

Postemergence herbicide combinations in sugarbeets-Mesa-1980/81

C. H. Doty and K. C. Hamilton, Agronomists

Selective, postemergence grass herbicides were evaluated in combination with Betanal for annual weed control in sugarbeets in 1980 at Mesa, Arizona. On September 11 one row per bed of Spreckles S-445-H sugarbeets were planted and irrigated by watering every furrow. The sugarbeets were blocked to an 8-inch spacing and the test was cultivated twice. Herbicides were applied as a tank mix on October 1 when sugarbeets had two-to-four true leaves, broadleaf weeds were 2 inches tall, and grass weeds were 5 inches tall. Weeds present were Wright groundcherry, red sprangletop, Palmer amaranth, and junglerice. Herbicides were applied in a 13-inch band over the sugarbeets in 40 gpa water. Plots were five 30-inch wide beds, 30 feet long, and treatments were replicated four times. Sugarbeets were harvested June 25, 1981.

The only treatment controlling Palmer amaranth was Betanal plus 1 lb/A R0-13-8895. Wright groundcherry was controlled by all herbicide treatments. Control of annual grass with experimental herbicides was good at 0.5 lb/A and excellent at 1 lb/A. Sugarbeets were stunted by the combinations of Betanal and R0-13-8895 and Betanal and Bas-90520H. Yield of sugarbeets may have been reduced by Betanal/R0-13-8895 combinations.

Response of weeds and sugarbeets to postemergence herbicides

Herbicide	Treatment lb/A	Weed control percent estimated						Yield of roots Tons/acre	Sucrose content Percent
		Palmer amaranth		Wright groundcherry		annual grass			
		Oct.	Dec.	Oct.	Dec.	Oct.	Dec.		
Betanal/R0-13-8895 ^{a/}	1/1.0	92	93	98	99	99	99	27	15.0
Betanal/R0-13-8895 ^{a/}	1/0.5	62	62	96	100	79	95	27	16.2
Betanal/Bas-90520H ^{b/}	1/1.0	48	49	96	100	96	99	29	14.9
Betanal/Bas-90520H ^{b/}	1/0.5	23	47	95	100	86	97	30	16.5
Betanal/CGA-82725	1/1.0	25	38	95	99	98	100	31	15.3
Betanal/CGA-82725	1/0.5	25	31	95	100	81	95	32	15.7
Betanal	1	23	45	95	100	0	54	29	16.4

^{a/} X-77 adjuvant, 0.5%, added to spray mix.

^{b/} Crop oil, 1.3%, added to spray mix.