

## Pollinator Habitat Program Job Sheet

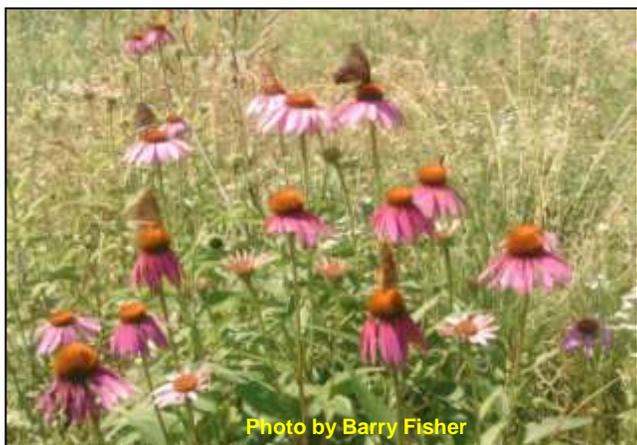


Photo by Barry Fisher

### PURPOSE

Pollinator Habitat is used to help enhance and restore habitat for ecologically and economically important pollinator species. Other benefits include reducing soil erosion, improving water quality, and creating or enhancing wildlife habitat.

### WHERE PRACTICE APPLIES

Apply this practice on fields that meet eligibility requirements for the Conservation Reserve Program (CRP) as determined by the Farm Service Agency (FSA).

### CRP POLICY

**General Signup 43:** To award 50 points for the National Ranking Factor N1a, existing vegetation or seeding mixes will contain a minimum of nine (9) different species of pollinator-friendly flowering plants, including wildflowers, legumes, and/or shrubs. At least three (3) species are required for each bloom period of April-June 15 (early), June 15 -July (mid), and August-October (late).

The same criteria apply for existing vegetation or seeding mixes in **Continuous CRP**.

### SEEDING RATES AND SPECIES

At least seven (7) of the nine (9) required species must be **native to Indiana**. More than nine (9) species are encouraged. Non-native legumes are limited to no more than 10% per species, with a total of 20% per mix (based on seeds per square foot). Eligible non-native

legumes and maximum seeding rates are listed in the following table.

The seeding rate of all forbs/legumes will be 16 oz/acre.

### Eligible non-native legumes for CP42

Species	Bloom Period	Max. Rate (per acre)
Alfalfa ( <i>Medicago sativa</i> )	Mid/Late	2 oz
Clover, Alsike <sup>1</sup> ( <i>Trifolium hybridum</i> )	Early/Mid/Late	2 oz
Clover, White/White Dutch/Ladino <sup>1</sup> ( <i>T. repens</i> )	Early/Mid/Late	2 oz
Clover, Red <sup>1</sup> ( <i>T. pratense</i> )	Early/Mid/Late	2 oz

<sup>1</sup> See FIREBREAKS section below

If less than three (3) species are available in a bloom period, substitute with another bloom period. **Note:** more than nine (9) species are encouraged.

The minimum seeding rate per species will be 1.0 oz/acre or as noted for native species. The maximum seeding rate will be dependent on the species selected.

CP42 habitat areas must be at least one-half (½) acre.

Grass is not required in CP42 mixes. However, if needed for erosion control, weed suppression, etc., a Wild Rye (*Elymus sp.*) can be included. Mixes will include no more than 25% grasses (based on pure live seeds per square foot).

If not planted in whole fields, block plantings of CP42 are preferred over strips. If planted in strips, each strip must be a minimum of 20 feet wide.

Seeding rates and species selection for CP42 will be determined using the Indiana (IN) Natural Resources Conservation Service (NRCS) [Seeding Calculator](#). Within the calculator, use IN Field Office Technical Guide (FOTG) Standard (327) – *Conservation Cover* (primary purpose wildlife).

Shrubs will be planted on an 8 ft. x 8 ft. spacing (681 shrubs per acre).

Any pre-packaged mixes must be approved before seeding. Site-specific requirements are listed on the attached Specifications Sheet.

Trees are not an eligible component of CP42 mixes.

## FIREBREAKS

If needed, a single-species firebreak consisting of alsike clover, white/white-dutch/ladino clover, **or** red clover will be established as part of the CP42 acreage. The remainder of the CP42 acreage will contain a minimum of 8 species of native species only at 16/oz per acre.

Special consideration will be given to the timing of any Prescribed Burning to minimize impacts to pollinators. See the attached Specifications Sheet for firebreak establishment.

## WOODY HABITAT

Woody habitat creation for pollinator nesting habitat is an optional component under CP42. Woody habitat created on CP42 shall not exceed 1,500 square feet for every one (1) acre of CP42, with a maximum of one (1) acre in total woody habitat.

Follow the guidance under the “Edge Feathering” section of the IN NRCS FOTG Standard (647) [Early Successional Habitat Development](#). Limbs and/or trees from an adjacent tree line or woodland edge will be cut so that the woody material falls onto the CP42 area.

