NRCS Natural Resources Conservation Service

Cover Crop

Cover Crop for Pollinators

WV Conservation Practice Job Sheet ***Code 340***

DEFINITION

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

PURPOSE

Cover crops may be planted to prevent erosion and to improve soil quality (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

CRITERIA

A cover crops utilized as pollinator enhancements should be a minimum of one-half (0.5) acre in size to provide any benefit. Smaller enhancements 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 should not be utilized if possible 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.

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 WV Pollinator Handbook. 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.

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.

Scientific Name	Common Name	Bloom Period	Flower Color	Height at Maturity (feet)	pH Range	Annual Perennial Biennial	*Pollinator Preference	Soil Drainage Preferences	Seeding Rate (per acre)
Borage officinalis	Borage	Early	Blue	1.5	6.0-7.5	A	Native Bees	Well – Moderately Well	15 lbs
Trifolium incarnatum	Crimson Clover	Early	Red	1.5	5.5-7.5	A	Native Bees	Well – Somewhat Poorly	40 lbs
Vicia villosa	Hairy vetch	Early	Purple	1.5	6.0-7.5	A	Native Butterflies	Well – Moderately Well	20 lbs *
Vicia atropurpurea	Purple vetch	Mid	Purple	1	5.5-6.5	A	Native Butterflies	Well – Moderately Well	60 lbs
Brassica spp.	Mustard	Mid	Yellow	4	--	A	Native Bees	Well – Moderately Well	15 - 20 lbs
Medicago sativa	Alfalfa	Mid	Blue	2	6.0-8.5	P	Native Bees & Butterflies	Well – Moderately Well	20 lbs
Trifolium repens	White clover	Mid	White	0.5	6.0-7.5	P	Native Bees	Well – Somewhat Poorly	10 lbs
Melilotus alba	Sweet White Clover	Mid	White	5	5.0-8.0	A	Native Bees	Well – Moderately Well	15 lbs
Trifolium repens	Red clover	Mid	Red	0.5	6.0-7.5	P	Native Bees	Well – Somewhat Poorly	10 lbs
Fagopyrum esculentum	Buckwheat	Late	White	2	6.0-8.5	A	Native Bees	Well – Moderately Well	75 lbs

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

NOTE: Taxons listed as spp. indicate that there are multiple species within this genus that could be useful for pollinators and habitat enhancement purposes. Consult the local NRCS field office to determine if a species is suitable for use, propagation and the flowering characteristics.

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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:	**Farm #:**	A no-till drill is available from this Conservation District office: ☐ **YES** ☐ **NO**
Field(s):	**Tract #:**	
Designed By:	**Date:**	Phone: (_____)_____

Purpose (check all that apply)	
☐ Pollinator Enhancement Principle Crop Produced_____	☐ List any additional Purpose(s) i.e. erosion reduction, biomass increase, nitrogen fixation, etc: _____

(check all that apply)	
☐ Cover crop is planted on idle field and rotated throughout cropland over length of rotation	☐ 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)			
Soil Conditioning Index [2] (if applicable)			
Livestock Exclusion is Required [3]			

[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] A soil conditioning index should be included when purpose includes increasing organic matter content.

[3] Yes or No - Refer to (472) Access Control or associated job sheets for more information.

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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.

Refer to the conservation plan map for locations of conservation practices.

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:**

For more information concerning this practice contact:

_____ **at** _____