



GREEN SPRING GARDENS

4603 GREEN SPRING ROAD • ALEXANDRIA • VIRGINIA
22312

PHONE: (703) 642-5173 • FAX: (703) 642-8095

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RECOMMENDED HARDY BULBS FOR THE WASHINGTON, D.C. AREA

Bulbs are valued for their exquisite seasonal beauty and tough nature. What we commonly refer to as bulbs are a large group of plants with underground storage organs that store energy for rapid growth when environmental conditions are favorable. These organs include true bulbs (such as tulips, daffodils, and lilies), as well as corms, tubers, tuberous roots, rhizomes, and enlarged hypocotyls. Most spring blooming and fall blooming bulbs are dormant much of the summer. Summer blooming bulbs usually have foliage throughout the growing season. Three bulbs that are **native to Virginia** are listed here (in red; see plant information sheets on native perennials on our website under Gardening for more details; also available at the front desk).

Who to Buy From and When to Plant - Buy from nurseries that do not sell wild-collected plants. If you buy from a mail order nursery, good nurseries will ship when bulbs need to be planted in your area. Planting starts in this area in mid to late October for most bulbs. We have had tulips rot in warm, wet years when planted in mid October, so planting after the first hard frost (late October or early November) is best for tulips. Bulbs are not shipped after early December, so plan accordingly. There are some exceptions to fall planting – *Colchicum* is best planted by early fall before it blooms. Exceptions are noted in the comments column below and under “WINTER AND SPRING BLOOMING BULBS WITH UNUSUAL PLANTING REQUIREMENTS.”

Planting Depth and Width - Use the general three times rule when planting most dormant bulbs. Plant about 3 times the height of the bulb (measured from the soil surface down to the tip of the bulb). Space bulbs at least three times their width apart. Actual planting depth can vary from about 2 times to 4 times the height of the bulb – bulbs generally are not sensitive about planting depth. The pointy end should be facing up and the rooting side (basal plate here) should be at the bottom of the hole. If you are uncertain about what is the top vs. the bottom, plant the bulbs on their sides. Plant bulbs in groups for the best visual impact, with shorter bulbs going in front of taller plants (the height of plants at the time of bulb bloom, not mature height).

Light and Moisture Requirements - Most bulbs do best year after year when planted in full sun. Bulbs suitable for light shade or part shade, especially if they get full sun in the spring until trees leaf out, are noted in the comments column. Most bulbs that go dormant in the summer prefer moist soil in the spring and/ or fall and prefer drier sites in the summer. Most summer blooming bulbs prefer moist soils. Most bulbs need good drainage – *Camassia* is a notable exception. Water bulbs after plantings to initiate root growth if it is not raining at least ½ inch per week.

Fertilizer is Seldom Needed - We rarely fertilize bulbs at Green Spring because our extensive

use of leaf mulch makes our soil fertile. According to the International Flower Bulb Centre in the Netherlands, bulbs prefer a fertilizer with low levels of nitrogen in the fall (e.g., 5-10-12 or 4-10-6) if fertilization is needed. Organic fertilizers or slow release fertilizers are best for the environment. If spring fertilization is needed, the Bulb Centre recommends fertilizing no later than 6 weeks before flowering (fertilizing any closer to bloom can encourage disease) or right after bloom ends. A fast-release inorganic nitrogen fertilizer can be used in the spring because actively growing plants take up nitrogen rapidly. Lightly scatter fertilizer on top of the soil - do not mix it into the planting hole because bulb injury can occur. **Alternatively, topdressing bulbs with compost or mulching with shredded leaves are excellent ways for gardeners to increase soil fertility.**

Let Foliage Die Naturally - Cut back only a little foliage here and there if bulbs are flopping on other plants because you do not want to reduce the vigor of your bulbs. Bulbs continue to produce food after they are done blooming, until the foliage goes dormant. Miniature bulbs have less dying foliage to look at, so use them if you like bulbs but not the look of spent foliage in May, June, and/ or early July. Planting perennials and tender plants around bulbs can help to hide their foliage as they go dormant.

