

GROWERTALKS

Features

8/1/2018

Spinning the Herb Wheel

Christopher J. Currey & Thabisa Z. Mazur

Consumers are having an increased interest in food. Whether it's local, organic, sustainable or simply fresh, the awareness of and attitudes of consumers toward food is changing.

As part of this trend, containerized herbs are increasing in popularity. When setting out to choose what to grow, the number of cultivars and selections available can be dizzying. However, with the large variety of genetics comes the opportunity to find the right selection for your needs.

Flavor

The first and primary determinant of what you're going to select and grow is based on flavor. After all, their culinary use for flavoring food is why herbs are so popular. When you're selecting different herbs to grow, be sure to grow an assortment. Although basil is the most popular culinary herb, you'll want to produce other species that will complement basil production and result in a diversified mix of culinary herbs.

There's more to selecting cultivars than different genera of herbs. For some herbs, different species, though closely related, may have different flavors.

Let's take a look at basil (*Ocimum sp.*). When you hear "basil," the sweet basil (*O. basilicum*) used for making pesto and other Italian food is likely the first one to come to mind. However, there are other basil species with different flavor profiles, such as citrus-flavored lemon basil (*O. americanum*) or the spicier-flavored holy basil (*O. tenuiflorum*), to name a few.

Oregano (*Origanum sp.*) is another example of an herb with variations in flavor; there's the classic Italian oregano (*O. x majoricum*), but there's also the spicier Greek oregano (*O. vulgare var. hirtum*).

While some similarly named herbs may have different flavors, there are also some herbs that have a flavor similar to one species, but are unrelated. For example, take a look at tarragon: French tarragon (*Artemisia dracunculus*) is the standard for this herb. However, Russian tarragon (*Artemisia dracunculoides*) is a closely related species that can provide similar aroma and flavor, but is easier to cultivate than French tarragon. There's even a third species, Mexican tarragon (*Tagetes lucida*), that has similar flavor, but grows well in hot, dry conditions.

Cilantro is another example. Cilantro (*Coriandrum sativum*) is a popular herb for its fresh flavor, but can be sensitive to warm temperatures; the foliage of Mexican coriander or culantro (*Eryngium foetidum*) has a similar flavor, but is

more tolerant of warmer and drier conditions.

Size

For growing plants in containers, size does matter. We want to produce plants that are balanced with the container size they're grown in. Depending on the species you're interested in growing, there may be a range of cultivars that vary in size, whether it's variation in the size of the whole plant or simply the leaves.



Your selection will vary with the intended use of the plant. First, there are compact or dwarf varieties that are smaller than traditional cultivars. For example, Fernleaf dill (*Anethum graveolens*) is a cultivar that grows to approximately one-half the height of traditional dill cultivars. Similarly, there are several compact varieties of basil that are smaller than standard green sweet basil cultivars. While these dwarf cultivars may not be exactly what consumers may desire for the garden, they're very well-suited for containerized production, as they're more proportional to the containers they're being grown in.

Aside from simply the size of plants, cultivars of some species will have very large or, alternatively, small foliage. For example, Lettuce-leaf sweet basil has leaves that are several-times larger than standard sweet basil foliage, lending themselves useful for specialized culinary presentations. There are also some basil cultivars with extremely small or fine leaves. While found on some of the dwarf or compact basil varieties, their small leaves are also useful for producing appealing grafted basil topiaries (Figure 1).

Figure 1. Grafted basil plants are the result of a standard sweet basil rootstock and stem with a scion from a fine-leaved bush basil cultivar grafted to it.



Foliage

In addition to the size of finished plant materials, the appearance of foliage is also something to take into consideration when selecting your containerized herb cultivars. Variegation is one of the most common foliage appearances that can increase interest in your products. There are a number of herbs that have variegated varieties (Figure 2), including some cultivars of sage (*Salvia officinalis*) and thyme (*Thymus vulgaris*).

Figure 2. Variegated leaves can enhance the ornamental appeal of some herbs, like this sage cultivar.

In addition to variegation, some cultivars have foliage that's an entirely different color than the standard species. For instance, there are purple-leaved varieties of sweet basil, fennel (*Foeniculum vulgare*) and sage. (One note about these purple-leaved varieties is that they tend to be slower-growing than their green-leaved counterparts; be sure to allow for some extra bench time for these cultivars.)

Propagation method

The propagation method for specific cultivars may influence your selection. The vast majority of containerized herbs are propagated with seeds (sexual) or cuttings (vegetative or asexual).

