

Cover Crop

Cover Crop for Pollinators

KY Conservation Practice Job Sheet

Code 340



DEFINITION

A cover crop is planted primarily to manage soil fertility, soil health, water, weeds, pests, diseases, biodiversity and wildlife.

PURPOSE

Cover crops may be planted to prevent erosion and to improve soil health (especially by adding nitrogen). They may be made pollinator friendly by adding appropriate flowering species during important periods during the growing season.

CONDITION WHERE PRACTICE APPLIES

This practice applies on any lands where there is a need to increase biodiversity and/or enhance habitat for pollinators. It is primarily utilized on croplands where a crop is produced

If cover crops are used for pollinators they should never compromise other purposes such as erosion control.

CRITERIA

Cover crops utilized as pollinator habitats should be a minimum of one-half (0.5) acre in size to provide any benefit. Smaller areas are significantly less beneficial.

The species selected should be compatible with the cropping system being implemented. In other words, the cover crop should complement the main crop being produced. The cover crop should bloom at times when the main crop is not blooming; it should not be aggressive or overtop the main crop and not be allelopathic. They should also have a bloom period that enhances, prolongs or maintains a source of nectar and/or pollen for as long as feasible during the growing season

Cover crop plant species should be based upon the purpose of the cover crop. Some cover crops can be multipurpose. For instance, they may attract pollinators and be effective at increasing biomass or organic content in the soil.

Try to select cover crop species that have different maturity dates, attract beneficial insects, increase soil biological diversity, serve as a trap crop for damaging insects, and/or provide food and cover for wildlife habitat management.

Cover crops can be removed after their usefulness via several methods. They may be terminated by harvest, frost, mowing, tillage, crimping, and/or herbicides in preparation for the following crop.

Herbicides/pesticides should not be utilized when managing cover crops for pollinators. If they are used with cover crops they must be applied with the minimal amount of effective ingredients and applied with the most direct method practical. They should also be compatible with the following crop.

Avoid using plants that are on the state's noxious weed or invasive species lists.

Cover crops can be planted over the entire field (bee pasture) or in between rows or among the principle crop to provide multiple benefits.

Ensure that the species selected are planted during the appropriate time to ensure that the cover crop blooms during the desired period or provides pollinator resources for the time period between crops.

Pollinator Species Selection

A number of non-native plants used for cover crops, green manures or short-term plantings are productive forage sources for pollinators. Some of these species could become weedy (e.g. able to reproduce and spread) so you will want to choose appropriate species for your needs and monitor their development on your site.

Choose plant species that attract the insects that are desired for crop pollination. A list of species is provided on this job sheet and within the conservation practice Conservation Cover (327). Always avoid using plants that are on the state's noxious weed or invasive species lists and ones that may be aggressive and cause potential invasions into cropland.

Select species that bloom to fill appropriate gaps in pollinator habitat. For example, if the principle crop requiring pollination blooms in the mid portion of the season, select species for the cover crop to provide bloom during early and/or late periods of the season. This will ensure that food resources are available throughout the growing season for pollinators.

Plant selected species using conventional or no-till methods at the rates shown in the table below. Other rates and species may be suitable to provide the desired habitat. Contact the local NRCS field office for more information.

Bee Pasture

This practice could also be utilized to provide bee pastures or foraging areas for a variety of pollinators. These are areas reserved usually near crop production fields consisting of one or more species of annual or perennial plants that provide pollen and nectar resources before, during and outside the time required for pollination of the crop produced. Idle crop

fields could be utilized for these areas to provide the resources for adjacent fields.



OPERATION AND MAINTENANCE

Control the growth of the cover crop to reduce competition from volunteer plants and shading.

Control the weeds in the cover crop by mowing or by using other pest management techniques.

Herbicide or pesticide application is not recommended on cover crops.

For some species of plants consider exclusion of deer through temporary fencing or other measures.

It is recommended to obtain a soil test periodically to establish and maintain appropriate soil pH and fertility levels in areas where cover crops are or will be established.

Do not burn cover crops.

If available refer to the Kentucky Pollinator Handbook for more information.

Some activities may be prohibited by various USDA programs. Always refer to specific program regulations before establishing, harvesting, terminating or maintaining cover crops. Contact the local NRCS office to ensure compliance with various programs.