Divide Bulbs If They Get Crowded After Several Years - This is an issue with some bulbs, such as many daffodils. They can be dug up from about the time they go dormant (late June/ early July) through fall. It is better to do this task earlier rather than later because they are not actively growing in the summer and you will cause less damage. Separate the bulbs from each other then replant at a wider spacing and in new areas.

The following is a list of hardy bulbs that perform well in the Washington, D.C. area. For information about tender bulbs for our area, see **Recommended Annuals, Tender Perennials, Tender Bulbs, and Biennials For Gardens In The Washington, D.C. Area** on our website or at the front desk.

Winter and Spring Blooming Bulbs

Scientific Name	Common Name	Comments
<i>Allium christophii</i> <i>A. hollandicum (aflatunense)</i> 'Purple Sensation'	Ornamental Onion	<i>A. gigantea</i> , <i>A. 'Gladiator'</i> , <i>A. 'Lucy Ball'</i> , & <i>A. schubertii</i> have beautiful lilac or purple flowers but decline over time – 'Purple Sensation' is a much better plant (& less expensive); mid to late spring bloom; pest resistant
<i>Bletilla striata</i>	Chinese Ground Orchid	Moist, rich sites in light to part shade; late spring bloom; usually have foliage the entire growing season unless wildlife eat some of it

<p><i>Camassia cusickii</i></p> <p><i>C. leichtlinii</i> ('Blue Danube')</p> <p>Note: VA native <i>C. scilloides</i> (Atlantic camas) is harder to grow & seldom commercially available</p>	<p>Camas</p>	<p>Tolerate light shade; prefer moist soils & tolerate heavier soils than most bulbs; late spring bloom; pest resistant</p>
<p><i>Chionodoxa forbesii</i> (some botanists classify as <i>C. siehe</i>)</p> <p><i>C. 'Pink Giant'</i> (commonly sold as <i>C. forbesii</i> 'Pink Giant' but possibly a hybrid or <i>C. siehei</i> selection)</p> <p><i>C. sardensis</i></p>	<p>Glory of the Snow</p>	<p>Tolerate light shade; we planted bulbs sold as <i>C. luciliae</i> at Green Spring for the first time in 2005 so we need to see how they perform over time; early spring bloom; pest resistant</p>
<p><i>Crocus flavus</i> ('Golden Yellow')</p> <p><i>C. tommasinianus</i> & cultivars</p> <p><i>C. vernus</i> & cultivars (<i>C. chrysanthus</i> & <i>C. sieberi</i> cultivars generally have a shorter life here)</p>	<p>Crocus</p>	<p>Tolerate light shade. Loved by rabbits, squirrels, voles, & deer so can be difficult to grow well. Another early spring bloomer is <i>C. minimus</i> (it grows in our rock garden & is less vigorous than the 3 recommended species).</p> <p>Fall bloomers: <i>C. speciosus</i> is the toughest crocus that blooms in the fall (<i>C. sativus</i>, the saffron crocus, has been short-lived at Green Spring).</p>
<p><i>Hyacinthus orientalis</i> cultivars</p>	<p>Hyacinth</p>	<p>Fragrant; after the first year or so flowers often get smaller & look more like wild type (an organic mulch, such as leaf mulch, can help increase flower size); mid spring bloom; pest resistant</p>
<p><i>Ipheion uniflorum</i> ('Rolf Fiedler')</p>	<p>Star Flower</p>	<p>Tolerates light shade; mid spring bloom; pest resistant</p>
<p><i>Iris bucharica</i></p> <p>Reticulata Group cultivars such as 'Edward', 'Harmony', & 'J.S. Dijt' (<i>I. reticulata</i>, <i>I. histrioides</i>, & other species are the parents)</p> <p><i>I. histrioides</i> hybrids like 'George' (sterile)</p>	<p>Bulbous Iris</p>	<p><i>I. bucharica</i> & sterile hybrids like 'George' are the most reliable bloomers over time; tolerate light shade; late winter/early spring bloom; pest resistant</p>