One of the benefits of using seed for production is that, due to the relatively inexpensive cost for herb seed, it can be

affordable to sow multiple seeds per plug and produce more dense finished plants in a shorter amount of time than single-seed sown plugs. However, there are some varieties that are only propagated vegetatively and don't come true from seed. Look to see what vegetatively propagated cultivars are protected by a patent. For those varieties that aren't protected, there may be opportunities for you to produce your own cuttings. For those varieties that are protected, be sure to procure cuttings lawfully in-house or from an outside source.

Temperature tolerance

We also need to consider the environment in which containerized herbs will be grown and sold. In some regions, production problems can arise when temperatures get too warm. For some herbs, premature flowering or bolting can be problematic when it's warm. If you're trying to produce year-round, look for heat-tolerant cultivars of normally sensitive varieties for summer production when the greenhouse is hot. For example, Calypso cilantro is a more heat-tolerant variety that won't prematurely flower or bolt under warmer temperatures compared to traditional cilantro cultivars.

Disease resistance

One of the challenges in producing edible plants like herbs is diseases can be a greater challenge to control due to the lack of labeled fungicides. Some varieties were selected, either in part or entirely, for their resistance to diseases. For example, Nufar and Aroma 2 are basil cultivars with resistance to Fusarium wilt, while Eleonora sweet basil has intermediate resistance to basil downy mildew. These resistances to diseases will not only benefit you as a grower, but may also allow your customers to be more successful when they bring plants home.

Take-home message

Containerized herb production is an area where most producers have an opportunity to expand what's grown and their product portfolio. However, before anything is planted, carefully look at what genetics are available to grow. Whether it's unique flavors, appearances or other desirable attributes, the large selection of cultivars provides the opportunity to select cultivars that will fill your need.

We've included a table (Table 1) summarizing the characteristic of culinary herb cultivars; while this is by no means a comprehensive list, it should be a good place to start familiarizing yourself with the options that are available. **GT**

Table 1. A summary of notable characteristics for cultivars of popular culinary herb species.

Species	Cultivar	Notable Characteristics
Basil, bush	Boxwood	Tight mounds resembling boxwood plants
	Greek	Small leaves, dome-shape
	Greek bush	Globe-shape, intensely flavored
	Piccolino	Uniform growth
	Pluto	Compact, fine leaves, ideal for containers
	Spicy globe	Globe-shape, tiny leaves with intense flavor
Basil, sweet	Dolly	Cupped leaves, uniform habit
	Eleonora	Downy mildew resistant, slightly spicy
	Genovese	Strong flavor
	Genovese compact	Ideal for container and greenhouse growing
	Italian large leaf	Popular for pesto
	Nufar	Industry standard, long post-harvest life, Fusarium resistant
	Pesto Party	Aromatic and flavorful
	San Remo	Vigorous, dark green leaves
	Summerlong	Prolific habit
Basil, purple	Amethyst	Nearly black in color, Genovese type
	Opal	Bronze-purple leaves, grows well in containers
	Red Rubin	Copper-tinged leaves
	Round Midnight	Dense habit, flavorful
	Ruffles	Large, frilly leaves
Basil, lemon	Lime	Mild notes of lime
	Mrs. Burns	Bright lemon flavor
	Sweet Dani	Distinctive lemony taste
Basil, other	African Blue	Unique edible pink flowers with purple calyx
	Cinnamon	Long leaves, violet stems
	Clove	Tall, extremely fragrant
	Mexican Cinnamon	Pepper-cinnamon flavor
	Persian	Lemony, spicy notes
	Spicy Saber	Serrated leaves, productive
	Variegated African Blue	Green and cream foliage, mild flavor, good for container growth

Basil, lettuce-leaf	Napoletano	Traditional spicy flavor
	Tuscany	Mild flavor with hints of licorice, bright green and ruffled leaves
Basil, Thai	Cardinal	Larger leaves, cinnamon-clove flavor
	Christmas	Hint of pine
	Persian	Large leaves, lemony, spicy notes
	Siam Queen	Anise flavor
	Sweet Thai	Spicy anise-clove flavor, purple stems and blooms
Basil, holy	Holy green stem	Camphor scent
	Kapoor Tulsi	Mild spice flavor
	Krishna Tulsi	Peppery flavor
	Rama Tulsi	Strong camphor and cinnamon notes
	Vana Tulsi	Taller habit
Chives	Cha Cha	Flower head forms unique mini-chives
	Dolores	Uniform and slender, gourmet use
	Grolau	Ideal for greenhouse forcing, less susceptible to stretch
	Medium leaf	Standard medium-leaf
	Nelly	Fine texture, blue-green color
	Polyvert	Ideal for containers
	Profusion	Ideal for pot culture, sterile flowers
	Purly	Upright habit
	Staro	Extra thick, dark leaves
Chives, garlic	Garlic chive	Thin leaves, delicate garlic flavor
	Garlic Geisha	Flavorful, ornamental value
	Nira	Wide, flat leaves, delicate garlic flavor
Cilantro	Calypso	Fragrant, citrusy, slow to bolt
	Confetti	More subtle flavor
	Coriander	Classic, versatile flavor
	Cruiser	Sturdy stems, ideal for bunching for fresh-market sales
	Marino	Classic flavor, slow to bolt
	Santo	Classic flavor, slow to bolt
	Vietnamese	Flavorful and fresh taste

