PRIVATE LAND PARTNERSHIPS
WORKING TOGETHER FOR WILDLIFE

WILDFLOWER PLANTING

Once established, wildflowers enhance the attractiveness of your landscape, help control erosion, furnish food and cover for wildlife, and provide maximum enjoyment with minimal care. The plantings can be as small as a few square feet of border around the vegetable garden or individual trees, or as large as several acres. Even small areas of wildflowers, especially when coupled with grass, tree, and shrub plantings, can shelter chipmunks, and migrating birds and can be used as a travel corridor by many wildlife species. Many landowners are saving money and labor by converting their high-maintenance lawns to wildflower plantings.

This chapter explains how to establish wildflowers on your property and how to maintain them for long-term wildlife habitat and viewing pleasure. Key factors are careful site selection, preparation, and maintenance. This can include choosing plants that are suited to the soil, picking the right method and time of installation, controlling weeds before and after planting, and managing for long-term success. There is an important emphasis placed on planting native wildflowers. Native refers to those species that historically occurred naturally in an area (i.e. was not introduced). These native species are important to the Michigan ecosystem and its continued existence.

purple coneflower

Site Consideration

If the area you have selected is capable of growing a healthy lawn, it will most likely support the establishment of wildflowers. However, you must match the wildflowers you choose with the type of soil you have, the soil moisture, and the amount of light that the area receives. For wildflowers needing direct sunlight, the location should receive a minimum of eight hours per day. Also, be sure to pick a location for maximum viewing pleasure. In sites with less sunlight, such as wooded areas, you should look for plants that are tolerant of shade.

Knowing your soil type is essential for successful establishment of wildflowers. Information on soil types is available from county wide soil survey maps that are available at your local Natural Resources Conservation Service and sometimes from your Michigan State University County Extension office. You can also take a soil

poppy

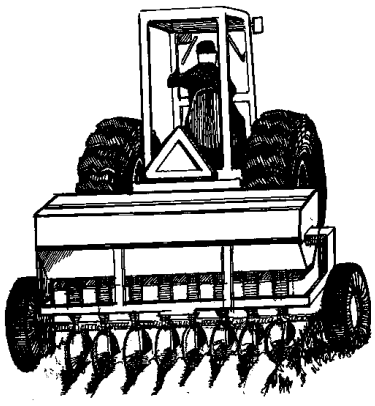
sample to the county extension office to find out the pH level and nutrient contents of your soils. For more information refer to the chapter **Knowing Your Soils** in the Habitat Planning Section. As a general rule, adding topsoil or fertilizer is not recommended as it will increase weedy competition. Topsoil usually contains dormant weed seeds, and heavy doses of fertilizer will enable them to grow and compete more heavily with wildflowers.

Soil moisture is equally important in deciding what wildflower species to plant. Moist soils have a generous amount of water in the subsoil throughout the growing season. Clues are periods of standing water in spring and fall. Dry soils include sandy and gravelly soils that drain readily and never have standing water, even after a heavy rain. Moderate or mesic soils include well-drained loams and clays. These soils may have standing water for short periods after a hard rain. To see which types of

wildflowers grow best in which environments, refer to the tables that accompany the **Wildflowers** chapter in this section.

Site Preparation

It is very important to remove all existing vegetation before planting wildflowers. If this vegetation is not properly eliminated, you will have limited success with your plantings. There are many ways to eliminate existing vegetation, either singly or in combination. Smothering the soil surface with plywood, a thick layer of leaves, or a sheet of black plastic will kill many existing plants if the covering is left in place for one full growing season. This practice is commonly used for areas less than 1,000 square feet. For more aggressive species, such as quack grass and Canada thistle, you may have to leave the covering for a longer period of time. A low toxicity, non-persistent herbicide such as Roundup is another efficient method. Be sure to read and follow all labeled directions. A third technique is to cultivate with a rototiller, plow, or disk. Commercial companies often remove old grass with a sod cutter. What works best depends on the size of the area and the vegetation currently growing there. The most effective way to remove existing vegetation is to mow, apply herbicide, and cultivate repeatedly until vegetation is controlled.



