

# COVER CROPS

CONSERVATION JOB SHEET

340



Natural Resources Conservation Service

Michigan



## WHAT ARE COVER CROPS?

Grasses, legumes, forbs, or other herbaceous plants established for seasonal cover and conservation purposes. Cover crops reduce erosion by water or wind by disrupting the impact of raindrops and the stinging forces of wind blown soil particles. Cover crops with tall, above ground growth can help increase soil organic matter. Cover crops can capture and recycle excess nutrients like free nitrogen in the soil profile. Legume cover crops can be inter-seeded during the growing season to fix nitrogen for the next year's crop. Some cover crops can attract beneficial insects and provide over-wintering sites for the next year. Because of the potential allelopathic effect of weed seedlings, rye and ryegrass cover crops can suppress weed populations. In addition, cover crops can increase available soil moisture by providing insulating mulch if at least a 50% or more cover is maintained after planting.

## CONSIDERATIONS

Consider potential herbicide carryover when selecting the species of the cover crop. Of the cover crops, rye is most tolerant of triazine carryover, followed by wheat, then oats, and lastly legumes. Legumes are extremely sensitive to triazine carryover released by liming low pH soils. Delay seeding legumes for one year if more than 1 lb. of triazine was used the previous year.

Cereal rye and oil seed radish are more effective in utilizing excess nitrogen remaining from the previous crop.

Cereal rye will grow longer in the fall and begin growth earlier in the spring than wheat. Aerial seeded cover crops into soybeans; especially wheat, rye; and oats; are best if seeded prior to soybean leaf drop.

Aerial seeding of oats into soybeans (seeded prior to harvest) can add additional residue cover without the need to kill the cover crop the following spring.

Aerial seeded wheat or cereal rye into corn is best if seeded during the early dent stage. This generally occurs the last week of August to mid-September.

Consider grass cover crops when a legume (soybeans) is planned following the cover crop.

Consider legume cover or a green manure crop when a grass crop, like corn, is planned the following year.

Hairy vetch can serve as a host to the soybean cyst nematode (SCN). Consider alternative cover crops when SCN is a concern in the rotation. In Ohio, the following plants are reported to be host plants for SCN: henbit, common mullen, wild mustard, chickweed, pokeweed, canola, purple deadnettle, shepards purse, and field pennycress. *Caution - Hairy Vetch can also be a weed in future wheat.*

Aerial seeded and early no-till established cover crops provide more erosion control the year of establishment.

It is not recommended to plant mustards on the same field for more than two years in a row. Oil seed radish may be susceptible to clubroot disease or cabbage root maggot and should not be used in a rotation with vegetable crops susceptible to these pests.

Cover crops sown using conventional tillage for seedbed preparation after mid-October can cause more erosion during the establishment year than if a cover crop was not planted.

Consider cover crops after corn silage to reduce soil erosion, replace organic matter losses, and capture nitrogen where manure is fall applied.

To obtain maximum erosion control from cover crops after soybeans or corn, allow them to mature to the specified height per the criteria for erosion control. No-till and mulch till compliment the use of cover crops.

Crops planted late enough in spring to allow sufficient growth of cover crops are: dry beans, soybeans, sweet corn, snap beans, cabbage, cucumbers, tomatoes, and late potatoes.

Inter-seed cover crops at the last weed control cultivation in: corn, cabbage, cauliflower, peppers, or eggplant. Inter-seed into snap beans 10 days before the first harvest of beans.

Sow cover crops after harvesting the following crops: corn silage, dry beans, cucumbers, early soybeans, early corn, beets, spinach, carrots, lettuce, and potatoes.

Early planted crops such as carrots; beets, direct seeded cabbage, and early potatoes do not allow sufficient growth of cover crops in spring.

## **OPERATION, MANAGEMENT AND MAINTAINENCE**

When seeding legumes, ensure the proper inoculant is used at planting time. It is best to inoculate just prior to planting.

Establish the cover and green manure crop within the recommended planting dates and try to achieve the desired growth stage. In a dry spring, it may require an early termination to prevent further moisture depletion in the seedbed and affect crop germination.

Fertilize a green manure/cover crop in the spring with a high nitrogen fertilizer for maximum growth ahead of planting high nitrogen demanding vegetable crops. The recovery of the nitrogen applied to a green manure crop will amount to about 40 percent for the first vegetable crop.

Caution must be used when broadcasting or aerial seeding treated seed into a crop that is standing (to yet be harvested). Treated seed could show up in the harvested grain and result in rejection.

Burn-down, chop, mow, or till to kill cover crops when planting corn prior to corn emergence. Cover crops such as rye can produce an allelopathic effect that can slow the germination and growth of corn and other competition. It is best to kill the grass cover about a week prior to planting the corn.

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**COVER CROP SPECIFICATIONS****340**

Farm: \_\_\_\_\_ Field(s): \_\_\_\_\_ Tract: \_\_\_\_\_ Date: \_\_\_\_\_

Crop Rotation \_\_\_\_\_ Current Crop \_\_\_\_\_ Next Crop \_\_\_\_\_

**REQUIREMENTS**

Purpose:  Reduce erosion;  Increase organic matter;  Capture nutrients;  Fix nitrogen  
 Weed suppression;  Pest suppression;  Soil moisture conservation;  Other \_\_\_\_\_

Seedbed preparation \_\_\_\_\_

Fertilizer \_\_\_\_\_

F no.

Plant species:

Planting rates:

Planting depth:

Planting dates:

Planting method by cover crop:

Termination method (circle one): **Burn down** **Chop** **Mow** **Till**

Suggested minimum height before termination: \_\_\_\_\_