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Meadows for Home Landscapes • Urban Trees • Native Passionflowers

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Features

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Editorial Content
We welcome articles on native plant species and related conservation topics, as well as high-quality botanical illustrations and photographs. Contact the editor for guidelines, deadlines and other information.

ON THE COVER: *Passiflora pallens.* This endangered passionflower is found in Broward, Miami-Dade, Collier, and mainland Monroe Counties in Florida. It grows along forest margins and in canopy gaps. Photo by Roger L. Hammer.

Article and photos by Craig Huegel

Meadows for home landscapes: more than just wildflowers

In nature, grasses provide diversity and physically support wildflowers, making them more accessible to pollinators.

Meadows are dominated by grasses. There is no place in nature where they aren't, and a flower garden planted solely with wildflowers is a poor substitute for the ecological value of a meadow. The well-deserved attention currently focused on the loss of pollinators has given life to a movement to create pollinator meadows. The world of social media is rife with groups devoted to pollinators and native plant landscaping. This is exciting. After spending more than 3 decades extolling the value of creating living landscapes, it would seem that the movement is finally gaining a life of its own. The zeal to use native wildflowers to create pollinator gardens, however, falls far short of meeting the maximum value a pollinator garden is capable of providing. The reason lies in our definition of what a wildflower meadow is or should be.

Too few of us take the opportunity to explore a real meadow. The prairie ecosystem of Kissimmee Prairie Preserve, for example, is a classic example of how nature shapes a meadow. The tallgrass prairies of my Wisconsin childhood are another example. Visit them weekly and the display of wildflowers changes dramatically. It is a well-orchestrated symphony where each movement is dominated by different wildflowers. A few persist in bloom for months, but many others have their defined entrance and exit. Each attracts its set of pollinators and as it goes to seed another takes its place. There is a diversity of blooms and each is integral to the whole. A meadow is a complicated work of art. It is not an impoverished collection of just a few species of trusty plants such as Spanish needles (*Bidens alba*) or a monoculture of bloom types. There are many members of the aster family in every meadow, but also deep and shallow tubular blooms. There are colors and shapes that fit the whole suite of possible pollinators. After all, nature has not given each pollinator the same size or an equal interest in flower species. The relatively simple concept of competition tells us that to get the greatest diversity of pollinators we would have to plant a great diversity of flowering species for them to pollinate. We also need to consider blooming times so there are always plants for them to pollinate. That too is the way that nature shapes a wildflower meadow.

What seems to be mostly missing from the discussions I read about creating wildflower meadows is a discussion of grasses. While our eyes take in the grand procession of wildflowers in a natural meadow, our plant blindness often fails to take in the most obvious thing in our line of sight – the meadow is mostly composed of native grasses and they are the most important component. If we are to create meadows for pollinators, we cannot ignore the role grasses play in these landscapes and we need to give far more consideration to including them. Grasses are the backbone we plant wildflowers into and they play many important roles in making meadows true pollinator gardens.

Perhaps most importantly, grasses provide structure. Without the support of native grasses, many wildflowers simply fall over. Blazing stars (*Liatris* spp.) are good examples. Tall species like dense blazing star (*L. spicata*), graceful blazing star (*L. gracilis*) and the one I most commonly grow in my landscape, savanna blazing star (*L. savannensis*), are notorious for tipping over as their stalks reach blooming size. This has aesthetic concerns, but more importantly, it forces pollinators to visit the flowers at a height most are uncomfortable doing. To be sure, it is much more hazardous for a butterfly to sip nectar at ground level than it is to do so several feet above it. It is rare to see these beautiful wildflowers with their flower stalks on the ground in a natural area. The stalks are supported by the grasses around them.

Grasses provide important habitat as well. The dense collection of leaves at their base provides important hiding cover for a great many wildlife species – invertebrates and otherwise. They reduce soil erosion and provide the only significant cover during the winter months when nearly every wildflower has gone to rest. I learned this the hard way when I planted my first wildflower meadow at the Pinellas County Extension office when I arrived in Florida 33 years ago. At the time, I knew far less about native plants than I let on. My wildflower collection was beautiful from spring through fall and then it collapsed. Winter arrived and all my wildflowers died back to the ground like nature told them to do. The entire area was essentially bare dirt. It was ugly to be sure, but it also was an ecological desert with no habitat value. Grasses provide habitat even when they've gone dormant. Most wildflowers don't. Grasses provide seed for seed-eating birds and small mammals and they provide cover for everything. A meadow of wildflowers cannot do that in any similar way.

