

Dry pea tolerance to Sharpen tank mixed with other PPO inhibitors

The 2010 Sharpen label prohibits tank mixing Sharpen with other PPO inhibitors such as Spartan and Valor. Previous NDSU research has shown that these combinations may provide better weed control than either herbicide applied alone. This study was conducted to confirm whether a tank mix of two PPO inhibitors is safe on peas and chickpeas. Glyphosate was applied PRE across the entire study.

Valor was the only treatment that caused significant dry pea injury. Tank mixing Sharpen with Valor did not significantly increase injury. There was essentially no injury with Sharpen alone or tank mixed with other PPO inhibitors such as Spartan and Reflex.

Table. Dry pea tolerance to Sharpen tank mixed with other PPO inhibitors. (1017)

Treatment ^{ab}	Rate	Dry Pea							
		Injury			Density	Height		Yield	TW
		Jun 9	Jul 3	Jul 19	Jun 16	Jul 2	Jul 20	Aug 16	Aug 16
		-----%-----			sq ft	-----cm-----		lb/A	lb/bu
Sharpen	1 fl oz	0	0	0	3.7	41.0	72.0	3797	65.6
Spartan	4.5 fl oz	0	1	0	2.5	39.7	73.4	3973	67.3
Reflex	0.75 pt	0	0	0	3.5	39.8	69.1	3533	66.9
Valor	2 oz	0	12	8	2.9	42.7	70.8	3725	65.3
Prowl	3 pt	0	1	0	3.2	44.5	72.7	3802	65.9
Sharpen + Spartan	1 oz + 4.5 fl oz	0	1	0	3.9	43.7	75.1	3882	65.4
Sharpen + Reflex	1 oz + 0.75 pt	0	0	0	3.5	44.9	71.8	3876	65.6
Sharpen + Valor	1 oz + 2 oz	0	14	9	3.6	40.6	66.6	3584	66.3
Sharpen + Prowl	1 oz + 3 pt	0	0	0	4.5	44.5	71.4	3886	68.1
Prowl	1.5 pt	0	0	0	3.2	42.9	68.9	3428	66.5
Untreated		0	0	0	2.7	42.0	71.9	3395	66.8
LSD (0.05)		NS	4	4	1	NS	NS	NS	1
CV		0	96	135	19	7	4	6	1

^aAll treatments applied PRE; Glyphosate applied PRE across entire study.

^bSharpen applied with MSO (1%) + AMS (2%)