<p><i>Leucojum aestivum</i> (‘Gravetye Giant’ or ‘Gravetye’)</p>	<p>Giant Snowflake (also called Summer Snowflake but spring bloomer)</p>	<p>Tolerates light to part shade; resistant to deer, rabbits, & voles; mid to late spring bloom; pest resistant</p>
<p><i>Muscari armeniacum</i> (‘Christmas Pearl’ & the light blue ‘Valerie Finnis’)</p> <p>(the double ‘Blue Spike’, the feathery <i>M. comosum</i> ‘Plumosum’, & the blackish purple <i>M. latifolium</i> do not persist in gardens in our area)</p>	<p>Grape Hyacinth</p>	<p>Tolerate light shade; early to mid spring bloom; pest resistant.</p> <p><i>M. botryoides</i> is turning up on some regional invasive lists so avoid.</p>
<p><i>Narcissus:</i> My favorite divisions of regular-sized daffodils with some good performers mentioned:</p> <p>Division 1 (trumpet; longest cup) – some that have performed well locally include ‘Dutch Master’, ‘Las Vegas’, & ‘Spellbinder’</p> <p>Division 2 (long cup) – many great performers locally including ‘Accent’, ‘Avalon’, ‘Ice Follies’, ‘Saint Keverne’, & ‘Stainless’</p> <p>Division 3 (small cup) – ‘Dreamlight’ & ‘Mint Julep’</p> <p>Division 5 (triandrus - blooms that hang like bells, usually 2 or more blooms/ stem) – ‘Ice Wings’, ‘Petrel’, ‘Stint’, & ‘Thalia’</p> <p>Division 6 (cyclamineus – windswept appearance, flower hangs its head, one bloom per stem) – ‘February Gold’ (one of the earliest to bloom), ‘Jetfire’, & ‘Surfside’</p>	<p>Daffodil</p>	<p>Bloom from early spring to late spring, depending on the cultivar or species. Pest resistant. Some cultivars can take light shade – ‘Bulley’, ‘Hillstar’, ‘Ice Follies’, ‘Sorbet’, & ‘Virginia Sunrise’ have bloomed well at Green Spring in light shade. Brent & Becky’s Bulbs lists Division 6 (cyclamineus daffodils) as tolerant of some shade. Most daffodils need full sun, especially in the spring, or they will not bloom well after the first year.</p> <p>Daffodil Divisions I Don’t Like As Well:</p> <p>*Division 4 (double – clustered cups & petals; not as natural looking) – ‘Yellow Cheerfulness’ & ‘Obdam’ are a few cultivars</p> <p>*Division 8 (tazetta; clusters of florets on a broad stem, fragrant) - ‘Avalanche’ is a cultivar we have grown for many years; leaves emerge in fall so often tired looking by spring; full sun); I like miniatures in this division better (see below)</p>

