



Environmental Horticulture Notes

EHN 91

ORNAMENTAL GRASS

Ornamental grasses have become a popular choice for Sacramento area gardens both as an accent plant and/or lawn substitute. They are low maintenance, long flowering, and add sparkle, shimmer (especially when back lit), color, and texture to borders, screens and perennial gardens while providing food and shelter for beneficial insects and birds. Many varieties are able to grow well here with little water during our long, hot, dry summers and do not mind our wet, cool winters. Also, many grasses are indifferent to soil type and composition, but do grow better in well-drained soil. Many can handle the clay soils in Sacramento.

GENERAL INFORMATION

Ornamental grasses are considered to be any grass-like plants that are grown with perennials, shrubs and trees in the landscape. They include "true grasses" of the botanical family Poaceae, angular-stemmed sedges or *Carex* species (Cyperaceae family), round-stemmed reeds (Arundo family) and rushes (Juncaceae family), New Zealand flax (*Phormium spp.*) and grass-like perennials such as Blue-Eyed grass (*Sisyrinchium spp.*). Unlike most turf grasses, ornamental grasses often grow in clumps or bunches, resulting in the common name bunchgrass. They usually do not creep outwardly by stolons or rhizomes. In other words, they stay put where planted. Wind pollinated grass flowers are numerous, relatively tiny (*florets*) and cluster in groups defined as an *inflorescence*. They can be grouped on a stem as a spike, droop from the main stem on a short stem called a panicle (raceme form), or branch out on side stems (panicle form). A slender, needle or bristle-like appendage called an awn may extend out from the floret. This is what contributes to the silky, soft appearance of the Mexican feather grass. The diverse nature of the flower forms adds to the appeal of ornamental grasses.

Grasses can be evergreen, semi-evergreen, or deciduous and annual or perennial in nature. They vary in height from under 1 foot to over 6 feet. Many varieties are chosen for their color impact. Foliage colors range from brilliant lime and blue greens, to orange, bronze, and silver and can be variegated or striped. Most are sun worshipers, but shade choices exist. Leaves may dry to golden hues in the fall and inflorescences can change color as they mature. Some grasses readily self-seed.

Common growth forms follow with an example. A single plant may exhibit more than one growth characteristic:

- Tufted: leaves and stems grow upright from a central point; also known as bunchgrass (*Festuca spp.*)
- Mounded: leaves curve outwardly from the plant's center (*Carex spp.*)
- Upright: leaves and stems grow tall in clumping columns (Feather reed grass, *Calamagrotis x acutiflora* 'Stricta')
- Arching: leaves and or flower stems reach upward and outward in an arching manner (Fountain grasses, *Pennisetum spp.*)

GROWTH CYCLES

Perennial grasses are classified according to their growth cycle. It is very important to understand the growth cycles when planning and planting a landscape with ornamental grasses. A mixture of grass types will insure that your garden has interesting accents throughout all four yearly seasons.

WARM SEASON GRASS

These often deciduous varieties go dormant in fall when the soil temperature reaches 55°F and remain brown throughout the winter and come back to life slowly in the spring. Many thrive during long, hot summer days when temperatures are between 80°F and 95°F. Flowering occurs during late summer and fall. They should be divided and/or transplanted in spring when they are actively growing after breaking dormancy. However, in our climate, warm season grasses can also be replanted in fall before the plant goes into winter dormancy. The dried flower stems and gorgeous fall foliage often continue to add texture and interest to the winter garden. Examples include many of the *Miscanthus*, *Molinia*, *Panicum* and *Pennisetum* species.

COOL SEASON GRASS

Cool season grasses can grow year round. They are often evergreen or semi-evergreen. Flowering occurs in spring and summer. However, many grow more slowly or go dormant when temperatures are consistently above 75°F in summer. Cool season grasses should not be divided or transplanted when they are dormant or nearly dormant in the summer. In Sacramento, they can be planted or divided in spring or fall, although spring is preferable. Examples are most species of *Calamagrostis*, *Carex*, *Deschampsia*, *Fescue*, and *Sesleria*

BASIC CARE

If properly sited, ornamental grasses will need little maintenance and fertilization other than cutting back and clump thinning. Spring is the primary planting season, although in our climate grasses can also be successfully planted in fall. Some varieties grow well from seed, while others are best grown as transplants. Be sure to consider the grasses' mature size when planting. Take care that the root crown is not smothered by soil or mulch and water regularly until established.

