

**Evaluation of clethodim formulations, V-10137 and Select 2EC, in combination with Harmony GT for wild proso millet and common lambsquarters control in soybean at Potsdam, MN in 2004.**

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The objective of this trial was to evaluate clethodim formulations in combination with Harmony GT for wild proso millet and common lambsquarters control in soybean in southeastern Minnesota. The research site was a Port Byron silt loam containing 3.2% organic matter with a pH of 6.7 and soil test P and K levels of 66 ppm and 376 ppm, respectively. The previous crop was corn. The field was chisel plowed in the fall, and disked and field cultivated once prior to planting in the spring. The soybean variety, Pioneer 92-M00, was planted on May 28, 2004 at a depth of 1.5 inches in 30-inch rows at 150,000 seeds/A. A randomized complete block design with four replications was used. Preemergence (PRE) and postemergence (POST I and POST II) treatments were applied with a tractor-mounted sprayer, delivering 20 gpa at 32 psi using Turbo Tee 11002 nozzles. Evaluations of the plots were taken on July 30, August 6, and August 17. Application dates, environmental conditions, and crop and weed stages are listed below.

Date	May 28	July 19	July 26
Treatment	PRE	POST I	POST II
Temperature (F)			
air	69	80	71
Relative humidity (%)	45	71	52
Wind (mph)	3	3	1
Soybean stage	seeded	R2	R3
height (inches)	0	15	20
Wild proso millet weed density	--	moderate	moderate
height (inch)	--	7	14
Common lambsquarters weed density	--	moderate	moderate
height (inch)	--	2	4
Rainfall after application (inch)			
week 1	1.30	0.75	0.69
week 2	4.32	0.69	0.62
week 3	3.19	0.62	1.63

Significant differences in crop response were measured, with greater injury (soybean stunting) observed when Harmony GT and clethodim, as V-10137 or Select 2EC, were tank mixed, as opposed to being applied separately as POST I and POST II treatments (less stunting). The combination of V-10137 and Harmony GT also produced a higher percentage of crop response than the combination of clethodim as Select 2EC, and Harmony GT with similar additives. V-10137, applied at 0.125 lb/A at POST I with NIS + AMS resulted in greater soybean injury than when applied at the lower rate of 0.094 lb/A at POST I with NIS + AMS, 27% and 21%, respectively, August 6 rating. POST II applications of V-10137 provided less control of wild proso millet than POST I applications tank mixed with Harmony GT. Sequential postemergence applications of Harmony GT and V-10137 with similar additives resulted in similar control of common lambsquarters as tank mixed postemergence applications. (University of Minnesota Extension Service, Regional Center, Rochester, MN)

**Table. Performance of clethodim formulations, V-10137 and Select 2EC, in combination with Harmony GT for wild proso millet and common lambsquarters control in soybean on July 30, August 6, and August 17 at Potsdam, MN in 2004. (Breitenbach, Behnken, Lewis, and Griffin).**

Treatment	Rate	Injury/Stunting		Wild proso Millet control			Common lambsquarters control		
		7/30	8/06	7/30	8/06	8/17	7/30	8/06	8/17
	(rate/A)	(%)		(%)			(%)		
<b>Preemergence</b>									
FirstRate	0.6 oz	0	0	0	0	0	0	0	0
<b>Preemergence / Postemergence I</b>									
FirstRate / V-10137 + Harmony GT + NIS + AMS	0.6 oz / 16 oz + 0.83 oz + 0.25 % v/v + 2 lbs	25	27	96	95	97	62	87	91
FirstRate / V-10137+ Harmony GT + COC + AMS	0.6 oz / 16 oz + 0.83 oz + 0.5 % v/v + 2 lbs	25	26	97	98	98	56	84	81
FirstRate / Select 2EC + Harmony GT + COC + AMS	0.6 oz / 8 oz + 0.83 oz + 0.5 % v/v + 2 lbs	20	21	97	98	98	59	84	91
FirstRate / V-10137 + Harmony GT + NIS + AMS	0.6 oz / 12 oz + 0.83 oz + 0.25 % v/v + 2 lbs	23	21	95	95	99	53	84	85
FirstRate / V-10137 + Harmony GT + COC + AMS	0.6 oz / 12 oz + 0.83 oz + 0.5 % v/v + 2 lbs	24	26	96	96	97	60	85	86
<b>Preemergence / Postemergence I / Postemergence II</b>									
FirstRate / Harmony GT + NIS + AMS / V-10137 + COC + AMS	0.6 oz / 0.83 oz + 0.25 % v/v + 2 lbs / 16 oz + 0.5 % v/v + 2 lbs	15	12	0	82	85	50	83	83
FirstRate / Harmony GT + COC + AMS / V-10137 + COC + AMS	0.6 oz / 0.83 oz + 0.5 % v/v + 2 lbs / 16 oz + 0.5 % v/v + 2 lbs	15	15	0	84	91	50	81	79
Untreated Check		0	0	0	0	0	0	0	0
LSD (0.05)		4	3	1	4	3	4	5	9

NIS = AGRI-DEX nonionic surfactant, Helena; AMS = spray grade ammonium sulfate, Helena; COC = crop oil concentrate, Helena.