SEEDS OF DIVERSITY

Pasque flower

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Adding Species to an Existing Planting

By Carl Kurtz

One often hears the question, can you add species to an established grass planting or is it just a waste of time and money spent for seed?

We have tried to increase the diversity of planted prairie areas in various ways for the past 30 years. In almost every case we have been successful, however, the degree of success and the time it takes to see results has varied dramatically from one year to perhaps ten years.

There seems to be little doubt that the process is far easier and faster when the planting is only one or two years of age. In heavy grass stands it not only takes longer, but the amount of seed required is far greater.

Why increase diversity in the first place? The main reason is to increase the long-term stability of your site and increase its value to a greater diversity of wildlife species. It will also likely reduce the maintenance that will be required in future years. Generally very diverse sites have little open space for weedy alien species.

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Follow up fire, mowing or spraying with a cool season grass herbicide such as Select can also help the establishment of new species. We have found, however, that if you are patient you will likely get results without any of these things.

An example of early successional species in this 3 year old reconstruction at Ledges State Park. Gray headed coneflower, Ox-eye, Bergamot, and Canada wild rye.

Some 6 or 7 years ago we began spreading early successional seed mixes on an old pasture, which was dominated by smooth brome, reed canary grass and weedy pasture forbs. We have followed up with no management on most of the area and the forbs are clearly dominating much of the area while the weedy forbs such as queen-Anne's lace have almost disappeared as the competition from diversity increased. It appears that we could now begin to over-seed these same areas with higher species diversity mixture, begin a regular burning regime and see dramatic results. Our observations seem to indicate that as the diversity of the prairie increases, the addition of new species is easier.

Our old pasture had a number of degraded dry hillside remnants which had very nice stands little bluestem and side-oats grama, but only a few desirable forbs. These were over-seeded with seed harvested from a nearby remnant and have been burned frequently. While the process has taken nearly ten years, they now appear to be very high quality remnants with very few alien species.

Species Spotlight: Ground Plum

Ground Plum (Astragulus crassicarpus) is a member of the legume family and is found throughout Iowa. Ground plum is one of the earliest prairie species to bloom in the spring, flowering from mid-May to early June. Flowers are purple to pink in color and cover many dry, well drained, and west facing hillside in the prairie. Many times Ground plum is seen in small colonies on dry hillsides.

Leaves of Ground plum are pinnate and compound with each leaflet etched with a silvery edge. Leaves look similar to lead plant, but the plant sprawls across the ground versus growing upright. Fruits closely resemble a small plum in June, with the upper side of the fruit turning purple. Fruits are edible when they are plum colored in June and were a food staple for Native Americans and European settlers alike. Pods dry to a brown when ready to harvest and splitting the pod in half reveals two compartments filled with 4-6 shiny, black, bean shaped seeds in each compartment. Remember, because it is a member of the legume family, scarification (scratching the

surface of the seed) greatly enhances germination of Ground plum.

While not appropriate for all reconstructions, Ground plum adds some nice early color to a dry hillside. Even the plum like fruits adds interest later in the season. Look for Ground plum on your next visit to a dry hillside prairie!

Sustainable Wildlife Habitat

Photo by MJ Hatfield

Sustainability is described as a process or state that can be maintained to some certain level indefinitely. With rising costs of materials and manpower and their minimal maintenance requirements, sustainable land management methods are beginning to gain greater appeal. Sustainable management methods usually mimic natural processes. For example, using native plants for grassland habitat can help reduce the number of inputs annually.

In terms of sustainable land used for wildlife habitat, diverse prairie is first-class. The association between Iowa and prairie has lasted for centuries. When reconstructing a prairie species of plants and animals are not going to be returned to the levels of the original prairie ecosystem, but a diverse plant mixture is a good start to get a functional system started.

Feasibility forces us to mimic prairie reclamation; it is not feasible to return all components of a prairie to the land. A healthy sustainable system is the goal. A healthy prairie will provide cover and food for wildlife even during a harsh winter, but will also provide a diverse community for non-game birds, insects, and small mammals. By establishing a diverse native prairie for wildlife; future management can be dominated by natural processes such as burning or grazing. Diverse prairie has the benefit of changing with variable weather conditions. Even a native grass planting with Big bluestem, Indian grass, Little bluestem and Side oats gramma varies as to which species dominate year to year depending on rainfall and management of the site. When adding variety, a number of species can flourish at different times of the year depending on soil, management choices, or weather conditions. Native Prairie feeds a number of species of wildlife by flowering, producing seed, and attracting a multitude of insects annually with little maintenance, thereby reducing long-term costs. Food plots, although less sustainable, enhance wildlife populations existing in a prairie and can be an important benefit when winter snow starts to fall. A diverse prairie has the added benefit of beauty of flowering plants that will attract public attention from a different perspective.

Grazing can be a sustainable management method for managing prairie. Patch-burn-grazing is a relatively new method where small patches (less than 25% of the grazing area) are burned; the invigorated plants in the burn area send up new, tender shoots, which most livestock prefer. This reduces grazing on ¾ of the area and increases the grazing pressure on ¼ of the area that was burned. Why is this important? Livestock tend to focus grazing pressure on the grass component of the prairie, reducing the vigor of native grasses and releasing the forb component from competition with native grasses, thus allowing new recruitment of forb seedlings because of increased sun penetration and disturbance to the soil. If this grazing practice is rotated around the pasture, the grassland area becomes a heteroge-

neous mixed habitat from a short-grass, heavily grazed area to a forb-dominated area, and also a relatively undisturbed grass-forb mix with old residue for nesting all in one grassland complex.

Sustainability is becoming a more viable option for landowners because of its inherent low average costs and benefits to the environment. With rising input costs to management such as fuel, seed, fertilizer and herbicide, a sustainable system becomes a more acceptable option. Reconstructed prairie may not have all the components of the original prairie that once existed in Iowa, but a diverse mix of native plants is a good start to what has been sustainable in Iowa for centuries- PRAIRIE.

White indigo and Golden Alexander