

CONTROLLING COVER CROPS (Updated 4/25/16)

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Fall Control

	Crimson Clover	Red Clover	Berseem Clover	Annual Medic	Hairy Vetch	Oilseed Radish	Annual Ryegrass	Winter Wheat	Cereal Rye	Triticale	Oats
Glyphosate (0.75 lbs. a.e./A) ^a	NR	F-G	WK	WK	F-G	WK	NR	NR	NR	NR	WK
Glyphosate (1.5 lb a.e./A) ^a	NR	G-E	WK	WK	G-E	WK	NR	NR	NR	NR	WK
2,4-D ester (1.0 lb a.i./A) ^b	NR	F	WK	WK	F	WK	NR	NR	NR	NR	WK
Glyphosate (0.75 lb a.e./A) ^a + 2,4-D ester (1.0 lb a.i./A) ^b	NR	G	WK	WK	G	WK	NR	NR	NR	NR	WK
Glyphosate (1.5 lb a.e./A) ^a + 2, 4-D ester (1.0 lb a.e./A) ^b	NR	G-E	WK	WK	G-E	WK	NR	NR	NR	NR	WK

P=Poor; F=Fair; G= Good; N= None; WK= Most season winter killed; NR=Not recommended

Spring Control

	Crimson Clover	Red Clover	Berseem Clover	Annual Medic	Hairy Vetch	Oilseed Radish	Annual Ryegrass	Winter Wheat	Cereal Rye	Triticale	Oats
Glyphosate (0.75 lbs. a.e./A) ^a	F	F	WK	WK	F	WK	F	F	F	F	WK
Glyphosate (1.5 lb a.e./A) ^a	F	F-G	WK	WK	F-G	WK	G	F	F	F	WK
2,4-D ester (1.0 lb a.i./A) ^b	F	F-G	WK	WK	F-G	WK	N	N	N	N	WK
Glyphosate (0.75 lb a.e./A) ^a + 2,4-D ester (1.0 lb a.i./A) ^b	F	F-G	WK	WK	F-G	WK	F	F	F	F	WK
Glyphosate (1.5 lb a.e./A) ^a + 2, 4-D ester (1.0 lb a.e./A) ^b	F	F	WK	WK	G	WK	G	F	F	F	WK
Moldboard Plow	F	F	WK	WK	G-E	WK	F	F	F	F	WK
Chisel Plow ^c	F	F	WK	WK	G-E	WK	F	F	F	F	WK

P=Poor; F=Fair; G= Good; N= None; WK= Most season winter killed; NR=Not recommended

-OVER FOR KEY & IMPORTANT CONSIDERATIONS-

To contact an expert in your area, visit people.msue.msu.edu, or call 888-MSUE4MI (888-678-3364).

Translation for 0.75 and 1.5 lbs acid equivalent (a.e.) per acre to product application rates (fluid ounces per acre) based on glyphosate formulation.

Glyphosate formulation (lbs a.e./gallon of product)	Product application rates (fl oz/A)		Example product
	Low rate (0.75 lbs a.e./A)	High rate (1.5 lbs a.e./A)	
3	32	64	Abundit Extra
3.7	26	52	Extra Credit 5
3.75	26	52	Buccaneer 5 5L
4	24	48	Duramax 5.4L
4.17	24	48	Touchdown Total
4.5	22	44	Roundup PowerMAX 5.5L
5	20	40	Touchdown HiTech

There are many different glyphosate products available. Different types of salt are used to formulate the glyphosate acid, meaning the amount of glyphosate in the “pounds of active ingredient per gallon” of product is not necessarily equivalent across products. To determine the pounds of glyphosate acid equivalent per gallon of your product, consult the label or Table 10 of the [MSU Weed Control Guide for Field Crops](#) (E-434).

- Addition of ammonium sulfate (AMS) at 17 lb/100 gal of water often improves control. Always check label for instructions on the addition of a non-ionic surfactant.
- Rate for 4 lb a.i./gal 2,4-D ester formulations = 1 qt/A.
Rate for 6 lb a.i./gal 2,4-D ester formulations = 21 fl oz/A.
- Multiple passes may be required with the chisel plow to effectively terminate a dense cover crop.

Important Points for Chemically Terminating Cover Crops

As always, consult the herbicide labels to determine any potential rate or replant issues for your rotation.

Glyphosate use

- Cover crops need to be actively growing for glyphosate to work, as it is a systemic herbicide
- Minimum air temperatures should be 45 degrees F or above for three or more days following glyphosate application
- Always include AMS at 17lbs/100 gal spray solution, particularly for hard water, to ensure maximum glyphosate activity
- Glyphosate applications may need to be repeated

2,4-D ester use

- When using the 1.0 lb a.e./A rate of 2,4-D ester for termination soybeans need to be planted 7 or more days after application. Higher rates require more time between herbicide application and soybean planting; consult the herbicide label for details.
- Certain crops, such as dry beans, sugarbeets, alfalfa, potatoes, cucumbers, oats, barley, and tomatoes **should not** be planted in the same season 2,4-D is applied

Other resources

- [Weed Control Guide for Vegetable Crops \(E-433\)](#)
- [Weed Control Guide for Field Crops \(E-434\)](#)

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