



How To Create Native Wildflower Meadows To Benefit Birds, Bees, Butterflies and Pollinators in Pennsylvania

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Disclaimer: I am not an expert, but I do have experience establishing native wildflower meadows on my property in southern Bedford County, Pa. I rely on Ernst Conservation Seeds for advice and technical details – they are the experts! Their catalog is a great reference with directions, planting guides, how-to help, and a photo directory of native grasses, flowers, and woody plants.

Why Ernst? Ernst grows native seeds on a large scale in Pennsylvania and offer free technical help. Note: They also grow non-native seeds, so do your homework. A species described as native might not be native to your area, even if you live in Pa. Check the species distribution on this website if you want to know for sure: <http://bonap.net/NAPA/Genus/Traditional/County>
A naturalized flower like Cosmos is NOT native and Ernst sells those, too.

Please only buy seeds that are native to your area.



Armchair Prep Steps:

1. Call Ernst Seeds and ask for a free catalog: 1-800-873-3321
Their website is also useful: **ERNSTSEED.COM**
2. Determine your soil type, if possible, by getting it tested. Soil test kits should be available for purchase at your County Extension Office. This helps with the next step.
3. Determine the type of site where you want to plant: **Upland meadow, pollinator-friendly, riparian** (along a stream), wet meadow, or **partially shaded area**. I bolded the sites that I've planted with native seed mixes. Ernst has a catalog section for each of these and lists a variety of seed mixes for each type of site. **Be sure to purchase seed mixes that include Native in their title, otherwise you might get non-native species that do NOT benefit many pollinators. The area-specific seed mixes don't include native in the title, but those are OK to purchase.**

The Ernst catalog does not show all the seed mixes, so go to the website to see the contents, or call and talk to a sales team member for more selections.

4. **Grass or no grass in the seed mix?** Some grass is important to hold the soil, to prevent weeds from over-powering the native flowers, and as a food source for many animals. However, I have found that some grasses like big bluestem and Indian grass are aggressive in my meadows and are much taller than the flowers, so now I ask Ernst to remove all or half of the taller grasses and replace them with grasses like little bluestem (which provides nesting sites for bumblebees) and sideoats grama (a great winter seed source for birds). These native grasses are much shorter. A custom mix is more expensive, but worth it, in my opinion.
5. **Tried and True Ernst Native Seed Mixes for Upland and Meadow sites in Pa.:**
ERNMX-105: Northeastern U.S. Roadside Native Mix
ERNXM-153: Showy Northeast Native Wildflower Mix
XERC00102: Xerces Mid-Atlantic Pollinator Mix (Google this to see the mix)
Note: Ernst also has native seed mixes for other states (MD, NC, SC, VA).

6. **Custom Mixes:** I pay more for custom mixes to reduce the amount of grass and to increase the amount of milkweed seeds and other flowers. After you decide on your seed mix, and know what you want to change, call Ernst and they will work with you to develop the custom mix.
7. **Spring or Fall planting?** Read what Ernst has to say before you decide. I have more experience with spring planting, which has worked well. The USDA-NRCS agency recommends fall planting. However, I've found that Ernst's seed selection is more limited in the fall for certain species. You are more likely to get the species you want if you order in late January or February and plant in the spring. Many wildflower seeds are slow to germinate, and some won't germinate unless they are stratified. I keep my seeds in the refrigerator or in a cold garage so more seeds will germinate the first year.

On-the-Ground Steps: Proper site preparation is key to success! **Don't fertilize.**

The Ernst catalog has a lot of information on this important topic, be sure to read it.

1. You must kill most of the vegetation using repeated tilling, smothering with black plastic or herbicides. Choose the strategy that works best for you, knowing that some plants (like pokeweed and milkweed) will still germinate – and that's a good thing!
2. Seeding Methods: Read carefully. I have used both methods successfully.
 - A. Large Areas: After you have killed most of the vegetation and the ground is bare, rent a Great Plains drill (suitable for wildflower seeds) from your County Conservation District if you are seeding an acre or more. Mix seed with seed oats before planting.
 - B. Smaller Areas: After you have killed the above-ground vegetation, broadcast seed directly onto bare soil using a cyclone seeder (or by hand). First mix seed with kitty litter and seed oats. Ask Ernst to help you determine amount. Spread seed first in one direction, then seed again in perpendicular direction.



After seeding, use a roller or rake to get good seed-to-soil contact. Do not roll or rake if the soil is wet.



Cover lightly with straw mulch. Very important last step!

After Seeding:

First Growing Season:

1. **Yes, there will be weeds the first year.** Hand pull the foxtail grass or other non-native plants.
2. When plants reach 18" to 24," use a brush hog mower or string trimmer to trim the meadow to a height of 8". Don't use a lawn mower since it cuts too low. This step reduces competition by weeds that you can't hand pull. Don't cut after mid-September.

Second and Subsequent Growing Seasons:

1. Use a lawn mower or brush hog to cut the meadow to a height of 2" in the spring (shortly after redbud or forsythia blooms). This will stimulate new growth and knock back shrubs. I recommend mowing just 1/3 of your meadow each spring on a rotating basis, so the overwintering bees and other pollinators are not harmed in the area that is not mowed.
2. Be vigilant about pulling or treating weeds like crown vetch, foxtail grass, and mullein.
3. Don't panic if you see a lot of daisy fleabane in your wildflower meadows in their second year. This native flower is an annual, and you will see very little the third year.