

Fragrant Perennials

OH 66

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Fragrance or scent in plants has been more important historically in gardens, and more recently in Victorian gardens, and is an often overlooked or underutilized aspect in modern gardens. It is an elusive quality, often subtle, and very subjective depending on each gardener. It is also difficult to describe in plants whether it be from roots, stems, leaves or most commonly flowers.

Scent is the reaction of certain cells in the nose to volatile compounds emitted by essential oils in plant parts. These oils are found in the surface layers of leaves and petals. Scents are usually described in relation to everyday items with an odor such as spices, flowers, fruits and even unpleasant ones such as perspiration. Scent is subjective and described by each person as either good or bad depending on personal likes, closeness (what smells pleasant at a distance may be overpowering at close range) or emotion (some 74 emotional responses to flower scents have been described). Due to differences in perceptions, a scent may be classified differently by different individuals.

Scents are elusive in that they are detected in small quantities (often parts per billion) by the human nose, may be fleeting, and often change over time. Scents actually have a function, usually for pollination by insects but also as protection from insects in some plants or as protection from drought in hot, arid climates (the thick volatile compounds we smell provide a protective layer around leaves). The old English custom of covering brick walls with sprigs of rosemary for cooling has been supported by modern research which shows rosemary has 74 times the cooling effect of fresh air (thyme has 68 times the cooling effect, lavender 60 times).

The lighter colors of whites, pinks and yellows have a pleasant but faint fragrance if any, usually attracting moths and butterflies for pollination which see rather than smell. Flowers pollinated by bees also have little or no fragrance and are often blue or contrasting colors such as purple and yellow as bees see rather than smell, and are attracted by these colors (they perceive red and green as grey and unattractive). Composite (daisies) and umbel (queen anne's lace) flowers often smell unpleasant as these odors attract flies for pollination. Bright colors often attract hummingbirds (which can't distinguish blue from green) and insects (such as flies) and beetles. They may have no fragrance, or if pollinating insects are scarce they may have a strong attractive fragrance. Self-pollinating flowers which need no insects for pollination may be bright and often have no fragrance.

In historic times, especially due to lack of sanitation whether from lack of daily bathing to lack of proper garbage disposal, plants and particularly herbs have been used either to cover body odors as perfumes or to mask room odors as in "strewing" herbs. The latter were scattered about the floor to emit nice smells when walked upon. In medieval and renaissance gardens, many herbs were grown for these purposes as well as medicinal ones. Herbs were worn on the body, clothes or carried as pomander balls. These uses have been supported by modern research showing oil of cinnamon kills typhoid germs in 12 minutes and other essential plant oils in under 50 minutes. Attar (essential oil) of roses has seven times the antiseptic strength of carbolic acid, oil of thyme 12 times.

In the last century and first part of this, particularly in the Victorian era and "grandma's cottage garden" prior to that, fragrance became valued in gardens themselves, not merely for their functional uses. Fragrant plants were seen as a welcome change from the often stark and polluted times of the Industrial Revolution. It was also at this time that scents were first categorized in 1893 by Count von Marilaun into six groups. Since then this has

OH66 Fragrance

been expanded to ten scent groups based on common essential oils to the group. Although there is no "official" classification of scents, these ten are commonly used.

All ten groups are used for flowers. The indole group has flowers smelling of and resembling decayed meat or carrion, such as the skunk cabbage (*Lysichiton*) and a wake-robin (*Trillium erectum*), and attracts dung flies for pollination. The aminoid group also smells unpleasant to attract flies, smelling of decayed fish or ammonia, and includes many umbel flowers such as giant fennel. The heavy group smells similar to the last only sweeter, includes some of the oldest known fragrant flowers such as some lilies and narcissus. The aromatic group has some of the most pleasantly scented flowers with scents of vanilla, balsam, almond and cloves such as in some primroses, peonies, stocks and pinks. The violet group and smell is of course present in violets. Smelling of damp woodland moss, it attract no insects as the flowers are self-pollinating. The rose group is of course pleasant and found in roses in addition to some peonies and scented geraniums. The lemon group is more often found in leaves but also in some water lilies and evening primroses. The fruit-scented group includes many roses and some minor bulbs. The animal-scented group usually is unpleasant and may smell of musk as in some roses, human perspiration as in valerian and ox-eye daisy, and animal fur as in crown imperial. The honey-scented group is similar to the last, only sweeter and often more pleasant such as in butterfly-bush (*Buddleia*), showy stonecrop (*Sedum spectabile*) and meadowsweet (*Filipendula*).

Leaf scents fall into main four groups including the turpentine group (rosemary), the camphor and eucalyptus group (sage, catmint, scented geraniums), the mint group and the sulphur group (mustard, onions, garlic). Of course other leaf scents can be placed into the ten flower groups such as some scented geraniums in the lemon and rose groups. Unlike trees and shrubs whose bark and roots generally fall into aromatic or turpentine groups, most herbaceous perennials with scented roots fall into one of the flower groups such as the rose scent of some stonecrop (*Sedum*) or violet scent of some iris roots.

To fully enjoy fragrant plants in the garden, they should be planted in calm areas out of the wind and breeze. Such areas may also be created under arbors, or by fences, walls or hedges as in historic gardens. In fact the word "arbor" comes from "herber", a place where fragrant plants grew. Place fragrant perennials under windows to enjoy their summer fragrance (such as the night-scented evening primroses or catch-fly under bedroom windows) or in patio containers. Consider a water garden with fragrant water lilies. A variety of plants should be used to attract all forms of butterflies, moths, hummingbirds and bees and to provide a variety of colors and so of fragrances. Low fragrant plants (such as many herbs) may be planted along walks where they can be enjoyed, or in lawns and between patio pavers (such as thyme) where they may be enjoyed much as strewing herbs were in the past. And of course consider growing fragrant perennial herbs for fall harvest, drying and subsequent winter uses as in cooking, pot-pourris, lotions, and baths. In this way the fragrant garden can be enjoyed year-round.

Perhaps the most complete reference on scented plants has much more depth on all the above topics: *Scented Flora of the World*, Roy Genders, Robert Hale Publisher, London, 1994.

Some perennials with scented flowers: *Achillea* (yarrow), some *Anthemis* (marguerite daisy), some *Aquilegia* (columbine), *Aruncus* (goats-beard), *Cimicifuga* (black snakeroot), many chrysanthemums, clematis vine, *Eremurus* (foxtail lily), *Erysimum* (wallflower), *Filipendula* (meadowsweet), many perennial geraniums, species daylilies, herbs, hops vine, several species iris, *Lonicera* (honeysuckle vine), peony, garden phlox, *Tanacetum* (tansy), *Trillium* (wake robin), wisteria vine.

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