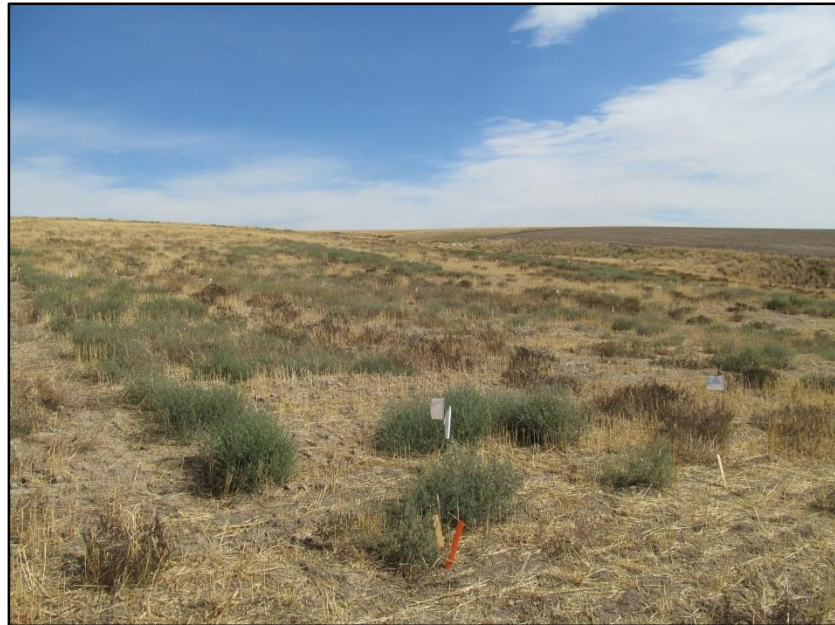


Post-harvest control of Russian thistle following spring wheat

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A field study was conducted at the Lind Dryland Research Station to investigate if the time of day that herbicides are applied for post-harvest Russian-thistle control influences results. The soil at this site is a Shano silt loam. The first applications started at 5:20 AM on August 8 when air and soil temperatures were 57° F and 70° F, respectively, relative humidity was 64%, and the wind was out of the southwest at 1 mph. The second application timing



began at 3:05 PM the same day when the air and soil temperature were both at 84° F, wind was out of the southwest at 2 mph and relative humidity was 25%. Both applications were made with a backpack sprayer set to deliver 15 gpa at 3 mph and 30 psi. The Russian-thistle was 6 to 12 inches in diameter and 6 to 12 inches tall.

At sunrise, plants have recovered from the previous day's drought stress to the maximum extent possible. If the level of water stress in a given day affects herbicide efficacy, then early morning applications would be expected to be less negatively affected by water stress than mid-afternoon treatments, when high air and soil temperatures, combined with low relative humidity, would be expected to be causing the greatest amount of water stress.

On September 5, four weeks after application, three treatments provided the best control of Russian-thistle whether they were applied in the morning or afternoon. These were: Gramoxone Inteon®, Gramoxone Inteon + Karmex® and Roundup PowerMax® at 64 fl oz of product per acre. When applied in the morning, there was no significant difference in control amongst these three treatments. When applied in the afternoon, there was no significant difference between the two treatments containing Gramoxon Inteon, but Russian thistle control with Roundup PowerMax was significantly less than when Gramoxone Inteon was applied by itself at 48 fl oz of product per acre. However, if you compare Roundup PowerMax at 64 fl oz of product per acre applied in the morning with the afternoon application, Russian-thistle control is not statistically different. In fact, no matter which herbicide treatment you look at, there is no difference in Russian-thistle control between the morning and afternoon applications. The greatest difference, although not statistically different, between morning and afternoon applications occurred with the 64 fl oz PowerMax treatment.

These results are similar to those observed in a similar study conducted in 2013. The main difference between the 2103 and 2014 studies is that the Buctril® + Clarity® treatment provided much better Russian thistle control (83-89% control four weeks after application) in 2013 than in 2014. The reason for this difference is not understood.

The time of day that an herbicide application is made for post-harvest Russian-thistle control, does not appear to affect the level of control achieved.

Some of the pesticides discussed in this presentation were tested under an experimental use permit granted by WSDA. Application of a pesticide to a crop or site that is not on the label is a violation of pesticide law and may subject the applicator to civil penalties up to \$7,500. In addition, such an application may also result in illegal residues that could subject the crop to seizure or embargo action by WSDA and/or the U.S. Food and Drug Administration. It is your responsibility to check the label before using the product to ensure lawful use and obtain all necessary permits in advance.

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			August 20	September 5
Treatment ^a	Rate	Timing	Russian thistle control	
	oz pr/a		-----%-----	
Gramoxone Inteon	48	AM	95	94
NIS	*			
Gramoxone Inteon	32	AM	90	81
Karmex DF	5			
NIS	*			
Buctril	24	AM	50	33
Clarity	8			
Roundup PowerMax	32	AM	40	45
AMS	**			
Roundup PowerMax	64	AM	48	91
AMS	**			
Roundup PowerMax	32	AM	60	45
Sharpen [®]	1			
MSO	***			
AMS	**			
Gramoxone Inteon	48	PM	96	98
NIS	*			
Gramoxone Inteon	32	PM	90	83
Karmex DF	5			
NIS	*			
Buctril	24	PM	48	33
Clarity	8			
Roundup PowerMax	32	PM	35	35
AMS	**			
Roundup PowerMax	64	PM	43	78
AMS	**			
Roundup PowerMax	32	PM	58	35
Sharpen	1			
MSO	***			
AMS	**			
Nontreated Check	--	--	--	--
LSD (5%)			13	17

* NIS applied at 0.5% v/v, ** AMS applied at 17 lb/100 gal spray solution

*** MSO applied at 1.0% v/v

^a Treatments were applied on August 8 at 5:20 AM or 3:05 PM