

Landowner: \_\_\_\_\_

**DEFINITION**

Establish permanent vegetative cover to provide nutritious forage for honey bees and other pollinators.

**WHERE USED**

This practice is focused on enhancing honey bee habitat associated with grasslands currently under CRP contract and established to CP-1, CP-2, CP-4D, CP-10, CP-25, and CP-38E conservation cover practices.

**SPECIFICATIONS**

**Native forb mixture:** Eligible on practices CP-2, CP-4D (native grass/forbs), CP-25, CP-38E (native grass/forbs).

- A minimum of **six species** of pollinator friendly native forbs – additional species are encouraged, but not more than eight species can be utilized.
- Two species shall be from each of early, mid and late flowering seasons so that pollinators have continuous food sources during the time of greatest need.
- The list of forb species below shall be used. Additional forb species can be added at the landowners’ personal expense.



Species ( <i>Scientific Name</i> )	Bloom Period	Pure Live Seed (PLS) per/oz. per/acre	Seeds per square ft.	Total Seeds per square ft.	Color
Foxglove Beardtongue ( <i>Penstemon digitalis</i> )	Early	2.00	2.64 × 2	5.28	White
Lance Leaved Coreopsis ( <i>Coreopsis lanceolata</i> )	Early	3.00	0.46 × 3	1.38	Yellow
Large Flowered Penstemon ( <i>Penstemon grandifloris</i> )	Early	2.00	0.32 × 2	0.64	Lavender
Mountain Mint ( <i>Pycnanthemum virginicum</i> )	Mid	1.00	5.05	5.05	White
Common Milkweed ( <i>Asclepias syriaca</i> )	Mid	2.00	0.09 × 2	0.18	Purple
Purple Prairie Clover ( <i>Dalea purpurea</i> )	Mid	5.00	0.458 × 5	2.29	Purple
Maximilian Sunflower ( <i>Helianthus maximiliani</i> )	Late	4.00	0.30 × 4	1.2	Yellow
Stiff Goldenrod ( <i>Oligoneuron rigidum</i> )	Late	4.00	1.05 × 4	4.2	Yellow
<b>TOTAL:</b>				<b>20.22</b>	

- The mixture will result in a minimum of 20 seeds/sq. ft. When native grasses are added to the mixture, no more than 2 native grass species and 10 grass seeds per sq. ft. per acre are allowed.



**Introduced legume mixture:** Eligible on practices CP-1, CP-4D (introduced grass/legume), CP-10, CP-38E (introduced grass/legume).

Legume	Bloom	Type	Total Seeds/sq.	PLS Seeding Rate lbs./ac	Moisture Regime
Alsike Clover	Early – Mid	Perennial	32.0	2.0	M-W
Red Clover	Early – Mid	Perennial	12.0	2.0	DM-WM
White Clover	Early – Mid	Perennial	40.0	2.0	DM-WM
Alfalfa	Mid – Late	Perennial	20.0	4.0	D-M
<b>TOTALS:</b>			<b>104.0</b>	<b>10.0</b>	

- The mixture will result in a minimum of 104 seeds per sq. ft. per acre.
- Increase the seeding of Red Clover to 3 lbs. per acre when site conditions are too wet for Alfalfa.

## SIZE

**Honey bee habitat shall be established in blocks of at least 1.0 acre in size.** Where feasible, locate the planting along the edge of the existing CRP field to facilitate establishment and maintenance. Encourage locating the planting at least 125’ from existing cropland.

## PLANTING

**No-Till Planting:** If possible, use specialized no-till native grass drills for seeding pollinator habitat. Such drills have depth bands designed to handle a wide variety of seed (fluffy, smooth, large, and small) and low seeding rates. Since no-till drilling can plant directly into a light stubble layer, this method reduces erosion on the newly seeded site. Conventional grain drills are not capable of handling diverse seed sizes and are unlikely to provide satisfactory results.

While these no-till native seed drills can plant through light stubble, success is still likely to be greatest when most excess residue (heavy thatch) is removed. Similarly, cultipacking the ground prior to planting will help smooth the seedbed and may improve germination. Do not harrow or till the soil prior to planting, as heavy drills tend to sink in loose soil and depth.

**Broadcast Planting:** Prepare a fine firm seedbed to a depth of 3 inches. Use a roller, cultipacker or similar implement prior to seeding. The seedbed should contain enough fine soil particles for uniform shallow coverage of the seed as well as creating direct contact with moisture and nutrients.

**Broadcast seed at a rate of 1.5 times the normal drill seeding rate.** Harrow lightly with a chain link fence (not a heavy spike tooth harrow) to smooth the ground and cover the seed, and roll or cultipack.

**Site Preparation:** Site preparation, which includes perennial weed abatement and seedbed creation, is crucial for successful native plantings. The key points are to remove all perennial weeds through herbicide use or another weed abatement method, and to prepare a firm seedbed that will ensure good seed to soil contact.



CRP HONEY BEE HABITAT TO BE ESTABLISHED		
	Establishment Methods	Planting Dates
<b>Existing Cover is</b>		
Introduced Grass/Legumes	Mow Spring (April) or Fall (late July to early September), and remove residue. Spray re-growth with glyphosate. Three planting options: * No-till into existing cover. * lightly disk as needed, broadcast & drag. * Fall dormant planting.	<b>Spring Plant:</b> April 1 - May 14 <b>Summer Plant:</b> August 2 - August 29 <b>Fall Dormant:</b> October 8 - Freeze-up
Native Grass/Forbs	Mow early summer (June) and remove residue. Spray re-growth with glyphosate (late July - August). * Fall dormant planting.	<b>Spring Plant:</b> Thaw - May 14 <b>Fall Dormant:</b> October 8 - Freeze-up

**All management or maintenance activities occurring during the nesting season must receive prior approval by the Farm Service Agency.**

**When feasible, establishment of honey bee habitat should be concurrently planned with other mid-contract management activities, such as prescribed burning and inter-seeding.**

**Post Planting:** During the establishment year, mow annual weeds after they have reached 12” in height. Mow 2 to 3 times to a height of 6 inches, generally on 30 day intervals from the date of seeding, or as often as needed to prevent weeds from flowering. Use a rotary mower or remove the clippings so as not to smother the seedlings. This will slow the weeds but won't harm the prairie plants. The second year, evaluate the stand to determine if weed control is necessary. If weed control is necessary spot mow weeds to a height of six inches.

**Use of Pesticides:** Only those pesticides which are labeled for use with the planned mixture will be recommended. University and Extension publications and specific label instructions will be used for guidance on herbicide selection and use.

### **OPERATION AND MAINTENANCE**

1. Control annual weeds and other competition the year of establishment, with early and timely clipping before seed heads appear, or timely application of herbicides.
2. Prevent unmanaged vegetative disturbance of the planting.
3. After the seeding is established control all noxious weeds as identified by state and local laws, by: (a) spot treating with chemicals per label directions, or (b) spot mow before seed heads form.
4. Manage cover periodically to rejuvenate grass quality and vigor. Management should occur within 3-5 years of adequate vegetative establishment. Mechanical management activities must take place prior to May 15th or between August 2nd and September 1st.
5. Prescribed fire is the preferred management option for native forbs. Fall (October-early November) burns favor wildflowers.