Converting Lawns

One of the best ways to prepare a lawn for wildflower planting is to remove the top three inches of grass and soil, using a commercial sod cutter on big sites and a hand shovel on smaller sites. A second method is to apply herbicide in spring or fall when lawns are actively growing. In about two weeks or after the area has turned brown, cultivate once with a rototiller or disc, taking care not to disturb the soil deeper than two inches (to discourage deeper-soil weeds from sprouting). After one week cultivate again. If weeds continue to germinate after a week, you may need to spray again.

Converting Old Fields

Converting an old field to wildflowers requires at least one full growing season to prepare the site. Burn or mow in early spring to remove the previous year's growth. Apply herbicide three times during the season: mid-spring, mid-summer, and early fall. This schedule allows you to attack different weeds which have peak growing activities at different times. Cultivate every two to three weeks to a depth of four or five inches. Be very consistent because it is important to rid the area of weeds before planting, especially grasses such as quack grass and reed canary grass.

Converting Crop Fields

Good soils are more weed-prone than poor soils. For existing crop fields, spray with herbicide either after harvest in fall or after green up in spring. Similar to old fields, using cultivation and subsequent application of herbicide, work the soil all spring and summer. Once vegetation is fully removed, prepare the final seedbed by lightly tilling or discing, followed by dragging or raking. Caution: Do not plant wildflowers in fields treated with Atrazine within the last two years because wildflowers cannot tolerate this herbicide. A smother (or cover) crop of corn or sorghum will hold the soil from erosion for a year and control unwanted weeds until the Atrazine breaks down.

On sites prone to erosion, do not leave the soil unvegetated for any length of time, and keep cultivation to a minimum. Plant the site as soon as it is ready or, if ready in the fall, plant a cover crop of oats at the rate of 100 pounds per acre or annual rye at the rate of one bushel per acre. When you are ready to plant the wildflowers in the spring, till the cover crop under. It is critical to use certified seed when planting cover crops so as to not introduce more weeds.

Seeding

Once you have the site properly prepared, seeding can commence. If the soil is loose, roll or press with an ordinary lawn roller to firm it up. Sow the seeds with a whirlwind mechanical seeder or cast by hand. If you hand cast, consider mixing the tiny seeds with a slightly dampened inert material such as vermiculite, sawdust, or peat moss so the seed will stick to it. For a planting of 1,000 square feet, two-thirds of a bushel basket of inert material is plenty. For an area 1/10 acre in size (about 4,400 square feet) two bushel baskets will suffice. Mix the seed into the inert material. Evenly spread half of the total mixture over the area,

then cast the other half while walking in a perpendicular manner to your first pass.

If the seed has not already been mixed by your supplier, consider sowing each type of flower in small clumps or drifts throughout the area, which will mimic natural colonization. If planting in combination with native grass, sow the grass seed separately. Lightly rake and/or roll the site, taking care not to cover the seeds more than their average diameter (about 1/16th inch). Therefore, expect some seeds to be visible. Mulching may be necessary on potentially erosive slopes. If mulching, use only light material such as clean oat or wheat straw and cover no more than half of the bare soil. If necessary, water for four to six weeks, just enough to moisten the seeds with each application.

Follow the supplier's instructions as to seeding rates. Wildflowers are generally planted at the rate of four to five pounds per acre although some seed supply companies recommend rates of six to eight pounds per acre. When seeding with native grasses, you may only need one pound wildflowers per acre, depending on the desired density of wildflowers. If using transplants, follow the supplier's planting instructions.

Consider a large broadcaster or no-till grain drill for planting large areas. Because wildflower seeds are so small, adding a bag of cracked oats to the drill will help ensure even distribution of seeds, which will settle below the larger oats in the drill. Also, be sure to count the number of passes necessary to cover the field and then divide the seed into an equal number of passes. Fill the drill hopper after each pass with the correct amount of seed and oats.

Post-planting

Most native wildflower seeds take at least three weeks to germinate. Do not expect to see blooms the first or possibly even the second year. Supplementing your planting with a few annual wildflowers will give you a show of color the first year. Many seed suppliers mix annuals with perennials for this reason. Be sure to check for aggressive exotic species in the mix to avoid problems.

