

Russian Olive Control with Cut-Stump Herbicide Treatments at Scottsbluff, NE during 2006 through 2008.

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A field study was initiated near McGrew, Nebraska to compare the effectiveness of various herbicides for Russian olive control. Russian olive trees with an average diameter of 9 inches were cut off at the soil surface with a chain saw. The cut-stump was then treated with herbicide within 15 minutes of cutting. Herbicide plus carrier were sprayed on the cut-stump and on the bark just below the cut. The stump was completely covered with spray solution but application stopped at the first sign of spray solution run-off. Two application timings were evaluated: fall after the shrubs had lost leaves (October 23, 2006) or in the spring (May 4, 2007) as Russian olive was breaking dormancy and new leaf growth was visible. Each treatment consisted of ten shrubs and each shrub was considered as a replicate. After the shrub was cut the diameter of the stump was recorded using a caliber and a metal tag was nailed to the stump to identify the different treatments. Russian olive control was evaluated on June 13, 2007, September 26, 2007, and August 6, 2008, by observing each shrub for the presence of regrowth. Each stump was evaluated on a scale from 0 to 100 with 0 equal to regrowth covering the stump and 100 equal to no regrowth. On June 13 only shrubs cut during the fall of 2006 were evaluated while on September 26, 2007 and August 6, 2008 both spring and fall application dates were evaluated.

On September 26, 2007 regrowth was occurring on 57% of the shrubs treated with diesel fuel that had been cut the previous October while 77% of the plants treated with Velpar DF were resprouting (Table 1). The remaining herbicide treatments provided excellent control of Russian olive. Perennial grasses located under the drip-line of the shrub were also evaluated for injury on September 26. Stalker plus Garlon, Habitat, Garlon, Garlon plus Tordon, and Velpar cause moderate grass injury around the base of the stump with injury extending out 12 to 24 inches from the stump.

Regrowth was evident 145 days after treatment on 70% of the Russian olive plants cut and treated with diesel in the spring of 2007. Again all herbicide treatments except Velpar were providing excellent

control of Russian olive. Stalker plus Garlon, Habitat, and Velpar caused moderate perennial grass injury.

Russian olives were evaluated in August of 2008. Shrubs cut off at the soil surface and treated with diesel fuel were only partially controlled (Table 1). All the herbicide treatments except Velpar provided excellent Russian olive control. Perennial grasses were recovering from initial herbicide damage and only stumps treated with Stalker plus Garlon, Habitat, or Velpar had grass injury of 10% or more.

Table 1. Russian Olive Control with Cut-Stump Herbicide Treatments at Scottsbluff, NE during 2006 through 2008.

Cut-stump treatment ¹	Herbicide ratio to carrier	Treatment Fall - October 23, 2006						Treatment Spring - May 4, 2007					
		Russian olive stem diameter	Russian olive control				Perennial grass injury		Russian olive stem diameter	Russian olive control		Perennial grass injury	
			10/23/06	6/13/07	9/26/07	8/6/08	9/26/07	8/6/08		5/14/07	9/26/07	8/6/08	9/26/07
(%)	(in)	(%)						(in)	(%)		(%)		
Stalker + Garlon 4 + Diesel	7/19/76	11	100	100	98	44	9	11	100	100	41	17	
Habitat + MSO	10/90	9	100	100	100	36	12	9	100	100	38	20	
Garlon 4 + Diesel	33/67	12	100	100	100	28	5	6	95	100	14	5	
Crossbow + Diesel	33/67	6	100	95	100	6	4	7	95	94	6	0	
Tordon RTU	100	9	100	100	100	3	1	8	100	100	17	1	
Roundup WeatherMax + MSO	50/50	7	100	100	100	3	0	8	95	100	9	4	
Weedmaster + MSO	50/50	7	100	100	100	5	0	12	100	100	5	3	
Garlon 4 + Tordon 22K + Diesel	16/16/68	9	100	100	100	14	9	11	100	100	8	7	
Velpar DF + Water	33/67	7	60	23	88	36	21	8	37	84	29	12	
Diesel	100	8	79	43	40	0	0	8	30	45	0	0	
LSD at 5%	—	3	9	13	13	8	3	3	16	14	10	4	

¹ Spray carriers utilized in this experiment were methylated seed oil (MSO) (Scoil) and diesel fuel.