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NATIVE NEWS

Spence Restoration Nursery

The Critical Importance of Including the Correct Graminoids in Your Seed Mix

Grasses, sedges and rushes, collectively known as graminoids, form the backbone of most terrestrial and wetland herbaceous plant associations. When designing a seed mix, it is critical to include the correct species and proportions of these components to achieve a stable community. Some of the most common errors are including too many aggressive tall grasses, not matching the stature of the forb and grass component, failure to match the graminoids to the site conditions, and not including the correct graminoids to form a stable community quickly enough to prevent establishment of problematic perennial weeds.

Early prairie restorations were particularly prone to the inclusion of excessive amounts of tall grasses. Often, the seeds for these restorations were collected by eager volunteers who harvested an abundance of Indian Grass (Sorghastrum nutans) and Big Bluestem (Andropogon gerardii). These prolific tall grasses hold their seeds up high where they are easy to collect. Even early commercial prairie seed mixes contained up to 10 lbs per acre of a combination of these two grasses. The results now seem quite predictable. The rapidly developing Indian Grass was highly dominant by year three. By year ten, the slower developing but even more dominant Big Bluestem would squeeze out the Indian Grass to make up most of the cover within the planting. Switchgrass was also frequently overused in early plantings, forming a thick sod to the exclusion of most other plants. Modern seed mixes utilize no more than one PLS lb per acre each of Indian Grass and Big Bluestem and limit Switchgrass to 8 ounces or less per acre.

When tall grasses lost favor due the problems outlined above, many seed mixes were redesigned to only include the lower stature Little Bluestem (Schizachyrium scoparium), Side-oats Grama (Bouteloua curtipendula), and Prairie Dropseed (Sporobolus heterolepis). Unfortunately, the rank forbs were not removed from the seed mix, leading to their dominance at the expense of the grasses. Forbs such as False Sunflower (Heliopsis helianthoides), Rosinweed (Silphium integrifolium), Tall Coreopsis (Coreopsis tripteris), and Bergamot (Monarda fistulosa) grow rapidly in the spring, quickly outpacing the low stature grasses and leading to their eventual demise after several years. This problem is particularly common in the moist soils of the eastern tallgrass region. As a result, the prairie ends up being an unstable mix of aggressive forbs and aggressive weeds with little graminoid structure for grassland birds and other wildlife. I have had this problem in my own backyard where I installed a large planting of Prairie Dropseed adjacent to an existing tall prairie planting. Rosinweed and Tall Coreopsis are continually seeding into the planting. If I don't remove these species, they shade the Prairie Dropseed severely, leading to its eventual demise.

Another problem that frequently arises in the use of lower stature grasses is their relative intolerance of heavy clay soils that are wet in the spring. Side-oats grama may germinate in this environment, but rarely persists more than a few years. The genotype of Prairie Dropseed that grows in Indiana is actually quite tolerant of these conditions, as it occurs in wet prairies where shallow water stands between the hummocks in the spring. Little Bluestem's tolerance of these conditions seems to vary with origin. The wet-tolerant variety that we grow originates in the saturated soil of a fen here in east-central Indiana. We include it along with the several wet prairie sedges in our Wet-Tolerant Low Stature mix to provide an option for customers needing a low-statue mix adapted to the heavy soils of the flat till plains of the eastern tallgrass region.

A final problem that arises with seed mix design is the failure to include enough graminoids that form a stable community quickly enough to thwart the invasion of aggressive weeds like Canada thistle, Canada goldenrod, and Eurasian cool season grasses. This is why all of the upland seed mixes from Spence Restoration Nursery contain 2-4 PLS lbs of some combination of Canada Wild Rye (Elymus canadensis) and Virginia Wild Rye (Elymus virginicus). These native cool season grasses often flower the first year if dormant sown, providing early cover and competition for aggressive weeds. As the slower developing warm season grasses, sedges, and forbs mature, the wild ryes decline rather rapidly after year 3, politely stepping aside to allow the long-lived species to dominate.

Plant Feature: Short's Aster (Aster shortii)

An attractive species of upland woodlands, Short's Aster produces clouds of lavender flowers in September and early October. The elongated dark green heart-shaped foliage is attractive throughout the growing season. Native to Midwestern mesic forests, it thrives in dappled shade and well-drained soil. It is very tolerant of dry shade. In the landscape it makes a particularly attractive floral hedge along woodland edges or the shady north side of buildings. Happy companions in the landscape that will extend the flowering season include Celandine Poppy (Stylophorum diphyllum), Wild Geranium (Geranium maculatum), Smooth Beardtongue (Penstemon calycosus), and Sweet Joe-Pye Weed (Eupatorium purpureum). Appropriate graminoid companions include Beak Grass (Diarrhena americana) Silky Wild Rye (Elymus villosus) and Bottlebrush Grass (Hystrix patula). In a restoration, it should be utilized with associates in our Upland Woodland Mix.

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