

## New and Exciting Hardy Grasses<sup>®</sup>

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### INTRODUCTION

To fully respect the planet we live on and the communities in which we dwell, we must understand the immediate, and specific, place where we live and work. People are more environmentally conscious than ever before as we learn to work in cooperation — rather than competition — with nature. Recent drought conditions in Canada, for example, have made us very conscious of the value of our water supply. We now have a very heightened awareness of the delicacy of our ecosystems.

As horticulturalists, and plant propagators, we continually look for ways to work in harmony with local climate and soil conditions. The up front costs involved in making the shift to more natural plantings is offset by the considerable savings to be achieved in long-term maintenance.

A tall grass prairie, for example, which the first European settlers in North America described as a sea of amber waves, is composed of plants that belong and are rooted in the North American climate zones where they flourish and propagate easily.

Being extremely hardy, ornamental grasses are very effective in large-scale prairie restoration, naturalizing and erosion control work, as well as in mass plantings in parks and public gardens to which they bring all-season character.

The reward of balancing single-season summer flower displays with hardy ornamental grass and perennial plantings is the creation of sustainable landscapes of great inspiration and visual impact.

Finding the balance also allows for the celebration of the landscape in all its moods, especially when the vibrant colour splashes and sheer joy of spring bulbs and summer annuals are utilized too.

Choosing the right hardy ornamental grasses must be based, not only on size, form, and growth habit, but also because of the appeal of a particular structure, texture, and colour or plant heritage.

There are dozens that are perfect for this task — in the sun or shade garden and in all growing and soil conditions.

My breeding program is called the Huron series. Perhaps the most exceptional quality of the Huron series of ornamental grasses — is animation. Even the subtlest of breezes will create a virtual ballet of movement and sound. Grasses in motion can whisper like silk, rustle like satin, whistle like wind, or wail like a winter storm.

Playfulness with light is another outstanding grass attribute. From dawn to dusk, the changing light transforms a grass garden's character, mood and form — intensifying foliage and flower shape, heightening color or tossing them into dramatic and animated silhouette.

The first step in using ornamental grasses is to become familiar with how they grow — from their roots to their flowers. The second step is to know how to treat them well — the kind of soil they like, how they like to be planted, and when (and how) to cut them back

**Root Systems and Growth Habit.** True ornamental grasses have two distinct growing habits — clump-forming and spreading. Clumpers grow in lateral shoots from their base, keeping the plant compact. They are slow, steady growers and these grasses are the ones I use most in beds and borders as accents, in mosaic plantings, for layering, or in mass plantings.

Runners, or spreading grasses spread by above ground horizontal roots called stolons, which produce new plants at each node or underground rhizomes. Some grasses, with aggressive spreading root systems, like *Spartina pectinata* (prairie cord grass) and *Phalaris arundinacea* (ribbon grass), can vary from highly invasive to moderately invasive varieties and may be used successfully with a bit of attention and special care.

Many people are scared off when hearing that a grass is spreading, but invasive grasses play important roles in bank establishment and in erosion control. They can be used in a garden setting as container plants or if they are kept in check with an attentive eye and a good sharp spade.

## LEAVES, STEMS, AND FLOWERS

**Leaves.** Each leaf is composed of three parts — a vertical sheath, which grows from a node and wraps around the stem; an almost invisible ligule, which is a protective membrane of thin hairs at the juncture of the sheath; and blade, the part of the leaf above the sheath.

The grass blade grows away from the stem and is usually open and narrow with parallel veins and a large median vein called a midrib. *Miscanthus sinensis* leaves range in width from  $\frac{1}{4}$  to  $\frac{1}{2}$  inch (0.6 to 1.2 cm) and have a distinctive and prominent white midrib. A smaller grass, *Hakonechloa macra* (hakone grass), has bold, glossy leaves that are the same width as the very tall *M. sinensis* ‘Gracillimus’ (maiden grass).

