



# Cover Crop

WA-340

## Washington Conservation Practice– Energy CAP Job Sheet

July 2013

Operator:

Technical Service Provider:



### Definition

Grasses, legumes, forbs, or other herbaceous plants established for seasonal cover and conservation purposes.

### Purposes

Energy:

- Promotes biological nitrogen fixation and reduce energy use.

Additional Resource Concerns:

- Reduces erosion from wind and water.
- Increases soil organic matter.
- Capture and recycle or redistribute nutrients in the soil profile.
- Increases bio-diversity.
- Suppress weeds.
- Manage soil moisture.
- Minimize and reduce soil compaction.

### Where Used

Cover crops are used on lands requiring vegetative cover for natural resource protection.

### Conservation Management Systems

Cover crops are normally established concurrently with other practices as part of a resource management system for a conservation management unit. A cover crop is considered part of the crop rotation.

### Criteria

Plant species, seedbed preparation, seeding rates, seeding dates, seeding depths, fertility requirements, and planting methods will be consistent with approved local criteria and site conditions.

The species selected will be compatible with other components of the cropping system.

Ensure herbicides used with cover crops are compatible with the following crop. Ensure that plants are not listed as noxious weeds or invasive species for a particular state. Cover crop residue will not be burned.

### Additional Criteria to Promote Biological Nitrogen Fixation and Reduce Energy Use

Use legumes or legume-grass mixtures to establish cover crops. Legumes must account for greater than 50% of the mixture.

The specific Rhizobium bacteria for the selected legume will either be present in the soil or the seed will be inoculated at the time of planting.

### Considerations

Plant cover crops in a timely matter to establish a good stand.

When applicable, ensure cover crops are managed and are compatible with the client's crop insurance criteria.

Maintain an actively growing cover crop as late as feasible to maximize plant growth, allowing time to prepare the field for the next crop and moisture depletion.

When used to redistribute nutrients from deeper in the profile up to the surface layer, consider killing of the cover crop in relation to the planting date of the following crop.

If the objective is to best synchronize the use of cover crop as a



green manure to cycle nutrients, factors such as the carbon/nitrogen ratios may be considered to kill early and have a faster mineralization of nutrients to match release of nutrient with uptake by following cash crop.

The right moment to kill the cover crop will depend on the specific rotation, weather, and grower objectives.

Use deep-rooted species to maximize nutrient recovery.

Use grasses to utilize more soil nitrogen, and legumes utilize both nitrogen and phosphorus.

Avoid cover crop species that harbor or carryover potentially damaging diseases or insects.

For most purposes for which cover crops are established, the combined canopy and surface cover is at nearly 90 percent or greater, and the above ground (dry weight) biomass production is at least 4,000 lbs/acre.

Use plant species that enhance forage opportunities for pollinators by using diverse legumes and other forbs.

Use a diverse mixture of 2 or more species to address multiple purposes.

### Operation and Maintenance

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

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

Control soil moisture depletion by selecting water efficient plant species and terminating the cover crop before excessive transpiration.

Evaluate the cover crop to determine if the cover crop is meeting the planned purpose(s). If the cover crop is not meeting the purpose(s) adjust the management, change the species of cover crop, or choose a different technology.

## CLIENTS ACKNOWLEDGEMENT

By signing below, I acknowledge that I:

have reviewed and understand the above information on Cover Crop and that if entered into a contract for this practice with the NRCS the following will be required.

- will work with NRCS on what legume crop species will be included to develop a cover crop that works with my crop rotation to promote biological nitrogen fixation to reduce energy use.
- will work with NRCS on development of a nitrogen budget to show reduction of nitrogen use with the additional biological nitrogen fixation from my planned cover crop;
- at the end of the each growing season supply NRCS with growing and fertilization records from each field in the planned acres of the cover crop;
- will continue the planned cover crop for contract period that 340 conservation practice is planned.

*All practices contracted with the NRCS will be subject to current WA conservation practice standards.*

Client's signature: \_\_\_\_\_ Date: \_\_\_\_\_

Contract No. \_\_\_\_\_