These species may be suitable to augment existing habitats and/or to correspond with gaps in bloom times to provide supplemental resources for pollinators during periods when the principle crop is not in bloom.

| Common Name | Scientific Name | Bloom Period | Flower Color | Height at Maturity (feet) | pH Range | Annual Perennial Biennial | Pollinator Preference | Soil Drainage Preferences | Seeding Rate (per acre) |
|--------------------|-----------------------------|--------------|--------------|---------------------------|----------|---------------------------|---------------------------|---------------------------|-------------------------|
| Borage | <i>Borage officinalis</i> | Early | Blue | 1.5 | 6.0-7.5 | A | Native Bees | Well – Moderately Well | 15 lbs |
| Crimson Clover | <i>Trifolium incarnatum</i> | Early | Red | 1.5 | 5.5-7.5 | A | Native Bees | Well – Somewhat Poorly | 30 lbs |
| Hairy vetch | <i>Vicia villosa</i> | Early | Purple | 1.5 | 6.0-7.5 | A | Native Butterflies | Well – Moderately Well | 30 lbs * |
| Purple vetch | <i>Vicia atropurpurea</i> | Mid | Purple | 1 | 5.5-6.5 | A | Native Butterflies | Well – Moderately Well | 60 lbs |
| Mustard | <i>Brassica</i> spp. | Mid | Yellow | 4 | -- | A | Native Bees | Well – Moderately Well | 15 - 20 lbs |
| Alfalfa | <i>Medicago sativa</i> | Mid | Blue | 2 | 6.0-8.5 | P | Native Bees & Butterflies | Well – Moderately Well | 20 lbs |
| White clover | <i>Trifolium repens</i> | Mid | White | 0.5 | 6.0-7.5 | P | Native Bees | Well – Somewhat Poorly | 10 lbs |
| Sweet White Clover | <i>Melilotus alba</i> | Mid | White | 5 | 5.0-8.0 | A | Native Bees | Well – Moderately Well | 15 lbs |
| Red clover | <i>Trifolium repens</i> | Mid | Red | 0.5 | 6.0-7.5 | P | Native Bees | Well – Somewhat Poorly | 10 lbs |
| Buckwheat | <i>Fagopyrum esculentum</i> | Late | White | 2 | 6.0-8.5 | A | Native Bees | Well – Moderately Well | 60 lbs |

* May add a nurse crop of 40 lbs of winter wheat

NOTE: Taxons listed as spp. indicate that there are several species that could be useful for pollinator purposes. Consult the local NRCS field office to determine if a species is suitable for use, propagation and the flowering characteristics.

SPECIFICATIONS

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Site-specific requirements are listed on the specification sheet. Additional provisions are entered on the job sketch sheet. Specifications are prepared in accordance with the NRCS Field Office Technical Guide and the Cover Crop practice standard (340). Information on this job sheet is considered to be part of the conservation plan.

| | | |
|---------------------|----------------|------------------|
| Client: | Date: | Field(s): |
| Designed By: | Farm #: | Tract #: |

| Purpose (check all that apply) | |
|--|--|
| <input type="checkbox"/> Creation of Pollinator Habitat Principle Crop Produced _____ | <input type="checkbox"/> List any additional Purpose(s) i.e. erosion reduction, biomass increase, nitrogen fixation, etc: _____ |

| (check all that apply) | |
|--|--|
| <input type="checkbox"/> Cover crop is planted on idle field and rotated throughout cropland over length of rotation | <input type="checkbox"/> Cover crop planted between rows |