Ornamental grasses can benefit from being cut back, groomed and/or mowed occasionally. Many deciduous grasses need to be cut back in late winter or early spring. In Sacramento cut grasses back in February. A general rule is that if the grass is under 3 feet tall, it should be cut down to 3 inches or less. If the mature plant is over 3 feet it should be cut to 4 to 6 inches high. Use sharp tools and be prepared to sharpen them often. The grass will dull the blades quickly. Some grasses, such as *Miscanthus*, have razor-sharp edges, so wear heavy gloves and long sleeves. Evergreen grasses and sedges do not need to be cut back as often. They can be groomed with a gloved hand by running fingers through the clumps to remove dead foliage. If the plant needs more serious attention, the evergreen plant can be cut back two-thirds in the fall or spring. Also, many *Carex* and *Fescue* species are now being planted as lawn substitutes, and they can be mowed 3 to 4 times a year, depending upon the species and plant use.

Propagation of Ornamental Grasses and Grass-Like Plants

Propagation of perennial ornamental grasses is done primarily from seeds or by division of clumps. Do not sow seeds of variegated grass varieties because seedlings will not be variegated; they must be divided in order to retain variegated foliage.

COLLECTING GRASS SEEDS

When the grass inflorescences (tiny flowers which are grouped into clusters) have completely matured and become dry, which is usually in late summer or fall, seeds can be collected before they either fall to the ground or are blown by the wind. Seed heads are mature when they turn tan, gray, gold, or brown, and some may fluff up like cotton candy. Pick the entire stem of healthy, well-developed flowers just before their seed heads are fully ripened. Place them in a cool, dry place for a few days so that the seeds can finish ripening. Then strip off the seeds. Sow them right away or store them in a cool, dry, dark place until spring. Old plastic or metal film canisters with a lid or paper envelopes are good storage containers. Include a packet of silica gel (desiccant) to absorb any moisture.

GROWING FROM SEEDS

You will be most successful if you sow freshly gathered seeds right away. Here are the steps you can take to grow grasses from seed: Fill a 4 inch or larger nursery pot or other container with a seed starting mix or potting soil that drains well. Scatter seeds thinly onto the surface of the soil. Avoid sowing too thickly as this can result in spindly seedlings or the water- and soil-borne fungal disease damping off. Cover the seeds with a

thin layer of fine sand or more seed starting mix. Water well, then cover the container with a clear plastic dome or place it into a clear plastic bag to prevent moisture loss. Shade the container from the sun; however, after germination, remove the cover and place the seedlings in bright light, such as a south-facing window, in a greenhouse, or under fluorescent lights. When plants have two leaves, transplant them into individual pots and continue to grow them in a sheltered location until they are well established. As plants grow, continue to transplant them into larger pots until each plant is in a 1 gallon container. Seeds that are sown in fall should be large enough to transplant into the garden the next summer or fall.

DIVIDING GRASS CLUMPS

The best time to divide any grass is when it is getting ready to start active growth. Warm-season grasses (those that flower after mid-summer) should only be divided from mid-spring to early summer, while cool-season grasses (which flower before mid-summer) can be divided in either spring or fall.

Small grasses, such as *Carex* and *Festuca*, and creeping grasses, such as *Phalaris arundinacea*, can easily be divided by tearing them apart. Water the plant, then lift it from the soil using a digging fork. To make it easier to handle, you may want to cut down the foliage to about 6 to 8 inches. Shake or wash off any loose soil and carefully tear the root ball apart into two to four small sections. Using sharp pruners, trim the foliage (if you didn't cut it back earlier) and any long or damaged roots. Replant the divisions right away into the garden or into nursery pots using fresh sandy potting mix. Water well, and be sure to label the plants.

Large grasses, such as *Calamagrostis* and *Miscanthus*, can have very tough rootstocks and require a bit of muscle to divide. Young plants can be divided using a sharp spade, but large, mature clumps may need an axe or saw. Some clumps can be torn apart with two large digging forks set back-to-back. Cut back the foliage first for easier handling and so you can see where to divide the clump. Wear heavy gloves to protect your hands and long sleeves and long pants to protect your arms and legs. Some grasses such as *Miscanthus* have razor-sharp edges. After dividing the clump, discard the center, which is less vigorous than the edges; then trim off any long or damaged roots. Either replant the divisions immediately into the garden or into containers large enough to easily accommodate the root system. Keep the plants well-watered until they are established. An easier method might be to reduce the size of the clump by cutting sections out of the edges of the clump, being sure that each section has some roots, and then replanting them right away.

Propagation methods for some of the more commonly grown grasses and grass-like plants are listed on the attached chart.

