

## Inundation Tolerance among Prairie Plants

This summer's record rainfall across the flat till plains of Indiana, Illinois, and Ohio has resulted in an abundance of standing water in areas with tight till plain soils. Prairies planted in these soils provide an excellent review of the inundation tolerance of various species. In general, tallgrasses and sedges, even those native to upland sites seem quite tolerant of shallow standing water. In the plantings I have observed, Prairie Dropseed has shown surprising inundation tolerance, thriving with their hummocks surrounded by water for weeks at a time. Little Bluestem seems to tolerate very shallow water around the base of the plant, however if standing water covers the crown for more than the week, mortality becomes likely. Side-oats Grama is intolerant of inundation but tends not to persist on flat sites with heavy soils even when they remain unsaturated.

Forbs vary substantially in their inundation tolerance. Some of the most tolerant species are species commonly found on wet prairies including Swamp Milkweed (*Asclepias incarnata*), False Aster (*Boltonia latisquama*), Wild Senna (*Senna hebecarpa*), Dense Blazing Star (*Liatris spicata*), Sweet Black-Eyed Susan (*Rudbeckia subtomentosa*), Smooth Ironweed (*Vernonia fasciculata*), Blue Vervain (*Verbena hastata*), and Golden Alexanders (*Zizia aurea*).

Certain wetland forbs that generally occur in seepage wetlands are surprising intolerant of inundation. Among the ones that I have witnessed drowning in several inches of standing water include Spotted Joe-Pye Weed (*Eupatorium maculatum*), Boneset (*Eupatorium perfoliatum*), Showy Black-Eyed Susan (*Rudbeckia fulgida* var *speciosa*), and Swamp Aster (*Aster puniceus*).

When planting on flat till plain sites containing depressional areas that may hold water, it is vital to include inundation tolerant graminoids and forbs. This may be done by assembling a separate mix for the depressions or utilizing a broad spectrum mix containing a large variety of species with varying moisture tolerance across the entire site.

## PLANT FEATURE: RATTLESNAKE MASTER (*ERYNGIUM YUCCIFOLIUM*)

An odd member of the carrot family, this spikey glaucous plant appears out of place in the lush prairies of the Midwest. At a glance, one would think this plant belongs in a desert or on desolate sand dunes, however it is very much at home in our fertile mesic prairies. The spikey basal foliage looks like a miniature yucca, resulting in the species name. The branched inflorescence produces white flowers clustered in dense heads. While the flowers are not exceptionally showy, they are intensely attractive to a variety of pollinators including the pictured regal fritillary.

Rattlesnake Master makes an interesting addition to a sunny garden in well-drained soil. It is an excellent choice for a pollinator/butterfly garden. In a restoration, it is an iconic member of the tall-grass prairie with associates from our [Mesic Prairie Mix](#).

