

Title: Performance of Talinor for weed control in winter wheat. Kalispell, MT - 2017

Objective: Compare Talinor to competitive products for crop tolerance and weed control.

Materials and Methods:

The previous crop was a forage mix of barley, oat and peas. The field was fertilized with 9-30-70 on September 21 and Colter winter wheat was planted on September 27, 2016 (Table 1). A supplemental fertilizer application of 75-0-40 was broadcast to the winter wheat crop on May 1, 2017. Herbicide treatments were applied on May 5, 2017 using a CO₂ backpack sprayer equipped with TeeJet XR11002 nozzles in a volume of 20 GPA. Crop height averaged 10 inches and plants had a minimum of one tiller. Weeds present at application consisted of pennycress (THLAR), tumble mustard (SSYAL) and prickly lettuce (LACSE) and were five inches in height.

Results:

All treatments afforded excellent crop tolerance (Table 2). Similarly, all treatments provided excellent control of pennycress and tumble mustard, except for Widematch which failed to control pennycress. Few treatments provided acceptable control of prickly lettuce (Table 3). Talinor applied at 16 and 18.2 oz/A provided at least 90% control as did the combination of Affinity tankmix plus Widematch.

Overall, there was a linear relationship between winter wheat yield and weed biomass (Figure 1). All herbicide treatments reduced weed biomass relative to the check, but among the herbicide treatments, Widematch resulted in the greatest weed biomass. Although wheat yields were affected by the level of weed control, drought and high temperature conditions also suppressed yields, which were about one-third of normal. Wheat yields averaged 36 bu/A in this study. Grain protein averaged about 11% in the study and was unaffected by herbicide treatment. Test weights were low, averaging about 57 lb/bu. Interestingly, the highest test weights was observed with Widematch.

Summary:

Talinor treatments afforded the most complete weed control and weed control did improve as the rate of Talinor increased.

Table 1. Materials and Methods.

Seeding Date:	9/27/2016	Harvest Date:	8/7/2017
Julian Date:	271	Julian Date:	219
Seeding Rate:	125 lb/A	Soil Type:	Creston SiL
Previous Crop:	forage mix	Soil Test:	70-44-113
Tillage:	Conventional	Fertilizer:	9-30-70, 75-0-40

Table 2. Effect of Talinor on weed control in winter wheat. Kalispell, MT. 2017

Treatment	Rate	5/12	5/20	5/26	5/20	5/26	6/9	8/3	5/20	5/26	6/9	8/3
		CI	CI	CI	THLAR	THLAR	THLAR	THLAR	SSYL	SSYL	SSYL	SSYL
		%	%	%	%	%	%	%	%	%	%	%
Check		0	0	0	0	0	0	0	0	0	0	0
CoAct	2.75 fl oz/a	3	0	0	96	98	98	100	97	98	98	98
Talinor	13.7 fl oz/a											
Herbimax	1 % v/v											
CoAct	3.2 fl oz/a	3	0	0	98	98	98	100	98	98	98	100
Talinor	16 fl oz/a											
Herbimax	1 % v/v											
CoAct	3.6 fl oz/a	2	2	0	97	98	98	100	98	98	98	100
Talinor	18.2 fl oz/a											
Herbimax	1 % v/v											
Huskie 2.07 EC	11 fl oz/a	3	0	0	97	98	98	100	98	98	98	100
Activator 90	0.25 % v/v											
Widematch 1.5EC	16 fl oz/a	2	0	0	57	35	15	0	66	98	97	99
Affinity Tankmix 50 SG	0.6 oz/a	3	0	0	80	92	95	97	95	98	98	100
Widematch 1.5EC	16 fl oz/a											
Activator 90	0.25 % v/v											
Affinity Tankmix 50 SG	0.6 oz/a	5	0	0	82	90	95	100	98	98	98	100
MCPA Ester 3.7 EC	12 fl oz/a											
Orion	17 fl oz/a	0	0	0	84	86	95	100	98	98	98	100
Mean		2	0	0	77	77	77	77	83	87	87	89
LSD P=.05		5.802	1.666	.	14.749	6.886	4.169	3.331	11.915	0.333	0.999	1.053
CV		143.66	519.62	0	11.11	5.15	3.13	2.49	8.29	0.22	0.66	0.69
Treatment Prob(F)		0.6612	0.4726	1	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001

CI: Crop injury, THLAR: Pennycress, SSYL: Tumble mustard.

Table 3. Effect of Talinor on weed control in winter wheat. Kalispell, MT. 2017

Treatment	Rate	5/20	5/26	6/9	8/3	7/3	7/3	8/7	8/7	8/7
		LACSE %	LACSE %	LACSE %	LACSE %	Weeds lb/A	Wheat lb/A	YLD bu/A	PRO %	TWT lb/bu
Check		0	0	0	0	3005	4850	14	11.00	57.6
CoAct	2.75 fl oz/a	91	88	91	72	201	8658	38	11.38	56.4
Talinor	13.7 fl oz/a									
Herbimax	1 % v/v									
CoAct	3.2 fl oz/a	96	94	96	90	98	9768	42	11.12	57.6
Talinor	16 fl oz/a									
Herbimax	1 % v/v									
CoAct	3.6 fl oz/a	96	95	95	92	181	7692	43	11.11	57.6
Talinor	18.2 fl oz/a									
Herbimax	1 % v/v									
Huskie 2.07 EC	11 fl oz/a	96	89	93	83	551	6506	41	11.16	56.8
Activator 90	0.25 % v/v									
Widematch 1.5EC	16 fl oz/a	83	93	95	78	1767	5930	29	10.87	58.9
Affinity Tankmix 50 SG	0.6 oz/a	85	94	98	94	653	6431	36	11.21	57.8
Widematch 1.5EC	16 fl oz/a									
Activator 90	0.25 % v/v									
Affinity Tankmix 50 SG	0.6 oz/a	89	91	92	63	592	6594	37	11.15	56.9
MCPA Ester 3.7 EC	12 fl oz/a									
Orion	17 fl oz/a	86	89	91	55	796	6233	40	11.11	57.0
Mean		80	81	83	70	872	6962	36	11.12	57.4
LSD P=.05		8	9.485	6.826	23.035	840	2620	10.32	0.447	0.953
CV		5.75	6.73	4.73	19.11	55.7	21.74	16.78	2.32	0.95
Treatment Prob(F)		0.0001	0.0001	0.0001	0.0001	0.0001	0.0316	0.0005	0.5628	0.0029

LACSE: Prickly lettuce, YLD: Yield, PRO: Protein, TWT: Test weight.

