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Evaluation of Osprey Herbicide for Weed Control in Winter Wheat

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Introduction: Osprey herbicide (mesosulfuron) is a postemergent herbicide for control of grass and broadleaf weeds in wheat and triticale. Best results are obtained when Osprey is applied to young actively growing weeds. This study evaluated a spring application of Osprey to winter wheat in the tillering growth stage. Winter wheat in Tulelake is often planted in November making fall herbicide application rare unlike many other production regions where winter wheat is planted much earlier. The trial site had low weed pressure making weed control evaluations difficult, but trial location provided optimal conditions to evaluate crop injury and yield.

Methods: Herbicide treatments were applied April 9, 2018 using a CO_2 powered backpack sprayer at 15 gpa. Treatments were replicated 4 times in a randomized complete block design. Plots were 9ft by 20ft. Winter wheat ('Mary' winter soft white) was in the early tillering stage. Weeds were 2-4 inches tall. Numerous night-time frosts occurred the first couple weeks after application.

Results: All results are shown in the Table on page 2**.** Osprey treatments caused significant chlorosis and stunting that lingered for one month after treatment. Tank-mixing Buctril or Rhomene MCPA with Osprey increased crop injury compared to using Osprey alone. Weeds were too sporadic in plots to evaluate weed control. At harvest, plant height, grain yield, and grain test weight were similar across all treatments suggesting wheat recovered from early season injury caused by the herbicides.

Evaluation of Spring-Applied Osprey Treatments to Winter Wheat in Tulelake

Wheat: 'Mary' soft-white winter wheat (irrigated)

Herbicide Application: 4/9/2018 at early tillering; sporadic prickly lettuce and henbit (weeds 1-3 inches)

Crop Injury Rating: Visual evaluation of chlorosis and stunting; 0-10 rating scale 10= crop death

Weed Presence: Weeds were too sporadic for % control rating; % of plots with weed present

50% Heading Date: Date 50% of the plants had fully emerged heads.

Trt #	Treatment	Rate	Unit	Injury 4/18 0-10 rating	Injury 4/25 0-10 rating	Injury 5/7 0-10 rating	Injury 5/16 0-10 rating	Prickly lettuce 5/16 % of plots w/ presence	Henbit 5/16 % of plots w/ presence	Plant height at harvest (cm)	Grain Yield lbs/A	Grain test wt. per bushel
1	Untreated			0c	0d	0c	0	50	25	99	7238	59.8
2	OSPREY XTRA	4.754	OZ/A	2a	1.15bc	1b	0	0	0	98	7663	60.3
	NIS	0.5	v/v									
	U.A.N.	4	pt/A									
3	OSPREY 4.5 WDG	4.754	OZ/A	1.75ab	1.38bc	1b	0	75	0	100	7437	60.2
	NIS	0.5	% V/V									
	U.A.N.	4	PT/A									
4	SIMPLICITY	6.75	fl oz/A	1b	0.75cd	1b	0	50	0	98	7759	60.5
	NIS	0.5	v/v									
	U.A.N.	4	pt/A									
5	OSPREY XTRA	3.72	OZ/A	2a	1.75ab	1.5ab	0	0	0	98	7708	58.8
	BUCTRIL 2EC	1	PT/A									
	NIS	0.5	% V/V									
	U.A.N.	4	PT/A									
6	OSPREY XTRA	4.754	OZ/A	2a	2.38a	1.75a	0	25	0	99	7880	59.9
	Rhomene MCPA	8	OZ/A									
	NIS	0.5	% V/V									
	U.A.N.	4	PT/A									
7	OSPREY XTRA	4.754	OZ/A	1.5ab	1.63abc	0.88b	0	0	0	99	7740	60.1
	EXPRESS	0.25	OZ/A									
	NIS	0.5	% V/V									
	U.A.N.	4	PT/A									