



Department of Horticulture

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## Spreading Ornamental Plants: Virtues & Vices

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This publication is meant to serve as a precautionary guide for the gardener when choosing ornamental plants. Often plants are selected first for their beauty and second for their functionality in the garden. Frequently, the behavior of a plant is unknown or not considered at the time of selection. Some plants, given their optimal habitat, can become quite prolific in the garden. Many useful plants get bad reputations for such spreading behavior when they may simply be in the wrong place or managed the wrong way. The information in this bulletin can provide the gardener with the knowledge to avoid such mistakes. Then these vigorous, expansive plants can be used to great advantage, given that they are located and cared for correctly.

The plants in Tables 1 and 2 are some of those that tend to be spreaders in the garden. They are rated according to their vigor in their optimal habitat. Plants and sites are unique and thus, your plant(s) may or may not be as vigorous as indicated. For example, a plant that requires ample moisture may be a spreader in a well-irrigated spot, but better behaved in a drier location. A rating value of 4 to 5 indicates that plant should be regarded as “aggressive.” A rating of 3 to 4 means the plant is “vigorous”, but generally not rising to a nuisance level. A rating under 3 suggests a “slower spreader.”

A high rating implies use of a plant **WITH CAUTION**. However, it does not mean a plant should be totally avoided! In fact, specific landscape situations may demand plants of this nature.

The planting situation, or landscape context, must be considered in judging a plant’s suitability. A 5.0-rated plant may be perfect in a monoculture (only one kind of plant in a bed). Such cases are usually referred to as ground cover beds (Figure 1). The same plant may be poorly suited for use in a mixed planting bed. A particularly common example of the use of ground cover plants is on slopes that are too steep to mow. Table 1 lists plants frequently thought of as ground covers, but many of the species in Table 2 may be used in that manner, too.



Figure 1. The species *Lamium galeobdolon*, yellow archangel, is a useful spreading plant when used as a ground cover in partial shade.

The gardener’s level of dedication also impacts plant selection. For the weekend gardener who must divide time between family, work, and the garden, some of these plants may require more time than is available. Such gardeners would be wise to stick with moderate to low rated plants. Conversely, the avid, experienced gardener who is accustomed to active gardening may enjoy the challenge of managing plants rated as a 5.0.

Many plants that have the potential to misbehave can be enjoyed if appropriate control measures are used. Plant behavior relates to the method of propagation. Some reseed and others spread vegetatively by modified stems. Knowing how they reproduce allows us to better influence their behavior and understand the degree of difficulty of their control. Control measures include regular thinning and division, pruning, confinement and deadheading. Knowledgeable use of control methods can allow these plants to be valued parts of your landscape.

## Propagation Mechanisms and Plant Management

### Rhizome:

**An underground stem that is commonly horizontal and may appear to be root-like. Because it is a stem, it has nodes where buds are located.**

Rhizomatous growth is particularly difficult to monitor. We have little idea, being above the soil surface, what's going on below it. The simplest control approach is to maintain a "plant-free" mulch zone around the plant and several times each season, dig and remove rhizomes that are spreading underground outward from the original plant in the center. This method does require persistence and extra space in the garden. Alternatively, plants with this behavior can be planted in large containers (with drain holes) which are then "planted" in the garden. Leave an inch of head space between the soil level and the rim of the pot as a second barrier to straying. A bit of mulch can be used to hide the rim of the pot. It is good practice to pull up the container once every year or two (depending on plant vigor) prune the roots to keep the plant within its confines and repot. This is a helpful practice as it allows one to become intimately acquainted with the plant's rhizomatous behavior. Another option is to use a deep-walled bottomless structure such as a section of large diameter pipe (Figure 2). The barrier should be 8-18" or deeper to prevent most rhizomes from getting below the barrier.



Figure 2. A section of rigid plastic pipe embedded in the garden serves as a rhizome barrier to prevent unwanted spread of *Campanula glomerata*, clustered bellflower.

Removal of rhizomes is best achieved using a sturdy garden fork. Loosen the soil and gently pull the threads of rhizomes from the soil. Total eradication can be difficult. Your success at removing the rhizomes will be evident in time, as any piece with a node on it that is left in the soil will give rise to a new plant.

