

Weed Management Publications

Principle Investigators:

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Objectives:

Print the annual publication “Weed Control in Small Grains and Millet,” FS525A.
Develop and print a publication on pre-harvest herbicide applications for wheat.

Justification:

Printing of the annual herbicide selection guide for small grains (Weed Control in Small Grains and Millet, FS525A) will no longer be entirely funded by Extension. Therefore, we are seeking external funds from each commodity group to support the printing of the herbicide fact sheets corresponding to their commodity. If we can not obtain funding to print the fact sheets, we will continue to update them but they will only be available to the public in PDF files on the internet. This may be sufficient for many people, but many others look forward to getting the Weed Control in Small Grains fact sheets at our winter meetings and from their county extension offices. We have seen much industry activity in the small grains market in recent years, so it is important to provide a fact sheet that summarizes each product registered for use in South Dakota.

The fact sheets have also been used for herbicide resistance management. For example, one grower in Potter Co. had a suspected case of ACCase (Puma) resistant wild oats (which we later confirmed), but he used the herbicide mode of action identification guide in our fact sheet to realize Silverado (an ALS-inhibitor) is a different mode of action that may control his wild oats. Thus, he was able to control his resistant wild oat population while we conducted resistance tests in the greenhouse.

We work with the South Dakota Crop Improvement Association each year to distribute an informal print containing recommendations for controlling noxious weeds and pre-harvest herbicide applications in small grains for certified seed producers. It would be desirable to develop and print a more formal publication with color pictures and graphs for availability to all small grain producers in South Dakota. However, we have limited data on pre-harvest herbicide applications in SD. Additional data would be useful to quantify the risk associated with these applications. We have some preliminary data from 2007 regarding the effects on pre-harvest herbicide applications on wheat quality and yield. However, we are requesting support for additional data on this issue again this year.

Materials and Methods:

Pre-harvest applications will be made to spring wheat using herbicides currently registered for this use. Wheat yield, test weight, and germination will be measured and weed control efficacy will be evaluated. Herbicides will be applied at an early time (about 50 percent seed moisture at

the soft-dough stage) and the recommended timing at the hard-dough stage. This study will be established at two locations in 2008. Herbicide treatments will include the following:

First application timing (soft-dough stage)

2,4-D ester at 1qt/A

Clarity at 0.5 pt/A

Ally+NIS at 0.1 oz/A + 0.25% v/v

Roundup WeatherMax+AMS at 22 oz/A + 2.5lb/A

Aim+MSO at 2 oz/A + 1% v/v

Second application timing (hard-dough stage)

2,4-D ester at 1qt/A

Clarity at 0.5 pt/A

Ally+NIS at 0.1 oz/A + 0.25% v/v

Roundup WeatherMax+AMS at 22 oz/A + 2.5lb/A

Aim+MSO at 2 oz/A + 1% v/v

Preliminary results from 2007 indicated that herbicide application timing did not affect yield or test weight. However, germination results are still pending. Results from 2008 will support the 2007 results and will be published in a new fact sheet, "Pre-Harvest Herbicide Applications in Small Grains."