, sorghum, rice, millet, rye, ryegrass, sorghum-sudangrass, fescue, timothy	ornamental grasses	brome, wild oats, crabgrass, orchardgrass, barnyardgrass, quackgrass, fall panicum, foxtail, Johnsongrass
Polygonaceae	knotweed family	buckwheat, rhubarb		knotweed, smartweed

Family Name	Aliases	Crops and Cover Crops	Members	
			Herbaceous Ornamentals	Weeds
Liliaceae	lily family; alliums (for members of the <i>Allium</i> genus)	asparagus, onions, leeks, chives, garlic, shallots	tulips, daffodils, hosta, hyacinth	wild garlic and onions
Lamiaceae	Labiatae; mint family	lavender, basil, marjoram, oregano, rosemary, sage, thyme, mints, catnip	salvia, <i>Molucella</i> (bells-of-Ireland)	mints, catnip, henbit
Ericaceae	heather or blueberry family	blueberries, cranberries	heather	
Chenopodiaceae	goosefoot family	spinach, beets, chard, sugar beets		kochia, lambsquarters
Apiaceae	Umbelliferae; carrot family	carrots, parsnips, celery, dill, chervil, cilantro, parsley, caraway, fennel	<i>Trachymene</i> , <i>Buplerum</i>	poison-hemlock, wild carrot
Asteraceae	sunflower family; aster family	sunflowers, lettuce, endive, escarole, radicchio, dandelion, Jerusalem artichoke, artichoke, safflower, chicory, tarragon, chamomile, echinacea, sunflowers	marigold, mums, zinnia, aster, <i>Calendula</i> , cosmos, <i>Rudbeckia</i> , <i>Tithonia</i> , <i>Centaurea</i> , <i>Helichrysum</i> , yarrow, <i>Leucanthemum</i> , echinacea, sunflowers	dandelion, Jerusalem artichoke, chicory, echinacea, thistles, knapweeds, cocklebur, yarrow, ragweeds, goldenrod, groundsel, galinsoga, sunflowers

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MAY 2, 2005

The Horticulture Fact Sheet series is produced for home gardeners and professionals by the Consumer Horticulture Center at Penn State. The complete series is available on the Web at <http://hortweb.cas.psu.edu>.

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Issued in furtherance of Cooperative Extension Work, Acts of Congress May 8 and June 30, 1914, in cooperation with the U.S. Department of Agriculture and the Pennsylvania Legislature. T. R. Alter, Director of Cooperative Extension, The Pennsylvania State University.

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