

COMMON LAMBSQUARTERS RESPONSE TO GLYPHOSATE UNDER FIELD AND GREENHOUSE CONDITIONS. Andrew R. Kniss, Assistant Professor, Department of Plant Sciences, University of Wyoming, Laramie, WY 82071.

Field and greenhouse studies were conducted in Laramie, Wyoming to quantify the effect of common lambsquarters size on mortality caused by glyphosate application. Contradictory results were obtained in field and greenhouse studies. In greenhouse studies, increasing size of common lambsquarters at the time of treatment increased the probability of survival after treatment with glyphosate at 840 g ae/ha. Similar results have been found by other researchers in greenhouse and growth chamber studies. However, field studies conducted in 2007 and 2008 do not show a similar trend. In 2007, a parabolic response was observed in the field with respect to common lambsquarters height; that is, plants were more likely to survive glyphosate applications as they increased in size up to approximately 12 cm, then became less likely to survive glyphosate application at heights greater than 12 cm. In 2008 field studies, common lambsquarters was less likely to survive glyphosate applications as height increased from 2 to 12 cm. Spray contact and retention may be responsible for the differences observed between greenhouse and field studies, as environmental conditions (particularly light quality and intensity) alter the phenology of common lambsquarters.