USDA NRCS
United States Department of Agriculture
Natural Resources Conservation Service
Indiana

Indiana Drought Fact Sheet for:

Cover Crops

Wildlife Habitat Incentive Program (WHIP)

WHIP is a voluntary program for people who want to develop and improve wildlife habitat primarily on private land. The primary purpose of the WHIP is to protect wildlife habitat by **providing wildlife access to cover and water** during the fall and winter, as well as **allow pastures to recover** from the drought. In addition to wildlife concerns, drought stressed crops did not use the applied nitrogen fertilizer, which may now be lost in the absence of rain. WHIP can help provide funding for **cover crops** to scavenge these nutrients, to grow winter soil cover, rebuild organic matter and make them available for the next crop. This saves farmers money and protects water quality, along with wildlife benefits.

Additional program requirements and information about WHIP is available on the Indiana NRCS website at: www.in.nrcs.usda.gov/drought.html or you can visit your local USDA-NRCS field office to talk with staff.

NRCS is currently taking applications for special funding to assist producers and landowners affected by drought through the Wildlife Habitat Incentive Program (WHIP). The deadline for sign up is August 20, 2012.

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Local Office Contact

Visit Indiana NRCS' website at:

http://www.in.nrcs.usda.gov/contact/index.html

Cover Crop Decision Making During Drought

Cover crops can trap nitrogen remaining in the soil, that was not utilized by failing crops. They then release nitrogen at the optimum time in the spring for the new crop. It is important to plant the correct cover crop for the job.

Oats and cereal rye are a great combination for cover crops and winter feed, but even better if mixed with some turnips or crimson clover. This combination, especially with a brassica, such as turnips or a turnip/rape cross, can produce good fall grazing forage, provide good winter cover and then produce more feed in the early spring and still provide sufficient cover to plant into.

Many grass, legume, and bassica mixes are massive root producers with roots often reaching four feet or more in depth. These root channels make it easier for crop roots to find their way down to nutrients and water later.

Herbicide Carryover

The following information was taken from the Midwest Cover Crops Council's "Cover Crops Field Guide"

Vigorous establishment is crucial to achieving maximum growth and benefit from cover crops. So, it pays to be aware of the effects that herbicides applied to the previous main crop may have on cover crops. Pre-emergence and post-emergence herbicides with residual control applied to main crops could cause carryover injury to cover crops.

Currently, very little research is available on the potential for herbicides to injure cover crops. However, most herbicide labels have a table for restricted planting intervals, which you should follow if you plan to graze or harvest the cover crops. Many cover crops fall under relatively long plant-back intervals this makes some cover crops unsuitable with some herbicides.

Carryover injury will depend on the specific cover crop, herbicide application timing, and soil and environmental conditions. Common herbicide families with a high potential for cover crop injury include the triazines, the chloracetamides, ALS inhibitors, and several PPO herbicides.

Carefully planning your herbicide programs can prevent carryover injury.

Insurance Issues

The USDA Risk Management Agency (RMA) now allows for overwintering covercrops and the cash crops that follow them as long as the cover crop is killed by June 5th. Be sure to contact your insurance agent for requirements.

NRCS Drought Fact Sheets

Planting

NO TILL DRILLING/PLANTING: This is the best option for retaining soil moisture and carbon. Set and operate the drill/planter to provide an ideal planting depth. Since a planter is capable of much more precise spacing and depth control, it is possible to reduce overall seeding rates by up to 50%.

BROADCAST SEEDING: Pre-mixing the seed with needed fertilizer or pelletized lime and utilizing an airflow applicator can also be effective.

AERIAL SEEDING: Over seeding into existing crop in August through September can be an effective method of establishing to acquire more fall growth. Seed spread on the surface is more rain dependant and generally requires a higher seeding rate. Applying cover crop just ahead of soybean leaf drop will aid in mulching the seed and conserving moisture.