Grass has an unusual way of growing that contributes to its survival. Most plants grow from the tips of their leaves and branches. Anyone who has cared for a lawn will know that grass has two distinct growing points — at the base of each leaf and just above each growth node on the stem. This growth pattern means that grass can keep on growing even after cutting, cropping by animals, or even fire.

**Stems.** Most grass stems, or culms, are herbaceous, hollow, and cylindrical or slightly flattened. The rounded shape is one way to differentiate them from sedges, most of which have three-angled stems. The stems of sedges are also pithy, not hollow, like grasses. The leaves are attached at swollen joints called nodes. The internode is the stem part between the nodes.

**Flowers.** What we call grass flowers are actually a complex group of structures, usually arranged in clusters on a stem, which together are called an inflorescence. The three basic flower types of grass flowers are a spike, a raceme, and a panicle.

- A spike is elongated; the individual spikelets have no stalks and are attached directly to the central axis or rachis. *Pennisetum setaceum* ‘Rubrum’ (red fountain grass) is an example.
- A raceme is more open; the spikelets are suspended from the rachis on short stalks. An example is *Chasmanthium latifolium* (northern sea oats).

- A panicle is multi-branched and very open; stalks branch out from the rachis and stemmed spikelets are attached to these stalks.

*Deschampsia cespitosa* (tufted hair grass) is an example.

Some flowers are a compound of panicles and racemes. Together panicles and racemes create the magnificent plumes of *M. sinensis* flowers.

Awns are slender, often silky, sometimes stiff bristles attached to the bract of a grass flower. Awns create the beautiful plumes on grasses like *Hordeum jubatum*.

## SIX GENERAL GRASS FORMS

For our purposes we divide grasses into six general structures: upright, upright arching, arching, upright divergent, mounded, and tufted.

- 1) Upright is the largest category. Grasses come in a variety of heights, but tall, medium, or small, they all provide linear exclamation points in a garden design. The foliage and flowers of the medium-high *Calamagrostis brachytricha* (syn. *C. arundinacea* var. *brachytricha*) (Korean feather-reed grass) grows from a tidy clumping base of 30 inches (90 cm) to 36 inches (90 cm) in flower. Arrow-straight, with upright vertical leaves and erect, slender flower heads *Calamagrostis* works equally well as an individual specimen or as mass plantings. *Imperata cylindrica* 'Rubra' (syn. 'Red Baron') (Japanese blood grass), is small statured at 6 inches (40 cm), but this intensely red decorative is another popular upright grass.
- 2) Upright arching foliage springs from the base, ascends stiffly and vertically, and then falls in a fountain of arcs from the top. The low-growing burgundy annual *P. setaceum* 'Eaton Canyon' (miniature red fountain grass), with bottlebrush-like flowers, *Molinia caerulea* 'Variegata' (variegated moor grass) and the statuesque *Saccharum ravennae* (hardy pampas grass) are all good examples, as well as *Arundo donax* (giant reed) and *Chasmanthium latifolium* (Northern sea oats), two of the tallest grass varieties. On a windless day and in full flower magnificent *C. latifolium* flower heads droop languidly well above their foliage.
- 3) Arching taxa include the pervasive and popular *M. sinensis* has over 60 named cultivars, each charming in its own way. *Miscanthus sinensis* foliage grows vertically at slight angles from its clumping base; an outstanding example is 'Huron Sentinel' (Huron Sentinel maiden grass). A relatively new introduction, 'Huron Sentinel' is a superb specimen in a bed or border. Alone it is like a solitary Royal guardsman. In a mass planting sweeps, it is like an entire regiment at attention.
- 4) Upright divergent foliage grows up and out from its base at a forty-degree angle in a stiffly vertical manner, like a slightly open fan. The multi-purpose beauty *C. ×acutiflora* 'Karl Foerster' (feather reed grass) is a fine example. The stately native prairie grass *Andropogon gerardii* (big bluestem) is another.
- 5) Mounded grass forms fall have foliage that cascades over lower leaves and are generally small to medium in height. There are

relatively few varieties that take this form, but mounded grasses are good choices for adding texture, punctuating beds and creating borders. Good decorative grasses are *H. macra* 'Aureola' (golden variegated hakone grass) and *Helictotrichon sempervirens* (blue oat grass). Mounded varieties are great companions for taller grasses because they can be used effectively to cover the unsightly "bare legs" that often appear at the base of taller varieties as a season progresses.

