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Plan Ahead for Butterflies

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The garden catalogs have started to arrive in our snow-covered mailboxes, so it must be time to start planning for next summer's gardens. How about making plans to encourage butterflies in your garden? If you've been reading the news about pesticides and genetically modified crops, you might believe butterflies need all the help they can get. Why not give them a break in your own backyard.

Butterflies and flower gardens seem to naturally go together, but creating a garden or landscape designed to attract and maintain butterflies takes special planning and effort. Fortunately, a garden for butterflies is not radically different from what you already have. In fact, for most gardeners, a small sign that says "butterflies welcome" would turn your existing flowerbeds into a legitimate butterfly garden!

"Butterfly gardening" is flower gardening that gives special consideration to the needs and requirements of butterflies. There are two main purposes to butterfly gardening. First, some gardeners are simply interested in watching butterflies lured into the garden to feed on flower nectar. With careful planning you can increase

the chances of having butterfly visitors by diversifying your landscape and creating a garden with a wide variety of plants providing continuous bloom of nectar-producing flowers throughout the summer.

The second challenge of butterfly gardening is to plan and plant the landscape for the purpose of raising butterflies from caterpillars. Like flies, beetles, and moths, butterflies have a complete life cycle with four stages: egg, larva, pupa, and adult. A butterfly larva is more commonly referred to as a caterpillar and the pupa is called a chrysalis (plural is chrysalids).

Raising butterflies from caterpillars in your garden often requires a major change of attitude. Caterpillars have chewing mouthparts and must eat plant foliage as their food source. Hungry caterpillars can consume a surprisingly large amount of foliage, and butterfly gardening requires that you stand back while "worms" are eating your plants. Such tolerance is not for everyone. The initial reaction of many gardeners is to call any caterpillar a "pest" and eliminate it as soon as possible!

Caterpillars feed on foliage of trees, shrubs, flowers, vegetables, and weeds. Some kinds of caterpillars are picky eaters that will eat only one kind of plant. The well-known monarch butterfly, for example, only grows where milkweeds are available. Other caterpillars can survive and grow on any of several different host plants. For example, the caterpillar of the attractive tiger swallowtail can be found on the foliage of cherry, ash, birch, cottonwood, willow, or lilac.

Resources

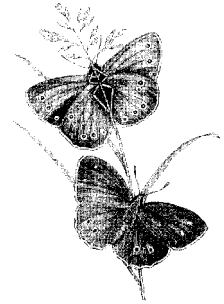
Raising butterflies in your garden requires you to learn which plants are necessary for the caterpillars of butterflies common in your area. Iowa State University Extension pamphlet PM-1795, "Common Butterflies of Iowa" provides a color drawing of our most popular butterflies and a brief description of their biology, habits, and host plants. Contact your local county extension office to obtain a copy for only \$1. Other butterfly field guides and general gardening and butterfly gardening texts are available at libraries, bookstores, and garden centers. Finally, a free, printed list of common Iowa butterflies and their food plants will be mailed to you upon request to Extension Entomology Office, Iowa State University, Ames, IA 50011 or e-mail to insects@iastate.edu.



A butterfly garden can be as small as a window box or as large as a field. However, specific characteristics about the site will improve your chances of success. First, the garden must be in a sunny location. Butterflies are predominately active in warm, bright, sunny situations and most of the plants used in butterfly gardens grow best in full sun. An exposed, windy location will discourage butterflies, so provide a windbreak such as a hedge, fence, or other structure to encourage

butterflies to linger and help keep the taller plants from breaking over in strong wind.

Though butterflies obtain moisture from nectar, they still benefit from an available drink of water. A simple way to provide water is to sink a bucket or shallow pan of water into the garden soil. A birdbath can also function as a water source for butterflies, especially if a flat porous rock is placed in the water as a landing and resting site.



Finally, butterflies and caterpillars are easily killed or repelled by most garden insecticides. Protect butterflies and their caterpillars by using only low toxicity insecticides such as insecticidal soap or horticultural oil only when necessary and spot-treat only those plants where insecticides are needed.

Butterfly Houses?

A popular addition to the garden is a birdhouse-sized structure intended to encourage butterflies by providing shelter. A butterfly house can be a charming and artistic addition to the garden, but the butterflies couldn't care less. Several studies have shown that the boxes are ignored by butterflies but are regularly occupied by spiders, wasps, and mice. Still, butterfly houses can serve as a decorative announcement of your intentions to have a butterfly-friendly place. Happy butterfly gardening!

Article Topics?

If you have a question or topic you would like to see addressed in *Acreage Living*, drop me a note at sshouse@iastate.edu, or 53020 Hitchcock Avenue, Lewis IA 51544, or call me at 712-769-2600. Thanks. *Shawn Shouse*

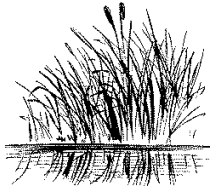
Planning a Prairie

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Establishment of native prairie vegetation is a fun project, but like most things, some thought and planning will make it far more successful. One of the first things to consider is what your goals are for the prairie. Some people want to have wildflowers and visual enjoyment, others are looking for a natural and low maintenance area or want to restore native plant communities, and many want to improve wildlife habitat. A second consideration in planning a prairie is evaluating the soil and site you are working with.