Expect a weed problem in the first year. Avoid the temptation to pull the weeds, because the wildflower seedlings may be dislodged. Instead, mow to a height of six to eight inches throughout the summer and into early fall (wildflowers do not usually grow taller than six inches the first year). This mowing will remove the seed heads of weeds before they are mature, which will prevent them from regenerating. If the planting was supplemented with annuals, however, mowing will sacrifice them unless you wait until the blooming period has passed. Consider spot mowing problem areas or over rough terrain with a stringed power weed trimmer. Mature establishment of perennial wildflowers will occur in three to five years. Weeds should not be a problem by then.

Long-term Management

In the early spring of the second year, mow the planting to the ground and rake off the cuttings. If weeds remain a problem in the second year, mow again in late spring or early summer. To avoid damaging desirable plants, do not mow after new plant growth has reached

black-eyed Susan

one foot or more. If you mow too late in the fall, you may destroy the seedheads of coneflowers and coreopsis, which feed birds in winter. Also, mowing too late in the season will remove vital nesting cover for early spring, as well as remove the aesthetic value of snow on native grasses and wildflower stalks in winter. By the third year weeds should be minimal.

Burning, which is also a valuable management tool for long-term success, can be started at the beginning of the third growing season. Burning removes the accumulated plant litter from the previous year's growth and exposes the soil surface to warming rays of the sun. It also encourages the growth, flowering, and seed production of native flowers and grasses. Conducting a burn right after snowmelt produces a slow, cool burn, which benefit wildflowers the most. A mid-spring burn, from three weeks after snowmelt to about 60 percent greenup, is most beneficial to prairie grasses because it helps set back undesirable cool season plants that begin their growth early in the season.

Never initiate burning after new plant growth has reached one foot or taller, and be sure to check with local fire authorities for permits and

Wildflower Planting Plan

Year	Plan	Methods
1	Evaluate Site	Know soil type through soil survey maps. Decide on location as it determines what plants will be able to grow
	Remove Vegetation	Smothering, using herbicides, cultivation, and burning are all ways to remove vegetation, and are dependent on the site's location.
	Seeding	Use a lawn roller, and either cast with a seeder or by hand. Expect a 3 week germination period before any results are seen.
	Avoid Pulling Weeds	Instead of weeding, mow at 6-8 inches off the ground in late summer/early fall. Spot mow in trouble areas.
2	Mow in Spring	Mow close to the ground, and rake the cuttings. Let it grow the rest of the year.
3	Burn in Spring	Burn at the beginning of growing season (3 weeks after snowmelt) every 3-4 years.
Beyond 3	Burn in Sections	Consider burning 1/3 parcel every year to add diversity.
		Always check with authorities for regulations on burning.

other regulations. Plan to burn every three to five years. Splitting large parcels into thirds and burning or mowing one-third each year will help provide habitat diversity. If you have more than one planting area, burn or mow one planting per year.

Factors That Cause Poor Results

Nothing is more frustrating than spending money and time on establishing wildflowers only to have the planting fall short of expectations. The following 10 factors are common reasons why some landowners experience poor results or, in some cases, failure.

1. Unsuitable site conditions for the species of wildflowers being planted.

2. Not enough weed control -- before or after planting.

3. Disturbance of soil deeper than two inches during site preparation.

4. Planting at the wrong time of year (late summer or fall).

5. Ignoring recommended seeding rates.

6. Covering the seed too deep beneath the soil surface.

7. Not enough sunlight.

8. Inadequate rainfall after seed germination.

9. Extreme weather conditions.

10. Impatience.

Thus, to ensure a successful planting, it is important to educate yourself about proper procedures. Stick to the methods described here and you should reap wonderful rewards.

FOR ADDITIONAL CHAPTERS CONTACT:
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Private Land Partnerships: This partnership was formed between both private and public organizations in order to address private lands wildlife issues. Individuals share resources, information, and expertise. This landowner's guide has been a combined effort between these groups working towards one goal: Natural Resources Education. We hope this manual provides you with the knowledge and the motivation to make positive changes for our environment.

FOR ADDITIONAL ASSISTANCE: *CONTACT YOUR LOCAL CONSERVATION DISTRICT*