## COMPANION/NURSE CROPS

A companion/nurse crop will be used when erosion control and weed suppression are needed. Companion/nurse crops include Winter Wheat (after the Hessian Fly-free dates in Table 2), Oats, Barley, Cereal Rye or Annual Ryegrass; native Wildryes (i.e. – *Elymus sp.* such as Canada, Riverbank, and Virginia Wildrye) are also effective.

Companion crops will be clipped after jointing, but before seed head pollination unless otherwise directed (control of Wildrye species is not necessary so that they persist as part of the seedings). A second and subsequent clipping is necessary if re-growth provides competition. Clipping height should be above developing seedlings. Where excessive growth has accumulated, the vegetation will be chopped rather than swathed.

## SITE PREPARATION

It is very important to plant the vegetation into a weed-free seedbed. Use herbicides and/or tillage to eliminate competing vegetation. Weed control efforts should begin as early as 12 months prior to planting, and may require multiple applications or operations in both the fall and spring prior to planting.

Pay particular attention to sites where noxious and potentially invasive species are likely. Many of these species are perennials that spread through seed and roots, and many have rhizomatous root systems that will persist and negatively impact the planting.

Cool season weeds (i.e. - Canada thistle, quack grass) are best controlled in the fall (mid September – Early November) with a translocation herbicide. Plants should be actively growing at the time of application. Avoid herbicide application after 3:00 pm if overnight temperatures are expected to drop below 50 degrees (F).

Warm season weeds (i.e. - Johnsongrass) are best controlled prior to flower with a follow-up application prior to first frost. Plants should be actively growing at the time of application.

Contact your local Purdue University Cooperative Extension Service for specific herbicides to use. **Apply all herbicides according to the label.**

Use a nurse/companion crop to further control potential weed issues and/or a temporary cover for erosion control.

If Prescribed Burning is used for site preparation, it must be conducted according to IN NRCS FOTG Standard (338) [Prescribed Burning](#).

## SEEDING DATES

Species/Mix	IN Seeding Dates	Dormant Seeding Dates*
Non-Native Legumes	3/1-5/15 8/1-9/15	12/1-3/1
Native Forbs/Legumes	4/1-6/15	12/1-3/1

\* Increase seeding rates by 25% if dormant seeding.

## SEED PREPARATION

Inoculate legume seed before seeding with the proper rhizobia bacteria specific for the species. Re-inoculate seed if it was pre-inoculated more than 60 days prior to seeding or beyond dates specified on the seed/inoculant tag. Inoculant left in the sun, even for a short period of time can significantly reduce the viability and effectiveness. Pre-inoculated seed will have a coating that changes the pure live seed per pound and thus the bulk seeding rate per acre.

Be aware that blending seed of varying size, shape and weight can make calibration of equipment and seeding uniformity difficult.

Some seeding mixtures contain seed that is extremely small and thus have very low seeding rates. This may make it difficult to set seeding equipment to uniformly seed these low rates of very small seed. Under these circumstances, a **carrier** or using coated seed may be desirable to add enough volume to the mix for proper metering. The carrier should be no larger than the largest seed species and have similar shape, density and texture to the majority of the seeds in the mix.

The carrier can be an inert material (such as cracked corn) that does not have abrasive properties that may cause damage to the equipment or the seed. Inexpensive seed (unimproved varieties) that will have no significant negative impact on the purpose of the seeding may also be used.

## PLANTING METHODS

**No-Till seeding:** Use a no-till drill with seven (7) inch or less row spacing. Ensure the drill is designed to handle the type of seed being planted (especially important for native grasses). Set the no-till drill to provide good seed-to-soil contact and a planting depth preferred for the desired species (see table below). Soils that are too wet or too dry can also cause improper seed placement.

### Seeding depth guidance

Groups	Seed Size (seeds/lb.)	Optimum (inches)	Max. (in.)
Brassicas, clovers, small seeded legumes, small seeded grasses, native forbs	150,000 – 500,000	¼	½
Vetches, sorghums, wildryes, trefoils, native legumes, radishes	50,000 – 150,000	½	¾
Cereal grains	12,000 – 50,000	¾	1
Beans, peas, corn	1500 – 12,000	1 ½	2

**Conventional Seeding:** Prepare a fine firm seedbed to a depth of three (3) to four (4) inches. Incorporate lime and fertilizer during seedbed preparation. Use a drill with seven (7) inch or less row spacing or a culti-packer seeder designed for the seed to be planted. Seed should be drilled uniformly at a proper seeding depth for the desired species.

**Broadcast Seeding:** Seed may be broadcast if completed in a uniform manner. Pre-mix the seed with 200 pounds per acre of pelletized lime if using an airflow applicator. Seedbeds should be worked to a minimum depth of three (3) inches and firmed before seeding. The seedbed should be culti-packed before and after seeding. It is acceptable to see up to one-third (⅓) of the seed on the soil surface. Wind speed should be 15 miles per hour or less when broadcasting.

