

Imazamox with adjuvants on dry edible bean. Zollinger, Richard K. and Jerry L. Ries. An experiment was conducted near Wahpeton, ND, to evaluate crop response and weed control of imazamox treatments applied POST. 'Vista' navy bean was planted on June 3, 2003. POST treatments were applied on July 7 at 11:30 am with 74 F air, 83 F soil surface, 44% relative humidity, 20% clouds, 4 to 7 mph NW wind, dry soil surface, moist subsoil, poor crop vigor, and no dew present to V2 to V3 navy bean. Weed species present were: 2 to 6 inch (5 to 50/yd²) redroot pigweed; 2 to 4 inch (25 to 50/ft²) common lambsquarters; 2 to 4 inch (3 to 10/yd²) common ragweed; 2 to 6 inch (3 to 10/yd²) common cocklebur; 4 to 10 inch (1 to 5/yd²) yellow foxtail; and 4 to 10 inch (<1/yd²) wild-proso millet. Treatments were applied to the center 6.7 feet of the 10 by 40 foot plots with a backpack-type plot sprayer delivering 8.5 gpa at 40 psi through 8001 flat fan nozzles. The experiment had a randomized complete block design with three replicates per treatment.

Conditions at application were ideal due to good soil moisture and warm temperatures. Dry bean were initially stressed at application from excess water but weed growth was good and uniform. Very little precipitation was measured and dry conditions existed for most of the growing season. Reduced rates of imazamox and fomesafen were used to measure adjuvant enhancement. Imazamox rate was 38% of the label rate and fomesafen rate was slightly over 50% of the labeled rate. The weed spectrum was ideal to measure imazamox activity primarily on common lambsquarters and common cocklebur and fomesafen activity primarily on common ragweed. The general order of adjuvant enhancement in weed control from imazamox and fomesafen was MSO + basic blend = basic blend > MSO > PO > NIS or NIS + additive blends. The level of weed control was quite impressive considering the weed spectrum, weed size at application, and low herbicide rates used. (Dept. of Plant Sciences, North Dakota State University, Fargo).

Table. Imazamox with adjuvants on dry edible bean (Zollinger and Ries).

Treatment ¹	Rate (lb/A)	July 21						August 4					
		SETLU (%)	PANMI (%)	AMARE (%)	CHEAL (%)	AMBEL (%)	XANST (%)	SETLU (%)	PANMI (%)	AMARE (%)	CHEAL (%)	AMBEL (%)	XANST (%)
Imazamox+fomesafen+Destiny	0.012+0.1	72	66	84	63	79	79	72	66	84	63	79	79
Immx+fome+Scoil	0.012+0.1	70	60	82	68	83	73	70	60	82	68	73	73
Immx+fome+Prime Oil	0.012+0.1	70	53	63	45	57	60	70	53	63	45	57	60
Immx+fome+Hi-Per-Oil	0.012+0.1	67	47	63	52	55	62	67	47	63	52	55	62
Immx+fome+AG 01023	0.012+0.1	63	43	60	40	52	57	63	43	60	40	52	57
Immx+fome+Rivet	0.012+0.1	72	53	71	50	57	58	72	53	71	50	57	58
Immx+fome+AG 03015	0.012+0.1	50	30	50	27	30	30	50	30	50	27	30	30
Immx+fome+AG 01034	0.012+0.1	65	53	72	58	60	60	65	53	72	58	60	60
Immx+fome+ClassAct NG	0.012+0.1	67	53	72	58	60	50	67	53	72	58	60	50
Immx+fome+AG 02033	0.012+0.1	62	40	63	32	52	50	62	40	63	32	52	50
Immx+fome+Phase	0.012+0.1	50	30	60	32	50	52	50	30	60	32	50	52
Immx+fome+AG 03302	0.012+0.1	60	30	60	28	53	53	60	30	60	28	53	53
Immx+fome+AG 02025	0.012+0.1	60	40	70	40	60	60	60	40	70	40	60	60
Immx+fome+Preference	0.012+0.1	40	0	50	20	7	33	40	0	50	20	7	33
Immx+fome+Active Plus	0.012+0.1	40	22	50	20	20	30	40	22	50	20	20	30
Immx+fome+Herbimax	0.012+0.1	43	28	50	20	20	30	43	28	50	20	20	30
Immx+fome+Bronc Plus	0.012+0.1	50	30	40	20	20	30	50	30	40	20	20	30
Immx+fome+Silken	0.012+0.1	50	23	40	30	20	27	50	23	40	30	20	27
Immx+fome+Silwett L-77	0.012+0.1	50	30	47	30	20	30	50	30	47	30	20	30
Immx+fome+Quad 7	0.012+0.1	83	62	90	77	87	84	83	62	90	77	87	84
Immx+fome+Renegade	0.012+0.1	86	73	94	76	87	91	86	73	94	76	87	91
Immx+fome+Base	0.012+0.1	87	76	96	79	90	93	87	76	96	79	90	93
Immx+fome+Z-64	0.012+0.1	86	74	94	78	86	93	86	74	94	78	86	93
LSD (0.05)		4	7	4	8	10	8	4	7	4	8	10	9

¹Destiny and Scoil = methylated seed oil (MSO) at 1% v/v and 1 pt/A respectively; Prime Oil, Hi-Per-Oil, and Herbimax = petroleum oil at 1% v/v, 0.5% v/v, and 2 pt/A respectively; 'AG' compounds are proprietary experimental adjuvants from Agrilience; Rivet and Phase = MSO + organosilicone surfactants at 0.5% v/v and 2 pt/100 gallon respectively; ClassAct NG (Next Generation) and Bronc Plus = surfactant + fertilizer at 2.5% v/v and 3% v/v respectively; Quad 7 = basic pH blend at 1% v/v; Preference and Active Plus = nonionic surfactant at 0.25% v/v; Silken and Silwet L-77 = surfactants +silicone at 0.125% v/v and 0.38pt/100 gallon respectively; Renegade and Base = MSO basic blend at 1% v/v; Z-64 = MSO basic blend + 28-0-0 + surfactant at 1% v/v.