<p>Division 7 (jonquilla - small flowers with flat petals, 1 to 3 flowers/ stem, foliage is narrow & reed-like) – ‘Curlew’ (fragrant) ‘Hillstar’, ‘O’ Bodkin’, ‘Pipit’ , & ‘Sweet Love’ (fragrant)</p> <p>Division 9 (poeticus – extremely white petals, cup is small crinkled disc, most often green in center, then yellow with red rim, usually one fragrant flower/ stem, later bloom than most) – ‘Actaea’</p>	<p>Daffodil</p>	<p>Some cultivars in various divisions die off in our area over a few years even with good growing conditions: ‘Jack Snipe’, ‘Mount Hood’, & ‘Tracey’ are examples.</p>
<p><i>Narcissus</i>: Miniatures or Division 14 - Brent & Becky’s Bulbs (a nursery in Virginia) uses Division 14 in their catalog – not an official division of the American Daffodil Society but useful for gardeners. Smaller blooms than larger cultivars in their original division, as well as shorter in height (about 6 inches):</p> <p>*Miniatures from Division 1: ‘Little Beauty’, ‘Little Gem’, & ‘Topolino’</p> <p>*Miniature from Division 3: ‘Segovia’</p> <p>*Miniature from Division 5: ‘Hawera’</p> <p>*Miniature from Division 6: ‘Mite’</p> <p>*Miniatures from Division 7: ‘Baby Moon’ (fragrant), ‘Chit Chat’, & ‘Sun Disc’ (fragrant)</p> <p>*Miniatures from Division 8: ‘Minnow’ (fragrant; ‘Pacific Coast’ is a yellow form of ‘Minnow’ that is not fragrant)</p> <p>*Miniatures from Division 12: ‘Jumblie’ & ‘Tête-à-Tête’; <i>N. bulbocodium</i> hybrid ‘Golden Bells’ (also see listed under Division 10) is much more reliable than the species.</p>	<p>Miniature Daffodil</p>	<p>Miniature daffodils in Division 13 are generally harder to grow. For example, <i>N. bulbocodium</i> (hoop petticoat) thins out where we have planted it in our rock garden but sometimes pops up here & there.</p>

<p><i>Nectaroscordum siculum</i> (old name <i>Allium bulgaricum</i>)</p>	<p>Sicilian Honey Garlic</p>	<p>Much showier than the garlic we eat – flowers aren't even similar! Late spring bloomer; pest resistant.</p>
<p><i>Puschkinia scilloides</i> (also see under the name <i>P. scilloides</i> var. <i>libanotica</i>)</p>	<p>Striped Squill</p>	<p>Tolerates light shade; pest resistant; early to mid spring bloom</p>
<p><i>Scilla bifolia</i> 'Rosea' (easier to grow than the species)</p> <p><i>S. mischtschenkoana</i> ('Tubergeniana')</p> <p><i>S. siberica</i> ('Alba' & 'Spring Beauty')</p>	<p>Scilla</p>	<p>Tolerate light shade; pest resistant; from late winter to mid spring bloom.</p> <p><i>Scilla scilloides</i> is a late summer/early fall bloomer – lovely in our rock garden but can be hard to establish & expensive (also a short bloom period).</p>
<p><i>Tulipa</i> – Species tulips & their cultivars - wild, natural flowers mostly found in countries from Crete & Turkey to central Asia (e.g., Afghanistan) for species listed here. Small & often longer-lived. Longer-lived ones here include:</p> <p><i>T. saxatilis (bakeri)</i> 'Lilac Wonder'</p> <p><i>T. clusiana, T. clusiana</i> var. <i>chrysantha (T. chrysantha)</i> & cultivars: 'Cynthia' & 'Tubergen's Gem'</p> <p><i>T. kaufmanniana</i> (sold as 'Waterlily' sometimes but not a true cultivar. 'Shakespeare' of the Kaufmanniana division has rebloomed for several years)</p> <p>Note: Many like <i>T. batalini</i> 'Apricot Jewel' [some classify under <i>T. linifolia</i> (<i>Batalinii</i> group)], <i>T. 'Little Beauty'</i>, & <i>T. humilis</i> are gorgeous but not as long-lived. <i>T. turkestanica</i> has performed well in our rock garden for several years with excellent drainage.</p>	<p>Tulip</p> <p>There are 15 divisions of tulips. In addition to species tulips, my favorites divisions includes Darwin hybrids, single early, triumph, lily-flowered, & single late tulips.</p> <p>'Sweet Lady' is a Gregii tulip that bloomed at Green Spring for years, & the Darwin hybrid 'Daydream' has bloomed for years at my home. Of the large-flowered tulips, Darwin hybrids are generally the longest lived.</p>	<p>Bloom ranges from early spring to late spring. Loved by rabbits, squirrels, voles, & deer so often hard to grow. Can cover with plastic bird netting to protect but often eat plants when you uncover them just before bloom. Have had success using pea gravel as a mulch in rock gardens to keep rodents away. Prefer lighter soils that are rather dry in the summer (species tulips are great in rock gardens).</p> <p>The only spring bulb that benefits from deadheading - uses up to 30% of their energy making seeds (no seeding around for the species-types if deadhead, but I haven't seen much reseeding here except a small amount by <i>T. clusiana</i>).</p> <p>Most tulips are short-lived in our climate - we don't have a long, cool, moist spring & dry summers they need to do best. Most of them gradually die off, & the surviving plants decline in bloom over time.</p>