### Inter-seeding:

1. **Legumes/Forbs (frost seeding):** No-till drill or broadcast as above into existing vegetation or residues. Broadcasting relies on freeze/thaw cycles, rain and/or snow to incorporate the seed. This method does not include a seedbed preparation. This is most commonly used during the dormant seeding period.

2. **Cover Crops:** No-till drill or broadcast as above into existing vegetation or residues. Broadcasting relies on freeze/thaw cycles, rain and/or snow to incorporate the seed. Inter-seeding does not include a seedbed preparation. This method can be used to establish cover crop species or combination mixes into relatively light (such as soybean) and weed free crop residues or to establish vegetation into standing crops.

**Grasses:** No-till drill into existing covers only if prior-treated with herbicides or tillage, or if existing cover is diminishing (i.e. – older alfalfa plantings).

## WEED CONTROL DURING ESTABLISHMENT

Control competing vegetation as needed until Final Status Review. Mow, burn, or apply herbicides as needed to control unwanted vegetation for up to 3 years after planting. Mow when competing weeds are taller than the planted vegetation, and at a height above the planted vegetation. Use selective herbicides and/or spot spraying to protect the desired species. Refer to Purdue Extension – *Weed Control Guide WS-16* for herbicide timing and treatment.

## OPERATION AND MAINTENANCE

*After* the Final Status Review or three (3) years (whichever comes first), maintain the planting according to your CRP conservation plan. Maintenance activities are allowed only if necessary to maintain stand health, or to control pests, noxious weeds or any plant species whose presence or overpopulation may jeopardize the CRP cover, or have detrimental effects to the surrounding land.

The presence of annual weeds (such as foxtail, common ragweed, and perennial forbs) is not a concern, as these plants are important sources of food for wildlife, especially bobwhite quail. Maintenance may be needed to control excessive density of these annuals, especially during the establishment years, but is not intended to eliminate this group of plants.

Maintenance activities will not occur from **April 1 through August 1** to protect ground-nesting wildlife. If maintenance activities are needed during the April 1 – August 1 time frame, the FSA County Committee **must** approve the maintenance activity **prior to** the activity occurring, and it may **only be on a spot basis**.

**Mowing for generic weed control or for cosmetic purposes is prohibited.**

Native forbs will not be mowed lower than eight (8) to 12 inches. Non-native legumes in firebreaks will not be mowed lower than four (4) inches.

Inspect the vegetation annually and after storm events, and repair any gullies that have formed; remove unevenly deposited sediment and/or crop residues that will disrupt the function or kill desired vegetation; and reseed high mortality and disturbed areas.

The contract area cannot be used for field roads or other uses that will damage or destroy the cover.

Supplemental nutrients should not be needed.

**MID-CONTRACT MANAGEMENT**

Mid-Contract Management (MCM) is required on this practice. Table 2 shows the maximum amount of area that can be disturbed by MCM activities in a given number of years. However, to maximize wildlife benefits, participants may opt to perform MCM on one-third (1/3) of the area for each of three (3) years if they so choose.

**Table 2 – MCM Disturbance Area**

	MAXIMUM AREA TO BE DISTURBED
5 acres or more	1/3 of the area each of 3 years
Less than 5 acres	1/2 of the area each of 2 years, <u>or</u> total area in 1 year

Mid-Contract Management activities will be avoided on environmentally sensitive areas including:

- a) Concentrated flow areas,
- b) Critical areas,
- c) Within the first 20 feet of a practice that borders a water resource to avoid water quality resource concerns, and
- d) Other areas where gully erosion is likely.

Environmentally sensitive areas will be marked on the plan map to ensure MCM activities are avoided on these areas.

Grassland areas must be established for a minimum of three (3) years before initiating MCM activities.

Mid-Contract Management activities operations will not be performed from April 1 through August 1 for contracts starting in 2008, to protect the primary nesting period for grassland bird species. It is also recommended, but is not required, to delay MCM activities until after August 15 to reduce the chance of harming fledgling birds and other young wildlife.

Mid-Contract Management activities operations will be performed along field contours, or across the slope, when practical.

Strips will parallel brushy or woody escape cover when feasible.

See the link below for MCM job sheets: <http://www.in.nrcs.usda.gov/programs/CRP/crphomepage.html>.

**MANAGED HAYING AND GRAZING**

The seeded area of CP42 shall not be harvested or grazed by domestic livestock for the life of CRP-1.

The U.S. Department of Agriculture (USDA) prohibits discrimination in all of its programs and activities on the basis of race, color, national origin, age, disability, and where applicable, sex, (including gender identity and expression), marital status, familial status, parental status, religion, sexual orientation, political beliefs, genetic information, reprisal, or because all or part of an individual's income is derived from any public assistance program. (Not all prohibited bases apply to all programs.) Persons with disabilities who require alternative means for communication of program information (Braille, large print, audiotape, etc.) should contact USDA's TARGET Center at (202) 720-2600 (voice and TDD).