By providing cover, grasses also serve to greatly reduce the ability of weeds to take control. This is more important in Florida than for any other state I've lived in and it is far more important in areas of former turf grass than it would be in a natural area. Beneath the cover of sod lies a rich seed bank of lawn weeds just waiting to be exposed to sunlight and soil disturbance. These seeds can persist for years and they will emerge as soon as you disturb the soil. Couple this with the fact that in most landscapes there is a constant "rain" of weed seeds entering your property from adjacent areas and you have a formula for eternal weeding. A foundation of native grasses significantly reduces the ability of weeds to find a crack to enter your planting areas.

Right after I moved into my new home in suburban Pasco County, I created an area in my turf for a wildflower meadow by removing the turf in small patches with a spade. With each new patch exposed an incredible number of weeds germinated, but I was able to remove them easily before I planted. I do not use mulch in areas like these because it hinders the ability of wildflowers to reseed just as it hinders weeds. Mulch also severely reduces the ability of ground-nesting bees to find the open soil they require for nesting. With each new area weeded assiduously for a month or so, I planted and removed the few weeds that continued to pop up out of the bare soil. Then I added native grasses. A year later, the grasses and seedling wildflowers have made it virtually impossible for weeds to find a foothold. My meadow is not completely weed free, but it would have been impossible for me to get to this point if I hadn't added grasses and began the way I did. What many pollinator gardeners also often fail to fully appreciate is that a great many butterflies use



Grasses for the home landscape. Left to right: wiregrass (*Aristida stricta*), splitbeard bluestem (*Andropogon ternarius*) and lopsided Indiangrass (*Sorghastrum secundum*).

grasses as host plants. While we turn our attention to the showy "megafauna" of the butterfly world, the monarchs and swallowtails, for example, a huge suite of butterflies fails to get the attention it deserves, as does the habitat these butterflies require to survive. As habitat continues to shrink daily in Florida, all of our fauna require consideration. This is not achieved through wildflower meadows designed to only produce nectar and pollen. Very few creatures are declining because of a lack of nectar and pollen. They are declining due to a lack of native host plants and the rampant use of pesticides. When we create the habitat each requires, we create the conditions each needs to reproduce. For many species in a pollinator garden, that is done by incorporating grasses into our meadows.

The guild of butterflies collectively known as the "grass skippers" use native grasses as host plants (as do many of the satyrs), but each has its own preferences and some grasses are not known to be used by any of them. When we design meadows, it is imperative that we add the grasses they require for food and shelter. It is ironic that we frequently disparage the presence of St. Augustine grass (*Stenotaphrum secundatum*) in landscapes, but it serves as the host plant for the Carolina satyr and at least three species of common grass skippers. The real problem of St. Augustine grass is that we mow it along with the potential caterpillars and make it useless ecologically. It also doesn't help that we frequently spread pesticides on it. On the other side of the coin, we often extol the virtues of native grasses based solely on their aesthetics, not fully considering the ecological role they will play once we've added them to our landscapes. Gulf muhly grass (*Muhlenbergia capillaris*), for example, is beautiful in the fall, but is not known to be a host for any of our several dozen grass-obligate butterflies. It provides cover to be sure, but not much else. Even its tiny seeds are not especially important for seed-eating birds. That does not mean we should not incorporate these native grasses into our landscapes. Some that provide no value as butterfly host plants or a significant seed source for birds have value for the other things I've discussed above. A wildflower meadow should have a diversity of grasses just as it should have a diversity of wildflowers. I can never stress diversity enough.

Some grasses, like Gulf muhly, get rather robust and do not play well with others unless they are used in a large enough space or as an accent in areas where wildflowers are not the focal point. In smaller, more-typical sized landscapes, there are good native grasses that remain smaller and allow wildflowers enough space to prosper. Lovegrasses (*Eragrostis* spp.) can be very effective, but I find that they spread quickly if left to their own devices. That can be good or bad depending on your overall objectives and the space you have available. My favorites are the two species that I find to be better behaved. They also are adaptable to just about any typical landscape condition. There is no better foundation grass than wiregrass (*Aristida stricta*). Unless you burn your meadow (and consider it if you can), wiregrass will only spread slowly as each clump gains a bit of girth over the years. Its low stature allows taller wildflowers the sunlight they need and the structure it provides is invaluable. Pineywoods dropseed (*Sporobolus junceus*) has the same attributes, but it doesn't need fire to flower and set seed. Both of these are often available from commercial native plant growers, but far too infrequently. We need to create the demand they deserve.

Maximizing the value of wildflower meadows requires us to select grasses with the widest ecological benefits and that means adding the grasses that serve as butterfly host plants along with all the other positive attributes grasses provide a meadow. These are some of the best among those offered in the trade. Regrettably, far too few native grasses are commonly sold commercially. Hopefully that will change as so many other things have changed in the years I've been promoting native plants in Florida.

Planting wildflowers along with native grasses in a home wildflower meadow increases plant diversity and the variety of pollinators who visit. It also discourages the growth of weeds.