WINTER AND SPRING BLOOMING BULBS WITH UNUSUAL PLANTING REQUIREMENTS

Scientific Name	Common Name	Comments
<i>Anemone blanda</i>	Windflower	Few often come up because best to plant when not dried out; have tried to soak them before planting with some success; tolerates light shade; pest resistant; early to mid spring bloom
<i>Eranthis hyemalis</i>	Winter Aconite	Few often come up because best to plant when not dried out; have tried to soak them before planting with some success; pest resistant; tolerates light to part shade; reseeds so eventually get nice sized clumps; winter bloom
<i>Galanthus nivalis</i> (ones with less vigor but still long-lived are ' Flore Pleno ' & <i>G. elwesii</i>)	Snowdrops (<i>G. nivalis</i> is the earliest bloomer - sometimes even starts in late fall)	Best to move when foliage is still actively growing (can divide & give to your friends); lower success rate when buy as dried bulbs; pest resistant; Brent & Becky's Bulbs say best when planted by early fall; tolerate light to part shade; late fall to early spring bloom

SUMMER BLOOMING BULBS (USUALLY HAVE FOLIAGE THE ENTIRE GROWING SEASON)

Scientific Name	Common Name	Comments
<i>Allium stellatum</i> (native to TN & Midwestern states – blooms into fall in some sites) Note: <i>A.</i> 'Constellation' is a beautiful onion that blooms in late summer into early fall (usually later than <i>A. stellatum</i>) – limited availability at this time	Prairie Onion, Autumn Onion	Both onions great for rock gardens - tolerate dry sites; pest resistant <i>A. sphaerocephalum</i> – a showy flower but often doesn't bloom well after the first year or two; has foliage that looks very similar to invasive wild garlic. The Virginia native Allium cernuum (wild nodding onion) is listed in our plant information sheet on native herbaceous perennials for sunny gardens.

<i>Amarcrinum x memoria-corsii</i> (‘Fred Howard’)	Amarcrinum	Large bulb that needs adequate space - slightly smaller space than <i>Crinum</i> ; tolerates light shade; best to mulch deeply in late November (until late March/ early April) for winter protection; pest resistant; blooms into fall
<i>Cooperia pedunculata</i> (<i>Zephyranthes drummondii</i>)	Rain Lily	Small bulb for the connoisseur; for rock gardens & smaller spaces where there is less competition from other plants – blooms after rain in summer or early fall
<i>Crocasmia</i> ‘Lucifer’ (the best performer over time)	Lucifer Crocasmia	Many other cultivars bloom poorly here, especially over time
<i>Crinum x powellii</i> (we are evaluating several cultivars at Green Spring but none have been as reliable in bloom)	Crinum	Large bulb that needs a large space; tolerates heavy, moist soils; pest resistant; best to mulch deeply in late November (until late March/ early April) for winter protection
<i>Eucomis (comosa)</i> ‘Sparkling Burgundy’ & other species & hybrids	Pineapple Lily	May want to mulch deeply in late November (until late March/ early April) for winter protection – but most of our unmulched plants have survived many winters; drought tolerant although like moist soils best; pest resistant
<i>Lilium:</i> <i>L. davidi</i> (<i>L. henryi</i> also is a beautiful orange but is floppier, as are its hybrids) <i>L. formosanum</i> <i>L. regale</i> , shorter hybrids like ‘George C. Creelman’, & taller Trumpet / Aurelian Hybrids (many are fragrant) Asiatic Lily Hybrids such as ‘Citronella’, ‘Montreux’, ‘Tiger Babies’, & ‘Vivaldi’	Lily <i>Lilium formosanum</i> is susceptible to lily mosaic, a virus, although we have not seen it at Green Spring.	See North American Lily Society for more details. Many are drought tolerant although most prefer moist soil. Lilies in general also loved by deer, rabbits, and voles. The lovely <i>Lilium superbum</i> (Turk’s cap lily) is native to Virginia but it is hard to get it to bloom reliably in cultivation. Trumpet/Aurelian Hybrids grow well but are often very tall & floppy, so look best if staked.