INTERSEEDING: No-till drill or broadcast as above into existing vegetation or residues. Broadcasting relies on freeze/thaw cycles, rain and/or snow to incorporate the seed. Interseeding does not include a seedbed preparation. This method can be used to establish cover crop species or combination mixes into relatively light (such as soybean) and weed free crop residues or to establish vegetation into standing crops.

INDIANA FLY FREE SEEDING DATES FOR WINTER WHEAT: Winter wheat should be planted after the Hessian fly-free date, which ranges from September 22 across the northern tier of counties in Indiana to October 9 in the extreme southern part of the state.

Options for Fall/Winter Cover Crop and Annual Forage *(table adapted from Superior Ag Resources Co-Op Inc.)*

Species	Nitrogen + fixes > ties up	Compaction Reliever	Seeding Rate (mono) (lbs/acre)	Seeding Rate (+/-50% mix) (lbs/acre) **	Seeding Depth	Seeding Time	Grazing Season	Grazing Value	Soil Builder
Winter Peas	+++	+	30-70	15-30	1”	Aug-Sep	Spring	++	++
- very good N fixer; will get greater N fixed if killing occurs after flowering (around May); mowing will kill winter peas, but needs done before full bloom to prevent reseeding. Use the lower rates for drilling and the upper rate for broadcasting									
Medium Red Clover	++	++	2-6	1-4	1/4”	Feb-Apr, Aug-Oct	Spring, Summer, Fall	++	+
- will produce N earlier in spring than other legumes; Should be frost-seeded into fall planted small grains									
Kale or Kale/Turnip Crosses/Rape	>>	+	2-6	2-4	1/4”	Aug-Sep	Fall, Early Winter	+++	+
- needs planted 50-60 days before killing frost for best results; if fed, kale needs to be combined with other forages (glucosinolate poisoning); plants will decay in spring; Use 2-4 lbs per acre drilling, higher rates for broadcasting.									
Crimson Clover	+++	+	10-12	5-8	1/4”	Aug-Sep	Late Fall	+	+
-needs to be planted at least 40 days before a killing frost; will produce N, but later in the spring once it begins to bloom; produces N earlier than most legumes									
Annual Ryegrass	>>>	+++	12-20	8-15	1/4”	Aug-Oct	Spring	++	+++
-holds N and extremely deep rooted, especially when put on same acres for subsequent years; helps prevent SCN; needs proper glyphosate management in the spring; excellent soil builder									
Cereal Rye	>>>	++	45-64	20-50	1”	Aug-Nov	Fall, Winter, Spring	+++	++
-can remove excess nutrients from soil; residue can present issues with preceding corn crop									
Oats	>>	+	40-60	15-30	1”	Mar-Apr, Aug-Oct	Fall, Spring	+++	+
- will grow quickly in the fall (up to 6-12 inches depending on seeding time)									
Turnips	>>	+	3-5	2-4	1/4”	Aug-Sep	Fall, Early Winter	++	+
- needs planted 50-60 days before killing frost for best results; if fed, turnips need to be combined with other forages (glucosinolate poisoning); plants will decay in the spring; Use 2-4 lbs per acre drilling and 6 for broadcasting									
Winter Barley	>>	++	60-110	20-50	1”	Aug-Nov	Fall, Winter, Spring	+++	++
- can remove excess nutrients from soil; residue can present issues with preceding corn crop									
Winter Triticale and Winter Wheat	>>>	++	50-80	20-50	1”	Aug-Nov	Fall, Winter, Spring	+++	++
- can remove excess nutrients from soil; residue can present issues with preceding corn crop									
Daikon Type Oilseed Radish	>>>	+++	6-8	4-8	1/4”	Aug-Sep	Fall, Early Winter	+	+
- great recycler of nutrients in the soil; like turnips, will help relieve compaction; don’t like wet feet; good choice for winter annual control; plants will decay in the spring. Use 8 lbs/acre									

Code = +++ is better than +; >>> is better than >

This is only a suggestion. Seasons, seeding rates, and all values will vary depending on many factors including weather, field conditions, etc.