Wildflowers Enjoyment

Let's look at how your goals will change the type of planting to be done. If enjoying the color of wildflowers (forbs) throughout the summer is your primary purpose for a prairie, then a lower seeding rate of grasses and a heavier seeding of forbs should be used. Forbs are more expensive, but, in a relatively small area of a few acres, a wide variety of forbs can be seeded. A minimum of 10 forb species should be used, and 20 or more are desirable. Most native seed suppliers provide mixes of forbs that flower throughout the summer. In selecting grasses, use more of the shorter grasses like little bluestem and side-oats grama, and lower amounts of big bluestem and indiangrass. Also, avoid using any switchgrass because of its large size and competitive nature.



Restoring Native Plant Communities

If you want a prairie close to what might have been on the landscape prior to European settlement, a seeding similar to what was just described would be appropriate. A different consideration may be in seed source. In this case, look for local ecotype seed that has come from native plants within a few hundred miles (or less) of where it is

being planted. Also, you will want to seed as many different species as possible, again with a greater amount of forbs - up to 50% of the mix.

Wildlife

If your primary objective is to improve wildlife habitat, here are some of the things to consider doing. Break up the area and plant different types of native plants in blocks. Part of the area should be in shorter nesting grasses and forbs while approximately one-third of the area should be in grass that will stand well through the winter. Switchgrass makes good wintertime cover because it will stand up well even with heavy snows. It also tends to out-compete other grasses, so I often suggest planting blocks of it in a pure stand. If using switchgrass in with other native grasses, use less than 5% on a weight basis.



For the nesting cover, a mixed stand of grasses and forbs is ideal. The forbs, especially legumes, provide a variety of insects for newly hatched chicks to feed on. A mix of big bluestem, indiangrass, little bluestem, and side-oats grama, along with a variety of forbs, will provide nesting and resting cover for a wide variety of birds and other wildlife.

While not a part of the prairie, if you're interested in maximizing a site for attracting wildlife, establishing food plots for wintertime food is very helpful. Planting corn, grain sorghum, or sunflowers in blocks next to the wintertime cover will provide valuable food for wildlife throughout the winter.

Planning Seeding Mixes

While many of the native grasses and forbs are adapted to a wide range of soil and moisture conditions, here are a few guidelines for varying the seeding mixtures. On dry or droughty soils, little bluestem and sideoats grama will do well and should be favored in the seeding mix. On wetter sites, less little bluestem would be used and slightly more big bluestem and indiangrass can be included. For marshy sites, consult with conservation personnel for species that would fit your situation.

Switchgrass will tolerate fairly wet sites and can be used in these situations. Remember, either plant it in a pure stand at about 5 lb./acre PLS (pure live seed) or use only a 1/4 to 1/2 lb./acre PLS in a mixed prairie stand. When planting switchgrass in a mixed stand, use local ecotype seed or ask for a variety shorter in height such as Nebraska 28, Trailblazer, Pathfinder, or Forestburg. Cave-In-Rock switchgrass is a popular variety and produces vigorous plants with lots of forage, but may be taller and more competitive than many people want when restoring a prairie.

In planning a mixed native seeding, a total seed-ingredient of about 10-12 lb./acre PLS is usually recommended. Current price on many of the native grasses is in the \$10-\$18/lb. PLS range and mixes of forbs will run \$40-\$100/lb. PLS or more depending on number and types of forbs included in the mix. As you can see, seed costs can run from \$150-\$600/acre or more depending on the amount and type of forbs included in the mix. The exception in seed price is switchgrass that is currently running about \$3-\$4/lb. and only about 5 lb./acre PLS is needed in a pure stand. Don't be tempted to increase the rate of switchgrass in a

mixed stand or soon you will have a pure stand of switchgrass.

Following is a range grass seeding rate commonly recommended for a mixed prairie stand. To these grasses, a mix of forbs can be added at a rate of 2-6 lb./acre PLS to come up with about 12 lb./acre PLS total.

Switchgrass	0-5 lb./acre	46 ft. tall
Big bluestem	1-4 lb./acre	46 ft. tall
Indiangrass	1-4 lb./acre	36 ft. tall
Canada wildrye	0-2 lb./acre	34 ft. tall
Little bluestem	2-4 lb./acre	24 ft. tall
Side-oats grama	1-3 lb./acre	23 ft. tall

Adjust rates of the grass depending on the goals you have for your prairie. Also, check with local conservation boards, NRCS, and Extension for additional information on native grasses and forbs to increase familiarity with these species. Next month we will discuss how to do the best job of using the selected seed to establish a prairie.

Lingo Lexicon:

(brief definitions of current environmental jargon)
TMDL - (Total Maximum Daily Load) A calculation of the maximum amount of a pollutant that a waterbody can receive and still meet water quality standards. The calculation must include a margin of safety to ensure that the waterbody can be used for the purposes the state has designated and must account for seasonal variation in water quality. The federal Clean Water Act, section 303, establishes the water quality standards and TMDL programs. For more information, see <http://www.epa.gov/owow/tmdl/>

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