<p>Oriental lilies including <i>L. speciosum</i> & hybrids like 'Casa Blanca', 'San Souci', & 'Star Gazer' (many are fragrant; not as tough as Asiatic lily hybrids)</p> <p>Orienpet Hybrids - Oriental lilies crossed with Trumpet/ Aurelian Hybrids to get cultivars such as 'Arabesque' (this cultivar is tall but doesn't need staking)</p>		<p>Not all lilies are easy to grow here. For example, martagon lilies will grow in our area but aren't as vigorous or as tall as other forms – prefer rich soil & cooler weather.</p>
<p><i>Lycoris squamigera</i></p>	<p>Naked Ladies, Surprise Lily, Resurrection Lily,</p>	<p>Tolerates light shade, especially if get full sun in the spring; pest resistant. Flowers bloom in August long after foliage has gone dormant – a "naked lady!"</p>

Fall Blooming Bulbs

Scientific Name	Common Name	Comments
<p><i>Colchicum autumnale</i> <i>C. byzantinum</i> <i>C. 'The Giant'</i></p> <p>(the double-flowered <i>C. 'Waterlily'</i> is beautiful but hasn't been as long-lived as single-flowered forms at Green Spring)</p>	<p>Colchicum</p>	<p>Ship by early fall – best to plant before they bloom (can plant when blooming but lower survival rate – expect some plants not to survive transplanting); poisonous so not bothered by animals like <i>Crocus</i> is; tolerate light shade</p>
<p><i>Cyclamen hederifolium</i></p>	<p>Cyclamen</p>	<p>Tolerates light to part shade; <i>C. coum</i> is beautiful but has not performed well for us. Generally not bothered by rodents.</p>
<p><i>Lycoris radiata</i></p>	<p>Red Spider Lily</p>	<p>Tolerates light shade; can be borderline hardy in some areas (Zone 7 plant); plant in the summer before it blooms</p>
<p><i>Schizostylis coccinea</i> ('Mrs. Hegarty' & 'Oregon Sunset' have performed best)</p>	<p>Kaffir Lily</p>	<p>Latest bloom of all – into November (foliage present entire growing season); do not crowd or won't bloom well; pest resistant</p>

<i>Sternbergia lutea</i>	Sternbergia	Best to ship them right after they are dug in June & best to plant as soon as they arrive (we have also successfully planted in early fall); tolerates light shade
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A Note about Scientific Names:

Current names are from the **International Plant Names Index** (IPNI; www.ipni.org/index.html) and/or the **USDA PLANTS Database** (<http://plants.usda.gov/>; this website also has many photographs of native plants). If a second scientific name is given, it is usually an old name that is still seen in some references or used by some nurseries. The **Missouri Botanical Garden** is also an excellent reference for plant names, gardening information, and photographs: the **Kemper Center for Home Gardening Plantfinder** features plants in their Kemper Center display gardens and is one of my favorite websites about ornamental plants (www.mobot.org/gardeninghelp/plantfinder/alpha.asp). Another resource is their plant name database for plants throughout the world at **w³TROPICOS** (<http://mobot.mobot.org/W3T/Search/vast.html>).

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Developed by Brenda Skarphol, Curatorial Horticulturist at Green Spring Gardens.
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