Species	Cultivar	Notable Characteristics
Dill	Bouquet	Good for outdoor cultivation, large
	Dukat	Sweet and mellow flavor
	Elephant	Late-flowering
	Ella	Compact, aromatic
	Fernleaf	Compact habit, well-suited for small container
	Goldkrone	Slow to bolt
	Hera	Uniform, slow to bolt
	Long Island Mammoth	Common commercial variety
	Mammoth	Flavorful
	Superdukat	Intensely flavorful, slower to flower
	Teddy	Ideal for container growth, fast growing
	Lavender	Bandera Purple
Dwarf blue		Compact shrub, ideal for container growth
English		Also known as Hidcote, strong fragrance
Evermore Blue		Intense purple-blue flowers
Fern leaf		Double pinnate leaves, musty aroma
French		Drought tolerant, well-suited for drying
Grosso		Ideal for potpourri
Lacy Frills		White blooms
Lady		Open pollinated, forb habit
Misty		Double blooms, purple-gray color
Munstead		Compact growth habit
Munstead dwarf		Compact shrub, ideal for container growth
Phenomenal		Heat, disease, deer tolerant
Provence		Bushy habit, good for drying
Stoechas Silver Anoek		Compact, silvery-green foliage, pale blooms
Sweet		High menthol content

Oregano	Cleopatra	Mild, hint of peppermint, ideal container plant
	Compactum	Forb habit
	Cretan	Similar to Italian oregano, more spicy
	Golden	Yellow color, creeping growth habit
	Greek	Strong, spicy flavor
	Hot and Spicy	Bold flavor
	Italian	More mild than Greek oregano, larger leaves
	Mediterranean	More mild flavor
	Mexican	Spicy with citrusy notes
	Syrian	Very tall growth habit, very flavorful
Parsley, flat-leaf	Fidelio	Compact and tidy habit, medium size flat leaves
	Giant of Italy	Flat leaves, strong stems
	Italian	Flat, dark leaves with pronounced flavor
	Italian Essence	Giant flat leaf, clean aroma and taste
	Peione	High, large, dark green leaf mass, uniform habit
	Titan	Sweet, small flat leaves
Parsley, curled-leaf	Antaris	Triple curled, bright green leaves
	Darki	Dark green, curly, upright growth
	Double curled	Dark green, closely curled leaves
	Extra curled	Curly leaves, compact plant
	Favorit	Sweet flavor, soft curled and cupped leaves
	Krausa	Curly, high ornamental and culinary value
	Moss curled	Finely cut and curled leaves
	Wega	Curly, easy to harvest and ideal for containers
Rosemary	Arp	Tall, very strong fragrance
	Barbeque	Sturdy stems, ideal for grilling
	Gorizia	Wider leaves, high culinary value
	Perfect Skewer	Sturdy stems, ideal for grilling, earthy flavor
	Pine Scented	Pine scented leaves, ideal for culinary use
	Prostratus	Unique trailing habit, ideal for containers or groundcover
	Spice Island	Full-bodied, intense aroma and flavor
	Tuscan Blue	Tall, glossy leaves and blue flowers
Sage	Berggarten	Large leaves, bushy habit
	Dwarf	Compact and ideal for containers
	Extrakta	High-yielding variety with high essential oil content
	Garden Broadleaf	Aromatic and versatile
	Greek	Taller than garden sage, camphor over-tones
	White	Very aromatic, dries well
Sage, specialty	Golden	Chartreuse-yellow leaves, dark green veins
	Icternia	Bright green and yellow variegated leaves
	Pineapple	Pineapple scented
	Purple	Purple leaves, strong flavor
	Tricolor	Green leaves with white and rose streaks

Christopher J. Currey (ccurrey@iastate.edu) is an assistant professor and Thabisa Z. Mazur is an undergraduate research assistant in the Department of Horticulture at Iowa State University.