Pruning, or pinching of the top growth to reduce the plant's vigor will aid in control. In a small garden, simply pinching out unwanted new shoots as soon as they appear on the soil surface can be effective, but this will not eliminate the rhizome from which the shoot arose.

For complete elimination of a small patch or an isolated plant, one can carefully apply a non-selective herbicide to the above-ground parts of the plant. Remember, for safety when using any pesticide, always read and follow label directions. Larger patches, or those closer to desirable plants, will probably have to be dealt with as before - with a garden fork.

### Stolon:

**A prostrate, horizontal stem creeping along the ground and rooting at the tip or the nodes. Each rooting gives rise to a new plant.**

Stoloniferous plants make no effort to conceal their reproductive structures, yet they can be as expansive as rhizomatous plants. Plants that behave in this manner can be cut back as needed. They generally will dislodge from the soil surface more easily with a garden fork than their rhizomatous garden colleagues. Total elimination can be accomplished with herbicide as described above.

### Reseeders:

**These plants produce many seeds that successfully germinate and grow into plants the following growing season.**

Control of reseeding plants is best accomplished by regular deadheading. Deadheading is removal of flowers immediately after they begin to lose their ornamental value and before they can mature any seeds. It is an aspect of plant hygiene that is often neglected. Flower removal directs plant energy to producing more flower buds or a healthier root system rather than forming seeds that may overpopulate the garden.

Reseeding is not necessarily a bad thing, however. The English cottage garden style relies on the randomness that arises from reseeding or "self-sowing." Cottage gardeners allow some seedlings to develop, while simply plucking unwanted plantlets from the garden, a technique that has been called "editing the garden". Reseeding can actually save the gardener work and money by providing free plants without the effort of planting them. So, is re-seeding a positive or a negative? It's all in the way one looks at it! Is the flower bed half empty or half full?

Above all, don't be fooled into believing that life in the garden will be better if spreading plants are avoided. On the contrary, the garden will be a bit more drab without them.

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**Table 1. Plants Commonly Used for Ground Cover.**

Scientific name	Common name	Life Cycle	Propagation Mechanism	Behavior Rating
<i>Aegopodium podagraria</i>	Bishop's Weed, Goutweed	Perennial	stoloniferous	5.0
<i>Ajuga reptans</i>	Bugleweed	Perennial	stoloniferous	3.5
<i>Asperula odorata</i> (syn. <i>Galium odorata</i> )	Sweet Woodruff	Perennial	stoloniferous	5.0
<i>Ceratostigma plumbaginoides</i>	Leadwort	Perennial	stoloniferous	4.5
<i>Convallaria majalis</i>	Lily-of-the-valley	Perennial	rhizomatous	5.0
<i>Duchesnea indica</i>	Mock Strawberry	Perennial	stoloniferous	4.0
<i>Galium odorata</i> (syn. <i>Asperula odorata</i> )	Sweet Woodruff	Perennial	stoloniferous	5.0
<i>Hedera helix</i>	English Ivy	Perennial	stoloniferous	4.5
<i>Houttuynia cordata</i>	Houttuynia, Chameleon Plant	Perennial	rhizomatous	4.5
<i>Lamium maculatum</i>	Yellow Archangel	Perennial	stoloniferous	5.0
<i>Lamium maculatum</i>	Lamium, Spotted Deadnettle	Perennial	stoloniferous	3.5
<i>Phlox stolonifera</i>	Creeping Phlox	Perennial	stoloniferous	2.5
<i>Vinca minor</i>	Periwinkle, Myrtle	Perennial	stoloniferous	5.0