GRASSES TO AVOID

Several non-native species routinely planted in the past have become invasive pests and should not be planted. Invasive plants most commonly seen here in Sacramento are the Arundo or giant reed (*Arundo donax*), Pampas grass (*Cortaderia jubata* and *C. selloana*) and green fountaingrass (*Pennisetum setaceum*).

The *Pennisetum setaceum* cultivar, Rubrum, however, is not supposed to produce viable seed. It is widely planted for its tall red autumn foliage and purplish spiking, brushy inflorescence. It has been planted at the Fair Oaks Horticulture Center (FOHC) Water Efficient Landscape common area and reseeding has not occurred. Recommended alternatives include New Zealand flax (*Phormium tenax*), Deer grass (*Muhlenbergia rigens*) and Pink Muhly grass (*Muhlenbergia capillaris*) samples of which are growing at FOHC.

ORNAMENTAL GRASS LIST

Attached is a chart of commonly grown grasses and grass-like ornamental plants, many of which are grown in the Water Efficient Landscape Garden at the Fair Oaks Horticulture Center.

ADDITIONAL RESOURCES

Local grass growing gardens to visit:

- Fair Oaks Horticulture Center, 11549 Fair Oaks Blvd, Fair Oaks, CA 95628
- UC Davis Arboretum, for locations visit <http://arboretum.ucdavis.edu/>
- William Land Park WPA Rock Garden, 3800 S. Land Park Drive, Sacramento CA 95822.
- Garden is located on 15th Avenue just north of Fairytale Town
- Sacramento Old City Cemetery Demonstration Native Plant Garden, 1000 Broadway, Sacramento

Plant Sources:

- Ornamental grasses can be found at most local nurseries.
- Spring and fall plant sales:
- The UC Davis Arboretum, <http://arboretum.ucdavis.edu/>
- Sacramento Perennial Plant Club, www.sacramentoperennialplantclub.org/
- Sacramento Valley Chapter of the California Native Plant Society, www.sacvalleycnps.org/
- John Greenlee's, *The American Meadow Garden*, includes an extensive list of mail order and internet nursery sources.

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 - *The American Meadow Garden*. 2009. John Greenlee. Timber Press
 - *The Encyclopedia of Ornamental Grass*. 1992. John Greenlee, Michael Friedman Publishing Group, Inc.
 - Timber Press Pocket Guide to Ornamental Grasses. 2004. Rick Darke. Timber Press
 - *Weeds of California and Other Western States*. 2007. Joseph M. DiTomaso, Evelyn A. Healy. University of California ANR Publication 3488
 - *Sunset Western Garden Book*. 2012. Sunset Publishing

**ORNAMENTAL GRASSES AND GRASS-LIKE PLANTS
COMMONLY GROWN IN THE SACRAMENTO AREA**

Botanical Name	Common Name	Plant Type	Size	Exposure	Origin	Propagation Method	Notes
<i>Acorus</i>	Sweet Flag	Calla Relative	8"-12"H x 8"-12"W	Light shade	Eurasian	Easily propagated by division. The species may be grown from seed, but all cultivars must be divided.	Not drought tolerant. Used in damp borders, pond and pool edges.
<i>Bouteloua gracilis</i>	Blue Grama Grass, Eyelash Grass	Warm Season Grass	18'H x 12"W	Sun	CA Native	Grow from seed or divide in spring.	Can plant densely and mow to 2". Cold hardy. Attractive "eyelash" shaped inflorescences. Tolerates foot traffic, can use in pots. UC Davis Arboretum All Star.
<i>Calamagrostis x acutiflora</i> 'Stricta' also known as 'Karl Foerster'	Feather Reed Grass	Cool Season Grass	6'H x 3'W	Sun/part shade	Eurasian	Divide in spring or fall.	Popular worldwide, it has an upright, clumping form that doesn't require staking. Cut back to 5" in early March. Good choice for motion in garden.
<i>Calamagrostis foliosa</i>	Mendocino reed grass	Warm Season Grass	2'-4' H x 2'-4'W	Light shade	Native to San Francisco Bay area	Propagate by seed, or by division in spring.	Somewhat drought tolerant but does need regular moisture. Whitish, feather-like showy blooms. Good on slopes. Good with fescues. May be short-lived. Does not respond well to shearing.
<i>Carex divulsa</i> (also known as <i>Carex tumulicola</i>)	Berkeley Sedge	Sedge	12"-18" H x 2' W	Part shade/shade	Europe	Easily propagated by seed, or by division in spring. May naturalize.	Can be mowed. Very versatile. Evergreen. Tolerant of sun, shade, handles dry and moist conditions, foot traffic, and tree roots. Used in meadow gardens, rain gardens and for erosion control. UC Davis Arboretum All Star.
<i>Carex flagellifera</i>	Leather Leaf Sedge, Weeping Brown Sedge	Sedge	2"-18" H x 2' W	Sun/part shade	New Zealand	Easily propagated by seed, or by division in spring.	Reddish bronze foliage, wide spreading, may be short lived. Insignificant flowers.
<i>Carex testacea</i>	Orange Bronze Sedge	Sedge	2'H x 3'W	Sun/part shade	New Zealand	Easily propagated by seed, or by division in spring.	Cold hardy, self sows moderately, may be short lived. Insignificant flowers.
<i>Carex testacea</i> 'Prairie Fire'	Orange Bronze Sedge	Sedge	2'H x 3'W	Sun/part shade	New Zealand	Easily propagated by seed, or by division in spring.	Cold hardy, self sows moderately, may be short lived, Color more vibrant in full sun. Insignificant flowers.
<i>Deschampsia caespitosa</i>	Tufted Hair Grass	Cool Season Grass	1'-2 'H x 2' W	Sun/light shade	CA Native	Easily propagated by seed, or by division in spring.	Valued for deep green foliage and billowing, hairlike inflorescences. Does better with winter chill and regular water. (It will turn brown if allowed to dry out.) Flowering stalks may add up to 3' in height.
<i>Festuca idahoensis</i> 'Siskiyou Blue'	Idaho Fescue	Cool Season Grass	6"-14"H x10"W	Sun/part shade	CA Native	Grow from seed outdoors in the fall, or divide the rootball in spring or fall	May go dormant in summer, is used as lawn substitute, resents summer watering and mowing (A close relative, <i>Festuca californica</i> , is a UC Davis All Star).

