

## **2010 Prepare Herbicide + Glyphosate on Winter Wheat**

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Pre-plant treatments (PP) were applied on October 8 with 41° F, 36% RH, clear sky and NW wind at 6 mph. Downy brome (dbr) and Japanese brome (jbr) were not emerged. 'Jerry' HRWW was seeded on October 17, 2009 into cool dry soil. Fall post-emergence treatments (FPOST) were applied on November 5 to winter wheat that was about 25% emerged (spike) and to 2 leaf downy brome with 46° F, 24% RH, partly cloudy sky and south wind at 7 mph. Winter wheat survival was excellent. Early spring post-emergence treatments (SPOST) were applied on April 10 to 2 leaf winter wheat and to tillering downy brome and 2 leaf Japanese brome with 46° F, 24% RH, clear sky and north wind at 7 mph. Treatments were applied with a tractor mounted CO<sub>2</sub> propelled plot sprayer delivering 10 gpa at 30 psi through PK-01E80 nozzles to a 5 foot wide area the length of 10 by 28 foot plots. The trial was a randomized complete block design with four replications. The soil is classified as a silt-loam with a pH of 6.2 and OM of 3.2%. Downy brome populations averaged 3 / ft<sup>2</sup> at FPOST and 5 /ft<sup>2</sup> at SPOST. Japanese brome populations averaged 3 / ft<sup>2</sup> at SPOST. Plots were evaluated for crop injury and weed control on May 3, June 8 and July 27. Plant height was measured on June 24, shortly after heading. The trial was harvested on August 2.

### **Summary**

Crop injury was relatively minor except for treatments with PowerFlex (trts 10-12) which caused crop thinning and delayed maturity. The addition of ARY-0454-110 pre-plant (trt 3) significantly improved season long control of Japanese brome and downy brome compared to pre-plant glyphosate alone (trt 2). Glyphosate + PrePare (trt 4) applied pre-plant provided very good season long control of Japanese brome but only marginal season long control of downy brome. The lower rate of ARY-0454-104 applied as a fall split application (trt 5) provided very good season long control of both Japanese and downy brome. All fall / spring split applications with PrePare applied in the fall (trts 7-11) provided excellent season long control of both Japanese and downy brome. There were no statistical differences between treatments for plant height. Herbicide treatment test weights tended to be significantly higher than the untreated check. All herbicide treatments had higher grain yields than the untreated check although none were statistically different.

Treatment	Product rate	App. timing	- May 3 -		- June 8 -		----- July 27 -----			Plant height	Test weight	Grain Yield		
			inj	dobr	inj	dobr	inj	jabr	dobr					
	oz/A		----- % Control -----									cm	lbs/bu	bu/A
1	Untreated		0	0	0	0	0	0	0	0	74	55.7	37.4	
2	Glyphosate + AMS	11 + 1lb	PP	0	25	0	0	0	67	0	79	56.5	50.3	
3	Glyphosate + AMS + ARY-0454-110	11 + 1lb + 0.52	PP	4	97	15	91	5	99	97	72	57.5	47.3	
4	Glyphosate + AMS + PrePare	11 + 1 lb + 0.306	PP	0	80	1	42	0	92	82	72	56.6	48.7	
5	Glyphosate + AMS + PrePare / ARY-0454-104 + Basic Blend (BB)	11 + 1 lb + 0.306 / 0.61 + 1%	PP / FPOST	0	92	1	80	0	94	91	78	57.1	57.0	
6	Glyphosate + AMS / ARY-0454-104 + BB	11 + 1 lb / 1.22 + 1%	PP / FPOST	0	94	0	65	0	96	60	79	56.8	51.0	
7	Glyphosate + AMS + PrePare / ARY-0454-104 + Basic Blend	11 + 1 lb + 0.306 / 0.61 + 1%	PP / SPOST	0	97	2	94	2	99	97	74	56.5	50.6	
8	Glyphosate + AMS + PrePare / ARY-0454-104 + Metsulfuron 60 + BB	11 + 1 lb + 0.306 / 0.61 + 0.05 + 1%	PP / SPOST	1	97	2	96	6	99	94	73	57.1	47.5	
9	Glyphosate + AMS + PrePare / ARY-0454-104 + ARY-0546-001 + ARY-0547-001 + BB	11 + 1 lb + 0.306 / 0.61 + 0.225 + 0.075 + 1%	PP / SPOST	2	99	1	88	0	97	94	77	57.1	50.6	
10	Glyphosate + AMS + PrePare / PowerFlex + BB	11 + 1 lb + 0.306 / 1.75 + 1%	PP / SPOST	10	99	4	94	1	98	96	76	56.8	48.9	
11	Glyphosate + AMS + PrePare / PowerFlex + BB	11 + 1 lb + 0.306 / 3.52 + 1%	PP / SPOST	39	99	12	99	11	99	98	72	57.1	48.0	
12	Glyphosate + AMS / PowerFlex + BB	11 + 1 lb / 3.52 + 1%	PP / SPOST	8	99	0	82	0	99	81	70	57.4	52.1	
	C.V. %			152	15	130	20	166	11	13	9	1.1	13.1	
	LSD 5%			12	17	6	20	5	14	14	NS	0.9	NS	

NS = no statistical difference between treatments.