**Table 2. Plants Not Commonly Used as Ground Cover.**

Scientific name	Common name	Life Cycle	Propagation Mechanism	Behavior Rating
<i>Acanthus</i> spp.	Bear's Breeches	Perennial	stoloniferous	3.0
<i>Achillea millefolium</i>	Yarrow	Perennial	rhizomes	4.0
<i>Achillea ptarmica</i>	Sneezeweed	Perennial	stoloniferous	3.0
<i>Allium schoenoprasum</i>	Chives, Grass Onion	Perennial	reseed	3.0
<i>Allium tuberosum</i>	Garlic Chives	Perennial	reseed	4.0
<i>Anemone blanda</i>	Grecian Windflower	Perennial	reseed	3.5
<i>Anemone sylvestris</i>	Snowdrop Anemone	Perennial	stoloniferous	3.5
<i>Anemone tomentosa</i>	Grapeleaf Anemone	Perennial	stoloniferous	4.5
<i>Angelica archangelica</i>	Wild Parsnip	Perennial	reseed	3.5
<i>Angelica gigas</i>	Purple Parsnip, Angelica	Perennial	reseed	3.5
<i>Anthum graveolens</i>	Dill	Annual	reseed	4.0
<i>Aquilegia</i> spp.	Columbine	Perennial	reseed	2.0
<i>Argemone mexicana</i>	Prickly Poppy	Annual	reseed	3.5
<i>Artemisia annua</i>	Sweet Annie	Annual	reseed	5.0
<i>Artemisia ludoviciana</i>	White Sage	Perennial	stoloniferous	4.5
<i>Asarum canadensis</i>	Wild Ginger	Perennial	stoloniferous	3.0
<i>Aster tartaricus</i>	Tartarian Daisy	Perennial	reseed	3.5
<i>Belamcanda chinensis</i>	Blackberry Lily	Perennial	reseed	4.0
<i>Boltonia asteroides</i>	White Boltonia	Perennial	stol., reseed	5.0
<i>Borago officinalis</i>	Borage	Annual	reseed	3.5
<i>Campanula glomerata</i>	Clustered Bellflower	Perennial	rhizomatous	4.5
<i>Cassia hebecarpa</i> ( <i>S. hebecarpa</i> )	Wild Senna	Perennial	reseed	3.5
<i>Celastrus scandens</i>	American Bittersweet	Perennial	reseed	5.0
<i>Centaurea montana</i>	Mountain Bluet	Annual	reseed	3.5
<i>Chasmanthium latifolium</i>	Northern Sea Oats	Perennial	reseed	5.0
<i>Chrysanthemum leucanthemum</i>	Ox-Eyed Daisy	Perennial	reseed	4.5
<i>Clematis ternifolia</i>	Sweet Autumn Clematis	Perennial	reseed	4.5
<i>Coronilla varia</i>	Crown Vetch	Perennial	rhiz., stoloniferous	5.0
<i>Datura</i> spp.	Moonflower, Jimson-weed	Annual	reseed	5.0
<i>Digitalis ferruginea</i>	Rusty Foxglove	Biennial	reseed	4.5
<i>Echinacea purpurea</i>	Purple Coneflower	Perennial	reseed	5.0
<i>Eranthis hyemalis</i>	Winter Aconite	Perennial	reseed	3.0
<i>Erigeron philadelphicus</i>	Common Fleabane	Perennial	reseed	3.5
<i>Fallopia japonica</i> ( <i>P. cuspidatum</i> )	Reynoutria Fleecflower	Perennial	stoloniferous	4.5
<i>Festuca glauca</i>	Blue Fescue	Perennial	reseed	2.5
<i>Foeniculum vulgare</i>	Fennel	Annual	reseed	5.0
<i>Helenium autumnale</i>	Common Sneezeweed	Perennial	reseed	3.0
<i>Heliopsis helianthoides</i>	Sunflower Heliopsis	Perennial	reseed	3.0
<i>Hesperis matronalis</i>	Dame's Rocket	Perennial	reseed	4.5

