

MORISHITA, DON W.^{1*}, COREY V. RANSOM², MICHAEL J. WILLE¹, and JOEY ISHIDA², ¹University of Idaho, Plant Science Division, P.O. Box 1827, Twin Falls, ID 83303 and ²Oregon State University, Malheur Experiment Station, 595 Onion Ave., Ontario, OR 97914. **Evaluation of metolachlor for weed control in irrigated sugar beet.**

Metolachlor was evaluated for crop tolerance and weed control in irrigated sugar beet (*Beta vulgaris*). Experiments were conducted near Twin Falls, Idaho in 1997 and 1998 and near Ontario, OR in 1998. Metolachlor was applied preplant incorporated (PPI), preemergence (PRE), and postemergence (POST) followed by sequential POST herbicide applications. Crop injury of metolachlor treatments ranged from 0 to 16% in 1997, but was not greater than registered herbicide treatments. In 1998, injury ranged from 6 to 18% at Idaho and 0 to 63% at Oregon with treatments including metolachlor. Injury at Oregon was higher than standard treatments. In 1997, PRE metolachlor applications controlled common lambsquarters better than PPI applications. Kochia was not effectively controlled. Redroot pigweed and common lambsquarters control with PPI and PRE metolachlor applications ranged from 88 to 100% at both locations in 1998. Kochia control was variable and not different among metolachlor treatments. Late season hairy nightshade and annual sowthistle control at Oregon averaged 95% among metolachlor treatments followed by two POST herbicide applications. Due to high kochia populations in 1997, root yields were best when kochia control was 76% or higher. In 1998, all metolachlor treatments at Idaho had root yields ranging from 24 to 29 tons/A and were not different from the standard herbicide treatments. At Oregon, metolachlor treatments applied PPI had root yields greater than the untreated check. These data indicate that metolachlor can injure sugar beet under some circumstances, but injury was not always reflected in root yields. Weed control with metolachlor followed by POST herbicide applications appears to be comparable to ethofumesate and cycloate for common lambsquarters, redroot pigweed, annual sowthistle, and hairy nightshade control.