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<i>Festuca ovina</i> 'Glauca'	Blue Fescue	Cool Season Grass	6"-10"H x 10"W	Sun / part shade	France	Center of clump commonly dies out after several years. Grow from seed, or divide in spring or fall (named cultivars must be divided)	Short lived, centers die out especially if heat stressed, very common, requires good drainage.
<i>Festuca rubra</i> <i>molate</i>	Creeping Red Fescue	Cool Season Grass	6"-12"H	Sun / part shade	North America	Sow seeds in late fall for best performance	Requires no maintenance but can be mowed. Spreads by creeping rhizomes. Good ornamental groundcover. Heat and drought tolerant.
<i>Hakonechloa macra</i> 'Aureola'	Golden Japanese forest grass	Warm Season Grass	14"H x 18"W	Part/full Shade	Japan	Divide in spring.	Needs well drained soil. Golden variegated foliage can light up a shady area. A good accent plant. Cut back in early spring. Performs best in cool moist soil with winter chill. Stunning pink/red fall color.
<i>Helictotrichon sempervirens</i>	Blue Oat Grass	Cool Season Grass	up to 30"H x 24"W'	Sun	Mediterranean	Propagate by seed, or by division in spring or fall	Grown for silver blue foliage, requires well drained soil. Evergreen. Can grow from seed. Does self seed moderately. Low maintenance.
<i>Imperata cylindrica</i> 'Red Baron' (aka 'Rubra')	Japanese Blood Grass	Warm Season Grass	20"H x 12"W	Sun	Japan	Propagate only by division	Slow to turn color in spring. Needs sun for full color. Tolerates heavy soil. Best cut to ground in winter. Rarely blooms.
<i>Lygeum sparteam</i>	Esparto Grass	Cool Season Grass	2'H x 12"W	Sun	Spain and Northern Africa	Propagate by seed, or by division in spring.	Evergreen needle grass used historically in baskets and papermaking.
<i>Miscanthus sinensis</i>	Japanese Silver Grass	Warm Season Grass	3'-4'H x 3'W	Sun/part shade	Japan, Korea, China	Propagate by seed, or by division although cultivars may not come true from seed.	Many varieties. Grown as accent plant. Blooms late summer or fall. Flowers often stunning, used for dried flower arrangements. Cut foliage to ground in early spring. Most like some winter chill.
<i>Muhlenbergia capillaris</i>	Pink Muhlygrass	Warm Season Grass	3'H x 6'W	Sun	Eastern US	Propagate by division in early spring, or by seed.	Vibrant pink/ pinkish red fall bloomer, very drought tolerant, evergreen.
<i>Muhlenbergia rigens</i>	Deer Grass	Warm Season Grass	3'H x 4'W	Sun	CA Native	Grow from seed or divide in spring or fall.	Blooms late summer, stunning as vertical accent, very drought tolerant. UC Davis Arboretum All Star.
<i>Nassella tenuissima</i>	Mexican Feather Grass	Cool Season Grass	2'H x 2'-3'W	Sun/light shade	Texas, New Mexico, Mexico	Best grown from seed; divisions are possible but have problems.	Feathery, fine, silky inflorescences June to September. Self seeds very readily, may be considered nuisance. Very drought tolerant.
<i>Ophiopogon japonicus</i>	Mondo Grass	Evergreen Perennial	8"-12"H -12"W	Part/full Shade	Japan	Divide in spring, flowers are sterile	Sheer in early spring. Lavendar summer blooms. Easy to grow in well-drained soil with protection from snails and slugs. Does well in containers. Needs moderate to regular watering.