**Table 2. Plants Not Commonly Used as Ground Cover (continued).**

Latin name	Common name	Life Cycle	Propagation Mechanism	Behavior Rating
<i>Hierochloe odorata</i>	Sweet Grass	Perennial	stoloniferous	4.5
<i>Hypericum calycinum</i>	Aarons Beard, St. Johnswort	Perennial	stoloniferous	4.0
<i>Imperata cylindrica</i>	Japanese Blood Grass	Perennial	stoloniferous	2.5
<i>Knautia macedonica</i>	Knautia	Perennial	reseed	4.0
<i>Lathyrus latifolius</i>	Perennial Sweet Pea	Perennial	rhiz., reseed	5.0
<i>Lavatera</i> spp.	Mallow	Annual	reseed	3.0
<i>Lonicera</i> spp.	Honeysuckle	Perennial	reseed	5.0
<i>Lunaria annua</i>	Honesty, Money Plant	Annual	reseed	4.5
<i>Lychnis coronaria</i>	Rose Campion	Biennial	reseed	4.0
<i>Lysimachia clethroides</i>	Gooseneck Loosestrife	Perennial	stoloniferous	5.0
<i>Lysimachia punctata</i>	Yellow Loosestrife	Perennial	stoloniferous	4.5
<i>Lythrum salicaria</i> *	Purple Loosestrife	Perennial	stoloniferous	5+
<i>Macleaya cordata</i>	Plume Poppy	Annual	reseed	5.0
<i>Malva</i> spp.	Mallow	Annual	reseed	3.5
<i>Matteuccia struthiopteris</i>	Ostrich Fern	Perennial	stoloniferous	5.0
<i>Melissa officinalis</i>	Lemon Balm	Perennial	stol., reseed	3.5
<i>Mentha</i> spp.	Mint	Perennial	stoloniferous	5.0
<i>Miscanthus giganteus</i>	Giant Eulalia Grass	Perennial	stoloniferous	3.0
<i>Monarda didyma</i>	Bergamot, Bee-Balm	Perennial	stoloniferous	4.0
<i>Oenothera missouriensis</i>	Ozark Sundrops	Perennial	stoloniferous	3.0
<i>Oenothera speciosa</i>	Showy Evening Primrose	Perennial	stoloniferous	5.0
<i>Osmunda claytonia</i>	Interrupted Fern	Perennial	stoloniferous	4.0
<i>Osmunda cinnamomea</i>	Cinnamon Fern	Perennial	stoloniferous	4.5
<i>Panicum virgatum</i>	Switchgrass	Perennial	reseed	2.0
<i>Pardancanda</i> spp.	Candy Lily	Perennial	reseed	4.5
<i>Perilla frutescens</i> 'Crispa'	Perilla	Annual	reseed	5.0
<i>Phalaris arundinacea</i> 'Picta'	Ribbon Grass	Perennial	stoloniferous	5.0
<i>Physalis alkekengi</i>	Chinese Lantern	Perennial	stoloniferous	4.5
<i>Phytostegia virginiana</i>	Obedient Plant	Perennial	stoloniferous	5.0
<i>Podophyllum peltatum</i>	Mayapple	Perennial	rhizomatous	5.0
<i>Polygonatum commutatum</i>	Great Solomon's Seal	Perennial	stoloniferous	4.5
<i>Prunella vulgaris</i>	Self-Heal	Perennial	stoloniferous	4.5
<i>Ratibida pinnata</i>	Gray-Headed or Yellow Coneflower	Perennial	reseed	4.0
<i>Rubus</i> spp.	Raspberries, etc.	Perennial	stoloniferous	5.0
<i>Rudbeckia hirta</i>	Black-Eyed Susan	Perennial	reseed	4.5
<i>Sanguisorba canadensis</i>	Canadian Burnet	Perennial	stoloniferous	3.0
<i>Sasa</i> spp.	Bamboo	Perennial	stoloniferous	5.0
<i>Silphium laciniatum</i>	Compass Plant	Perennial	reseed	4.0
<i>Spartina pectinata</i>	Prairie Cordgrass	Perennial	rhizomatous	4.5
<i>Stylophorum diphyllum</i>	Celandine Poppy	Perennial	reseed	3.0
<i>Symphytum officinale</i>	Comfrey	Perennial	rhizomatous	4.0
<i>Tanacetum</i> spp.	Daisy	Perennial	reseed	4.0
<i>Telekia speciosa</i>	Telekia	Perennial	reseed	3.0
<i>Tovara virginiana</i>	Virginia Tovara	Perennial	stoloniferous	4.0
<i>Tradescantia virginica</i>	Virginia Spiderwort	Perennial	stoloniferous	5.0
<i>Valeriana officinalis</i>	Valerian, Garden Heliotrope	Perennial	stoloniferous	4.0
<i>Verbena bonariensis</i>	Brazilian Verbena	Annual	reseed	5.0

\**Lythrum salicaria* should not be planted. It is currently the object of eradication efforts because it has escaped cultivation and is choking out native wetland vegetation. It is banned from commerce in several midwestern states, including Indiana.

For more information on the subject discussed in this publication, consult your local office of the Purdue University Cooperative Extension Service.

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