Proso Millet Tolerance to Saflufenacil

A field study was initiated at the High Plains Agricultural Laboratory near Sidney, NE to evaluate proso millet tolerance to saflufenacil (BAS800H). The plot was no-till seeded into wheat stubble on June 10, 2008 at the rate of 15 pounds/acre. Herbicide treatments were applied with an ATV-mounted sprayer set to deliver 12 gallons/acre at 3 miles/hour and 15 psi. Plots were 10 feet wide by 40 feet long. The study was located on an Keith silt loam soil with an organic matter content of 2.8 % and a pH of 7.1. The Preplant (PP) treatments were applied on May 31, 2008. The preemergence (PRE) treatments were applied on June 11, 2008, one day after planting. One-quarter inch of water was applied via sprinkler irrigation immediately after the PRE treatments were applied. Postemergence (POST) treatments were applied on July 1, 2008 to proso millet that was in the 3- to 5-leaf stage and 3 to 4 inches in height. Crop injury consisted of leaf chlorosis and stand reduction.

Visual crop injury from saflufenacil in late June was greater at the 4.0 ounce/A rate than at the 2.0 ounce/acre rate. Visual injury was also greater in the PRE treatments compared to the PP treatments. Crop stands were significantly lower than the nontreated check when saflufenacil was applied at the 4.0 ounce/acre rate. By early August, proso millet had outgrown most of the early season injury caused by saflufenacil. The only treatment showing significant crop injury at this time was 2,4-D amine plus Clarity. No herbicide treatment had a grain yield significantly different from the nontreated check.

Although crop injury from saflufenacil was observed in this study, proso millet was able to fully recover from this early season injury and yield well. Further work with saflufenacil in proso millet is encouraged. From June 3 through June 16, 1.99 inches of rain was received in addition to the 0.25 inch or irrigation applied immediatley after the PRE treatments were applied. This ample moisture following application of saflufenacil and prior to proso millet emergence likely contributed to the injury symptoms observed in this study.

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Treatment	Rate	Timing	Crop injury June 24	Stand July 1	Crop injury August 6	Yield
	oz prod/A		%	plants/m row	%	bu/A
Nontreated check			0	32	0	44.9
Saflufenacil	2.0	PP	8	29	0	43.7
Saflufenacil	4.0	PP	17	23	3	44.8
Saflufenacil	2.0	PRE	18	26	0	46.5
Saflufenacil	4.0	PRE	37	20	13	48.8
Aim	1.0	POST	--	--	0	46.6
2,4-D amine	16	POST	--	--	0	43.2
2,4-D amine Aim	12 0.5	POST	--	--	7	39.4
2,4-D amine Clarity	12 4.0	POST	--	--	17	38.7
2,4-D amine Peak	12 0.35	POST	--	--	13	39.9
LSD (5%)			7	9	14	6.3