

# Impact of soil-applied herbicides on spring-seeded cereal nurse crops

## Materials and Methods

- Year: 2015
- Location: Foxhome, Lake Lillian, and Prosper, ND
- Experimental Design: Split plot, 4 replications
  - Whole plot is cover crop, barley, oat and wheat
  - Sub-plot is herbicide and herbicide treatment
- Tillage: Spring cereals distributed over the experimental area using a fertilizer spreader; shallow incorporated with tillage
- Visual percent ground cover, sugarbeet stand counts, cereal counts per meter square, yield (Lake Lillian and Foxhome)



# Ground cover as a percent of counts per square meter, 36 days after planting, Prosper, ND

	Rate	Barley Cover	Wheat Cover	Oat Cover	Average
	(pt/A)	%	%	%	%
<b>S-metolachlor</b>	<b>0.5</b>	116	92	104	104
<b>S-metolachlor</b>	<b>1</b>	70	99	114	94
<b>ethofumesate</b>	<b>1</b>	102	91	93	95
<b>ethofumesate</b>	<b>2</b>	92	99	90	94
<b>Average</b>		95	95	100	

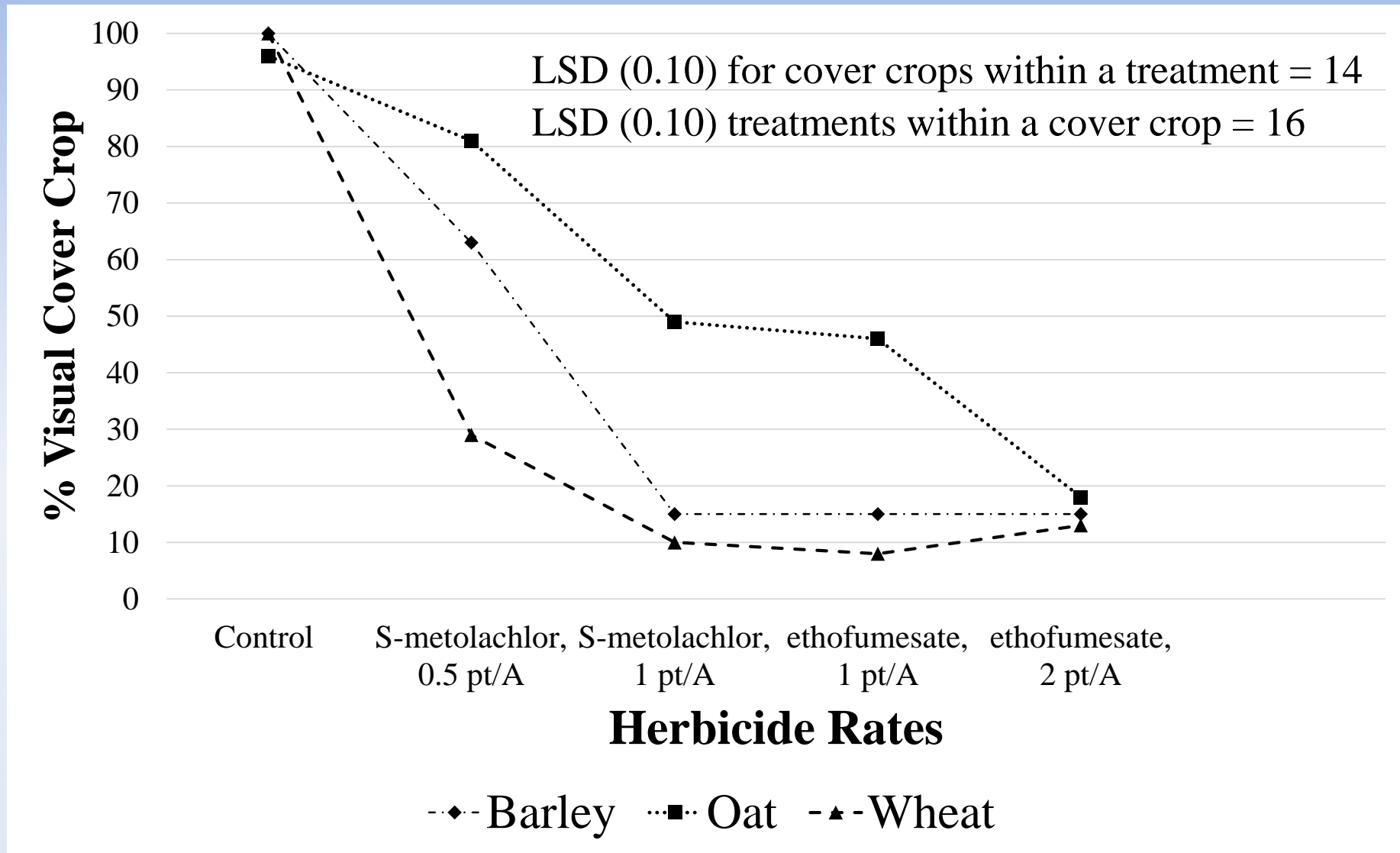
- Herbicides did not effect cereals
- Insufficient precipitation to activate herbicides
- 1.1 inch during the 3-week interval, April 17 to May 8

# Impact of soil-applied herbicide on barley, oat, and wheat ground cover 35 days after planting, Foxhome, MN, 2015

- MDFC Ag Staff rates the plots for % visual cover crop



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# Summary

- Oat tolerates soil-applied herbicides the best followed by barley and then wheat;
- S-metolachlor is safer to barley and wheat than ethofumesate
- Apply S-metolachlor at 0.5 to 1 pt/A and/or ethofumesate at 1 pt/A with oat and S-metolachlor at 0.5 pt/A with barley and wheat
- Soil-applied herbicides are more injurious to cover crops on coarse textured soils than fine or medium textured soils
- Rainfall within 48 to 72 hours after planting may influence herbicide response to cover crops, regardless of soil texture