Research Report
to the
Specialty Seed Growers of Western Oregon

TITLE: **Tolerance of Hybrid Cabbage Grown for Seed to Kerb Herbicide, 2022**

RESEARCH LEADER: Ed Peachey, Associate Professor of Weed Science, Horticulture Dept., Oregon State University, Corvallis, OR

PHONE NUMBER: 541-740-6712

E-MAIL ADDRESS: ed.peachey@oregonstate.edu

Objective

The objective of this experiment was to determine tolerance of fall-planted cabbage to Kerb 3.3SC (pronamide). Kerb is labeled in sugarbeet as a broadcast over-the-top application @ 3 to 5 leaf stage during the fall to control winter annual weeds such as annual bluegrass, annual ryegrass, volunteer grains, and chickweed. Kerb controls some susceptible species through root uptake (even when applied after weeds emerge), but also controls a wide range of broadleaf weeds, if applied before weeds germinate. These weed species including henbit, knotweed, shepherdspurse, and dodder, to name a few. A label for use in fall-planted brassica crops would greatly improve weed control of current simazine programs. Although Kerb is susceptible to enhanced degradation when soil temperatures are above 55F, it may be useful in some spring planted annual crops, and even effective when applied in late summer with soil temperatures being above 55F.

Methods

The experiments were located near Albany, OR (44.682889, -123.103069) on a Willamette silt loam with OM of 5.26 (LOI), pH of 6.3, and CEC of 22.3 meq/100 gr soil. Two varieties of cabbage (*B. oleraceae)* were transplanted in late August and pronamide (Kerb) was applied 8-Oct to plants with 10 to 14 leaves and up to 6 inches tall. Treatments were arranged in a randomized block design with 4 replications. Crop injury was recorded in fall and spring, and seed harvested from 10 feet of row in each plot.

Results

There was no difference between the two varieties in growth response to Kerb rate. Very little injury was noted with the exception of one area of the field that was low lying. At that location, plants were half the size of the non-treated plots, but the injury was not consistent and could not be linked directly to Kerb rates. Seed yield declined as Kerb rate increased from 2.4 to 9.7 pt/a.

Table 1. Herbicide application data.

Date	Friday, October 8, 2021
Crop stage	large 10 to 14 lf, 6-inch-tall
Herbicide/treatment	All
Application timing	POST
Start/end time	1:30- 2 PM
Air temp/soil temp (2")/surface	65/61
Rel humidity	58%
Wind direction/velocity	S 3-6
Cloud cover	50%
Soil moisture	Moist
Plant moisture	-
Sprayer/PSI	BP CO2 25 PSI
Mix size	2100
Gallons H20/acre	20
Nozzle type	4-XR8003
Nozzle spacing and height	20/20
Soil inc. method/implement	rainfall 2 days later

Table 2. Tolerance of cabbage grown for seed to Kerb herbicide. Trial contained 2 varieties and data in this table are the average response of both. No differences were noted between the varieties in response to Kerb.

	Herbicide	Product rate		Phyto		Stunting			Harvest	
				21-Oct-21	8-Nov-21	21-Oct-21	8-Nov-21	1-Jun-22	Stand	Seed
				0-10	*0-10*	*%*	*%*	*%*	*No./10 ft*	*lb/A*
1	Kerb	2.42	pt	0.3	0	0	0	0	7.3	1785
2	Kerb	4.85	pt	1.0	0	0	0	19	6.1	1368
3	Kerb	9.70	pt	1.1	0	0	0	30	4.3	545
4	Simazine	1.6	pt	0	0	0	0	0	7.6	1264
5	Nontreated	-		0	0	0	0	0	7.4	1892
	FPLSD (0.05)			0.3	-	-	0	16	2.2	193