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<i>Ophiopogon planiscapus</i> 'Nigrescens'	Black Mondo Grass	Evergreen Perennial	8"H x 12"W	Part/full Shade	Japan	Divide in spring.	Slow to spread and does not make a solid cover. Black color is dramatic combined with yellow or chartreuse foliage. Does well in containers. Moderate to regular water.
<i>Pennisetum alopecuroides</i> 'Little Bunny'	Mini Fountain Grass Cultivar	Warm Season Grass	10"-18"H x 10"-18"W	Sun	East Asia	Can self sow	Drought tolerant. Needs winter chill to do well. Blooms late summer/ fall. Compact. Good border, container and rock garden plant.
<i>Pennisetum setaceum</i> 'Rubrum'	Fountain Grass	Warm Season Grass	5'H x 5'W	Sun	Tropical Africa, SW Asia	Divide only in late spring (plants do not set viable seed)	Sensitive to cold. Varieties other than 'Rubrum', are invasive. Dies back in winter and is slow to recover in spring. Grown primarily for the purplish red foliage and rose colored fall flower plumes.
<i>Phalaris arundinacea</i>	Ribbon Grass	Cool Season Grass	2' - 3'H	Sun/part shade	North America, Eurasia	Propagate only by division spring or fall.	Needs regular water. Can spread aggressively with underground rhizomes. Considered an invasive plant in some areas of the United States.
<i>Phormium tenax</i> 'Jack Sprat'	Dwarf Flax	Evergreen Perennial	18"H x 18"W	Sun/part shade	New Zealand	Take individual rooted crowns from clump edges. Large clumps can also be divided in spring (although young plants are easier to handle) by splitting clumps with a sharp border spade or mattock.	Good accent plant. Has twisting, dark reddish brown leaves.
<i>Phormium tenax</i> 'Lancer'	New Zealand Flax	Evergreen Perennial	4'H x 4'W	Sun/part shade	New Zealand	See <i>P. tenax</i> 'Jack Sprat' above.	Broad sword-like leaves. Hardy, sturdy focal plant. Tolerates all kinds of soil, very drought tolerant. Cut out old leaves at base to maintain appearance.
<i>Phormium tenax</i> 'Pink Stripe'	New Zealand Flax	Evergreen Perennial	4'-5'H x 4'-5'W	Sun/part shade	New Zealand	See <i>P. tenax</i> 'Jack Sprat' above.	See "Lancer" above for general information. This variety has gray green purplish tinged foliage with a pink stripe on the margins.
<i>Poa costiniana</i>	Australian Blue Grass	Cool Season Grass	18"W x 24"W	Sun/part shade	Australia	Propagated most successfully by division	Tolerates drought, recovers quickly when cut back, good border or accent plant. Long lasting showy flowers starting in spring through summer.
<i>Rhynchelytrum nerviglume</i> 'Pink Crystals'	Ruby Grass	Cool Season Grass	2'H x 2'W	Sun/light shade	Tropical Africa	Not easily propagated by division; however, it grows easily from seed planted in the fall. Be sure to use fresh seed.	In more tropical climates is considered a weed. Grown for showy pink to purple red flowers that fade to light pink which are lovely when back lit. Short lived. Self sows, but manageably in our garden.

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Botanical Name	Common Name	Plant Type	Size	Exposure	Origin	Propagation Method	Notes
<i>Sisyrinchium bellum</i> 'Rocky Point'	Dwarf Blue-Eyed Grass	Iris Relative	8"H x 12"W	Sun/part shade	CA Native	Divide in fall.	Grass-like, lovely small accent plants. Summer dormant in dry gardens, good choice for meadow and grassland gardens, borders and/or containers. Colonizes easily. Disease and pest free. Can cut to ground to remove dried summer foliage.