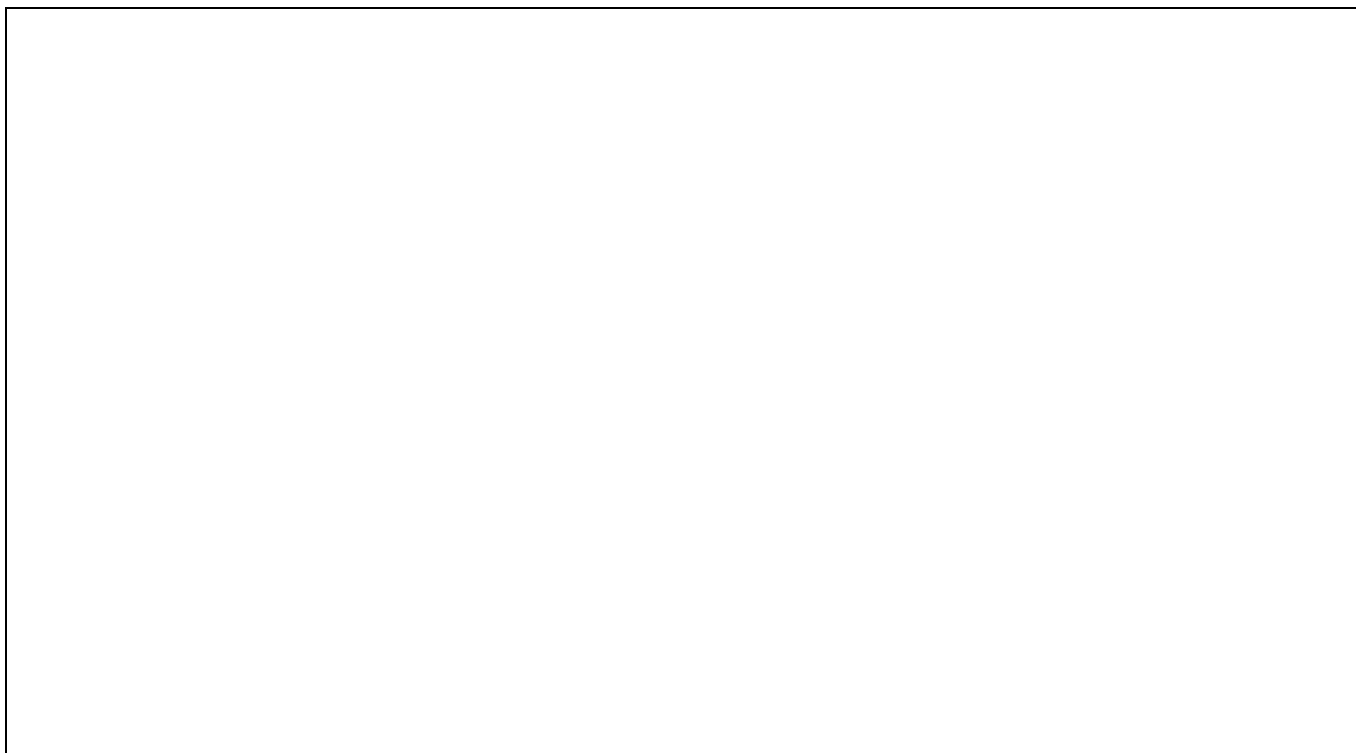
| Layout | Field ____ | Field ____ | Field ____ |
|--|------------|------------|------------|
| Total Area Planted (acres) (min 1/2 ac) | | | |
| Principle Crop Bloom Period | | | |
| Specie(s) Planted | | | |
| Cover Crop Bloom Period | | | |
| Seeding Dates | | | |
| Establishment Method ¹ | | | |
| Rate Planted | | | |
| Cover Crop Removal Dates | | | |
| Planned rates of nutrient application (if applicable) | | | |
| Planned timing of nutrient application (if applicable) | | | |
| Livestock Exclusion is Required ² | | | |

¹ Identify how the cover crop is to be established: **No-Till Drill**, **Conventional** or **Other** (Includes disked or hand established and broadcast methods).

² Yes or No - Refer to (472) Access Control or associated job sheets for more information. If yes, enter dates of livestock exclusion.

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If needed, an aerial view or a side view of the practice can be shown below. Other relevant information, complementary practices and measures, and additional specifications may be included.



Additional Notes, Specifications, Operation and Maintenance Requirements, etc.

Follow the procedures and methods for Operation and Maintenance as outlined in this job sheet. **Additional Notes:**



CERTIFICATIONS

| | | | |
|---------------------|--|--------|-------|
| Job Sheet | Prepared by: | Title: | Date: |
| | Approved by: | Title: | Date: |
| Installation | Meets NRCS standards and specifications | | |
| | Certification by: | Title: | Date: |

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