



Cover Crops for Prevented Planting

Fact Sheet

Natural Resources Conservation Service North Dakota

August 2014

Wet field conditions late into the planting season can result in farmers opting for the “prevented planting” option for an insured crop. Planting a cover crop on prevented planting acres has become more popular in recent years as a soil and resource management tool. Multiple soil health, agronomic and other resource benefits are addressed if prevented planting ground is seeded to a cover crop compared to black or chemical fallow.

Soil Health Benefits of Cover Crops on Prevented Planting Ground

- Control erosion
- Dry wet soils by reestablishing the plant transpiration part of the water cycle
- Build soil organic matter
- Reduce nitrogen loss
- Fix additional nitrogen with legumes
- Feed beneficial soil biology and stimulate their activity
- Eliminate fallow syndrome (P deficiency in subsequent crop from loss of mycorrhizal fungi)
- Cycle, sequester, and recover nutrients
- Avoid or treat compaction from excessive traffic
- Control evaporative soil salinization



A cover crop mix of cool season broadleaf, cool and warm season grasses, and legumes

Other Resource Benefits

- Increase crop/rotation diversity
- Provide pollinator habitat
- Provide wildlife cover and food source
- Increase available water storage capacity for water retention
- Manage weed pressures
- Early winter grazing opportunities

Cover Crop Establishment

Seeding dates of cover crops on prevented planting ground must comply with Risk Management Agency guidelines. Typically, they are seeded after the late planting period for commodity crops grown in North Dakota. Farmers should always inform their insurance agent of intentions to plant a cover crop and obtain the latest information on cover crop restrictions and guidelines for prevented planting.

Some considerations for cover crop establishment are:

- Herbicide carryover
- Fertility - if nitrogen has been lost to denitrification, 30-50#/acre application needed for establishment
- Salt tolerance
- Seeding depth

Other Cover Crop Selection Considerations

Cover crops are chosen to attain resource benefits as listed above. Other items to consider are:

- Cost
- Availability
- Seeding time
- Subsequent commodity crop to be grown
- Termination method
- C:N ratio, desired timing of nutrient release and speed of residue decomposition
- Inoculation to get N benefit from legumes

Cover crops are categorized by major crop types to aid in cover crop selection based on time of seeding and desired diversity to acquire benefits. Major crop types include grass or broadleaf types and cool and warm growing season growth characteristics. In addition broadleaf species are characterized as being legumes. Science supports the idea that diversity is good for the ecology of agricultural ecosystems. Cover crop mixes are used to add diversity to agricultural production systems, manage residue decomposition and achieve desired benefits for soil health and the production of the subsequent crop. Common cover species and examples of cover crop mixes are listed in the following two tables.

Common Cover Crop Species List for Prevented Planting by Major Crop Type			
Cool-Season Broadleaf Species	Warm-Season Broadleaf Species	Cool-Season Grass Species	Warm-Season Grass Species
Clovers (Berseem, Crimson, Red, Sweet, Persian)*	Cowpeas*	Annual Ryegrass	Millets (German, Japanese, Pearl, Proso)
Camelina	Soybeans*	Barley	Sudan Grass
Ethiopian Cabbage	Safflower	Cereal Rye	Sorghum, Grain
Field Peas*	Sunflower	Oats	Sorghum-Sudan
Flax		Triticale	Teff
Lentils*		Wheat	
Phacelia			
Rape/Canola			
Radish			
Sugarbeet			
Turnip			
Vetches*			
*N-fixing legume species			

Examples of Cover Crop Mixes			
Species	Drilled Seeding Rate lbs./acre PLS		
Cool/Warm Season Frost Terminated-July 15-August 1 Seeding Dates			
Oats			30
Spring Peas			10
Lentils			2
Sudan or Millet			5
Cow Peas or Soybeans			5
Radish			0.5
Salt Tolerant Species-July 15-August 15 Seeding Dates			
Barley			35
Sugarbeet			1
Sunflower			1
Sweet Clover			1
Chickling Vetch			2
Siberian Millet or Sorghum-Sudan			2
Winter Annual-August 1-September 15 Seeding Dates			
Winter Rye or Triticale			30
Austrian Winter or Spring Peas			10
Radish			0.25
Turnip			0.25
Red Clover			1

Additional References

More specific information on resource benefits of each species, additional species, and recommended seeding rates can be found on the ND NRCS website: http://efotg.sc.egov.usda.gov/references/public/ND/cover_crop_340.pdf .

The USDA Agricultural Resource Service at Mandan has a Cover Crop Chart that is also helpful in selecting cover crop species. The website address is: <http://www.ars.usda.gov/Main/docs.htm?docid=20323> .

Managing Cover Crops Profitably is a useful publication provided by Sustainable Agriculture and Research and Education at website: <http://www.sare.org/Learning-Center/Books/Managing-Cover-Crops-Profitably-3rd-Edition> .