



What Cover Crops to Plant ?

Studies Show Cover Crops Can Be Planted 100 Days After Application of Authority[®] Brand Herbicides or Anthem[®] Brand Herbicides Pre-Emergence



A cover crop is a crop planted primarily to manage soil erosion, soil fertility, soil quality, water, weeds, pests, diseases, Biodiversity and wildlife in an agroecosystem. Cover crops cannot be harvested for grain or forage and are killed off prior to reaching maturity so that other crops can be planted.

The question is raised about what effect herbicides have upon the establishment of cover crops. There are many factors influencing cover crop establishment such as soil texture, seasonal rainfall, organic matter, pH, tillage and other – many of which influence herbicide degradation. The table below is a summary of various university studies looking at the effect of Authority brand herbicides and Anthem brand herbicides upon cover crop stand establishment 100 days after pre-emergence applications were made. Most Authority brand herbicides are safe for the establishment of many of the listed cover crops (Less than 30% stand reduction) except oats while Anthem brand herbicides showed stand reductions in annual ryegrass often greater than

Herbicide Use Rate/Acre	Fall cover crops Okay to plant 100 days after Pre-Herbicide, stand reductions less the 30% in University studies.	Do not plant cover crops listed below if stand reductions of 30% or more are unacceptable.
Anthem [®] Maxx herbicide 8 oz	Wheat, Cereal Rye Tillage Radish, Field Peas, Austrian Winter Peas, Vetch	Annual Ryegrass , Oats
Authority [®] MTZ herbicide 14 oz	Wheat, Cereal Rye, Field Peas, Austrian Winter Peas, Annual Ryegrass, Tillage Radish, Vetch	Oats
Authority [®] XL herbicide 4 oz	Wheat, Cereal Rye, Annual Ryegrass, Tillage Radish, Vetch	Oats, Austrian Winter Pea, Field Pea, Field Pea
Authority [®] First herbicide 6.4 oz	Wheat, Cereal Rye, Field Peas, Annual Ryegrass, Tillage Radish, Vetch	Oats
Authority [®] Assist herbicide 6 oz	Wheat, Cereal Rye, Field Peas, Austrian Winter Peas, Annual Ryegrass, Tillage Radish, Vetch	Oats
Authority [®] Maxx herbicide 8 oz	Wheat, Cereal Rye, Annual Ryegrass, Tillage Radish, Vetch	Oats, Austrian Winter Pea, Field Pea, Field Pea

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- ❑ What Cover Crops to Plant ?
- ❑ Studies Observing Authority Brand Herbicides Influence Upon Cover Crops

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Cover Crop Concepts

1. *Do not allow a cover crop to become a weed* – Choose cover crops that will winter kill or can be easily controlled.
2. *Rotate cover crops as you would a cash crop.* - Use a broadleaf cover crop such a tillage radish or vetch after corn.



What Cover Crops to Plant ?

2014 fall planted winter wheat (top); tillage radish (middle); annual ryegrass (Italian ryegrass) on 9-10-14 ; Application made 5-27-14. ; Photo'd 11-4-14
(Purdue University, Throckmorton Farm, West Lafayette, IN 14S-THP-CTS)



Potential injury by specific pre-emergence herbicides to fall planted cover crops – % Stand Reduction 105 days after application. Non-Replicated Trial (2014 Ohio State – OARDC Western Branch, South Charleston, OH)

Herbicide – rate/ac	Wild Radish	Field Pea	Winter Rye
Anthem 8 oz	0	0	0
Authority MTZ 14 oz	0	5	0
Authority XL 4 oz	0	10	0
Authority First 4 oz	0	5	0
Authority First 6.4 oz	0	25	0
Authority Assist 6 oz	0	15	0
Authority Maxx 8 oz	0	30	0

2014 Pre-emergence herbicide carryover to cereal (winter) rye cover crops planted 98 days after application. (Univ. of Del. Georgetown, DE.)



Always read and follow label directions. NOTE REGARDING RESTRICTED USE PESTICIDES: Anthem ATZ herbicide; Athena insecticide, Brigade 2EC Insecticide/Miticide, Brigade WSB Insecticide/Miticide, Brigadier Insecticide Capture 3RIVE 3D insecticide, Capture LFR Insecticide, Declare insecticide, Hero Insecticide, Mustang Insecticide, Mustang Maxx Insecticide, Pounce 25WP Insecticide, Stallion Brand Insecticide, Temity LFR Insecticide/Fungicide, Triple Crown Insecticide, Ethos XB Insecticide/Fungicide and Gladiator Insecticide/Miticide are **Restricted Use Pesticides**. NOTE FOR CALIFORNIA: Accurate Extra herbicide, Aim herbicide, Aim EC herbicide, Aim EW herbicide, Anthem herbicide, Anthem ATZ herbicide, Anthem Flex herbicide, Anthem MAXX herbicide, Authority Assist herbicide, Authority Elite herbicide, Authority First DF herbicide, Authority MAXX herbicide, Authority MTZ DF herbicide, Authority XL herbicide, Cadet herbicide, Chisum Herbicide, Command 3ME microencapsulated herbicide, Crusher Herbicide, Edition Broadspec herbicide, Edition Tankmix Herbicide, Marvel herbicide, Nimble Herbicide, Nuance Herbicide, Preemptor SC fungicide, Report Extra Herbicide, Solstice herbicide, Spartan 4F herbicide, Spartan Charge herbicide, Spartan Elite herbicide, Temity LFR Insecticide/Fungicide, Topguard EQ fungicide, Zeus Prime XC herbicide, Zeus XC herbicide, Capture 3RIVE 3D insecticide, Ethos XB Insecticide/Fungicide, Hero Insecticide, Mustang Maxx Insecticide, Display cotton harvest aid, Zoro Miticide and VGR Soil Amendment **are not registered for sale or use in California**. VGR Soil Amendment is not a pesticide. Beleaf and Carbine are trademarks of Ishihara Sangyo Kaisha, Ltd. Cercobin is a trademark of Nippon Soda Co., LTD. Sovran is a registered trademark of BASF. FMC, 3RIVE 3D, Accurate, Aim, Anthem, Athena, Authority, Brigade, Brigadier, Cadet, Capture, Chisum, Command, Crusher, Declare, Display, Edition, Ethos, Preemptor, Fracture, Fyfanon, Gladiator, Hero, Koverall, LFR, Marvel, Mustang, Nimble, Obey, Pounce, Report, Rhyme, Rovral, Shark, Solida, Solstice, Spartan, Stallion, Temity, Topguard, Topguard Terra, VGR and Zeus are trademarks and HatchTrak and Investing in farming's future are service marks of FMC Corporation or an affiliate. ©2016 FMC Corporation. All rights reserved. 11/16