NOTE: Meadow is used in this article to define a mix of native grasses and herbaceous flowering plants, not to indicate a type of ecosystem. To learn more about Florida's natural communities, see: www.fnai.org/PDF/AA_Short_Descriptions_Final_2010.pdf and *Ecosystems of Florida*, edited by R. L. Myers and J.J. Ewel, University Press of Florida.

Broomsedge *(Andropogon virginicus)*

Broomsedge is so common that we often fail to see how beautiful it can be in a landscape. While other closely related species in this genus are also used as hosts, broomsedge is known to serve as the host plant for the common wood nymph and five species of grass skippers – swarthy, neamathla, crossline, Delaware, and twin spot. While a few of these skippers have a limited range in Florida, others occur statewide. Broomsedge is a very forgiving native grass and will thrive in nearly any growing condition. Like all grasses, however, it does best with good levels of sunlight. Broomsedge is a bunch grass so it doesn't spread underground as a few other grasses do. It reaches a mature height of 3-4' in most growing conditions and produces fuzzy white seed heads that are attractive and used by winter songbirds. I have added it and splitbeard bluestem (*A. ternarius*) to my landscape.

Maidencane *(Panicum hemitomon)*

Maidencane requires wet soil to prosper, but if you live next to a pond or lake, it can provide important habitat and feeds the caterpillars of clouded, Delaware, and Aaron's skippers. Maidencane spreads by underground rhizomes so it will not stay put where you plant it as long as it has wet soils to exploit. Dry uplands will keep it in check. It can reach several feet in height in moist soil and several feet taller in shallow open water. Because of its open habit, it will mix well with other wetland plants and other bunch grasses. Redtop panicum (*Coleataenia rigidula*) also serves as a host plant for the Delaware and clouded skippers, but it is far less commonly grown. As a bunch grass, it is easier to control in a wet-site landscape.

Sugarcane plumegrass *(Saccharum giganteum)*

Another grass for wet sites is the beautiful sugarcane plumegrass. This robust native can reach 8' tall with its flower stalk in the fall so it is not a grass for small landscapes. In bloom, its stately flowers are burgundy red in color and as these seeds mature they change to silvery white. In my opinion there are few native grasses that can match its beauty; it just needs a lot of space and wet soils. The large seeds are a good food source for many winter songbirds, but it also is the host for clouded, Delaware, and byssus skippers.

Lopsided Indiangrass *(Sorghastrum secundum)*

There are few upland native grasses as beautiful as lopsided Indiangrass. Like the bluestems, it is very forgiving about its growing conditions as long as the site does not remain wet for long. As a bunch grass, it stays where it's planted. The basal clump of leaves gives way to a flower stalk in the fall that has seeds only on one side – hence the origin of its common and Latin names. The flowers quickly give way to shiny golden seeds favored by seed-eating songbirds. Indiangrasses serve as a host for many skippers – swarthy, Delaware, arogos, dusted, eufala, and twin-spot. Two other species of *Sorghastrum* grasses are native to Florida and I suspect that they also serve as butterfly host plants. The salt and pepper skipper is known to use yellow Indiangrass (*S. nutans*) in other states. It should also do so here.

Fakahatchee Grass *(Tripsacum dactyloides)*

Though its common name suggests otherwise, Fakahatchee grass occurs statewide and actually ventures throughout the eastern half of the U.S. It is not a wetland grass, but performs well in nearly every typical landscape setting except the exceedingly well-drained soils of scrub and sandhill. Fakahatchee grass is one of just a few native grasses that I see widely planted in commercial sites. As such, it is commonly propagated. It is a clump grass that can extend 4' across and 4' in height. If you have the space, its seeds are a favored food source for many songbirds and it serves as the host for clouded, least, and broad-winged skippers. The related dwarf Fakahatchee grass (*T. floridanum*) is not reported as a host plant for any of our native butterflies.

Sawgrass *(Cladium jamaicense)*

Sawgrass is a technically not a grass, but a sedge. Its saw-toothed leaves can be a nuisance in places where one might walk about, but given a wet site where it can be left alone, it is an important graminoid for wildlife and a host plant for the Palatka skipper. It spreads by underground stems and eventually forms large colonies. Plant it at the edge of a pond and it will be a valuable addition to a site devoted to pollinators and wildlife.

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Craig N. Huegel is owner and operator of Hawthorn Hill Native Wildflowers. He teaches biology at St. Petersburg College, and is the author of *Native Florida Plants for Shady Landscapes*, *Native Wildflowers and Other Ground Covers for Florida Landscapes*, and *Native Plant Landscaping for Florida Wildlife*. His most recent book is *The Nature of Plants: An Introduction to How Plants Work*, published by the University Press of Florida.