- 6) Tufted grasses have short, thin, and spiky upright leaves. There are relatively few named varieties that take this form. Two examples are fine-textured grasses like the small *Festuca glauca* 'Boulder Blue' (blue fescue) and the spirited *D. cespitosa* (tufted hair grass).

**Color.** The key word in ornamental grass color is subtlety.

In spring and summer grasses usually play supporting roles behind more showy shrubs, perennials, and annuals.

Grass colors range from greens, blues, reds, yellows, browns, to white, and even black.

Variegated grasses are adorned with whites, ivories, and creams. The spring and summer garden may present a vibrant colour chorus of funky lime green *Carex comans* 'Frosty Curls' (syn. *C. albula* 'Frosty Curls'), a powdery blue *Helictotrichon sempervirens*, an intense burgundy *P. setaceum* 'Rubrum', a burgundy *Panicum virgatum* 'Huron Solstice,' and a polished bronze *Carex buchananii*.

Not only that, but leaves, stems, foliage, seed heads, and flower heads can all be different colours.

Grasses like *Festuca amethystina*, for example, change dramatically through the season. Its stem is as important in colour selection as is the leaf and flower head. Ornamental grasses are a colourist's dream.

Grass colours also vary from season to season. Flower heads are a parade of feathery bonnets and tasseled caps in purples, burgundies, pinks, bronzes, coppers, and silvers.

Once open and primed to disperse, the seeds take on subtler but no less dazzling range of hues — blondes, golds, and platinums. A group planting of burgundy-flowered *M. sinensis* 'Huron Sunrise', *Panicum virgatum* 'Heavy Metal', and whites of variegated varieties like *M. caerulea* 'Variegata' can really shine as the days shorten and the quality of light wanes.

## CONCLUSION

Ornamental grasses thrive in a combination of clay and sand amended with perlite, vermiculite, and humus obtained from grass or leaf mulch, peat moss, straw, and compost. Ornamental grasses don't require high fertility and adapt well to all soil conditions, from sand to the heavy clay we have in our gardens. In clay they usually take an extra year to mature. In sandy soil, with less moisture, they tend to be smaller in height.

Their efficient fibrous root systems make them especially drought-resistant. Ornamental grasses provide all-season interest except during the few weeks in spring when we trim them. Then borders and beds look polka-dotted with giant pincushions.

This prickly phenomenon lasts only 2 or 3 weeks as new shoots begin to appear almost immediately. It's a good diversionary tactic to cut grasses back when their colourful spring bulb neighbours are in show.

Grasses are either warm or cool-season species, depending on their periods of active growth. Warm season grasses, like *M. sinensis*, grow roots in warm weather. Cool season grasses like *Holcus mollis* grow roots in spring and autumn and sleep during hot weather.

As I said at the start, to fully come to respect the planet we live on and the communities in which we dwell, it is crucial that we understand the immediate and specific place where we live and work.

- We now have a very heightened awareness of the delicacy of our ecosystems.
- As horticulturalists, and plant propagators we must look for ways to work in harmony with local climate and soil conditions.
- They let us recreate various habitats — from grasslands to lush urban woodlands and viable shade gardens.
- They allow us to provide natural habitats for birds, butterflies, and other wildlife.
- Finally, they also save valuable time and resources.
- The up front costs involved in making the shift to more natural plantings is offset by the considerable savings to be achieved in long-term maintenance and a the creation of a healthier environment.