

## Nomenclature

Although common names are often easier to pronounce, using them is not the best way to refer to specific plants. Plants may be known by different common names throughout the country, and one name may refer to various plants within several species. A good example is the common name daisy, which refers to at least 18 different species. For this reason, it is necessary to use scientific or botanical names to properly identify plant material.

### Botanical names

The botanical name is usually written in Latin and generally recognized by underlining or *italics*. Botanical names can be composed of three parts: the genus, species, and variety.

For *Digitalis purpurea maculata* (common name Foxglove), the first part *Digitalis* refers to the plant's genus, which is always capitalized. The definition of genus is a group of plants that have common leaf, flower, needle, cone, bark, seed, or other plant characteristics. For example, members of *Digitalis* are biennials or perennials with alternate leaves and tubular shaped flowers.

Within this genus, many plants have distinct characteristics that are used to create smaller groups of plants called species. The criteria for a species are more specific, and more groups are created. For example, one species may be taller or have a different flower color than another species within the genus. The word *purpurea*, which means purple, is the name of a *Digitalis* species. Hence, in this example, we are referring to purple *Digitalis*.

When a list of several species of the same genus is created, the genus is spelled out for only the first listing, and all others are abbreviated by using the initial capital letter. For example, when creating a list of birch tree

names they would be written as follows: *Betula lenta* (Sweet birch), *B. nigra* (River birch), and *B. populifolia* (Gray birch). As with a genus, a species can interbreed and create offspring with additional variations in characteristics.

Sometimes plants within a species are also arranged into groups called varieties based on slight variations of characteristics. Again, when moving from species to varieties, the number of groups created increases. Varieties can reproduce by seed, but those sold at garden centers may differ slightly from how they appear in nature. The variety for *Digitalis purpurea maculata* is *maculata*, meaning spotted, a reference to the spotted or mottled, purple *Digitalis* flowers. Sometimes varieties are indicated by var. or v., for example, *Digitalis purpurea* var. *maculata*.

Often, botanists disagree on whether a plant is a variety or a subspecies because they seem so much alike. However, a subspecies is distinct from the species it originated from, but it is still able to interbreed with other groups from the original species.

### Cultivar names

Like a variety, *cultivars* differ from each other in one or more characteristics. Unlike varieties, cultivars can only exist in "cultivation." This means that plant breeders or propagators created them and may or may not be reproduced from seed. A cultivar of *Digitalis purpurea maculata* is 'Superba,' which means "spotted flowers that are showy, superb, or proud." Another example is the cultivar 'Excelsior,' which has large flowers of various colors that grow around the flower spike. Cultivars are called varieties by most people, but it is technically incorrect.

## Clones and hybrids

A clone is the result of taking vegetative cuttings, such as leaf tissue, leaf buds, or bulb segments, from a plant that possesses superior characteristics, including disease resistance, pest resistance, or outstanding productivity. Cuttings are propagated to create many small plants that are identical to each other and to the mother plant. Plants that are cloned include potato (*Solanum tuberosum*), grapes (*Vitis*), figs (*Ficus*), and trees including poplar (*Populus*) and willow (*Salix*).

Hybrids are the result of a sexual cross between two or more parents, either genera or species, that are closely related and possess superior characteristics. The name of a hybrid is preceded by inserting an "X" before the hybrid. For example *Quercus X beadleii* is a hybrid of *Quercus alba* (White oak) and *Q. michauxii* (Swamp chestnut oak).

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102 Tyson Bldg.  
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September 21, 2002

*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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