

COMPARISON OF GLYPHOSATE FORMULATIONS AND ADDITIVES FOR CONTROL OF SLIMLEAF LAMBSQUARTER. Robert N. Klein, Jeffrey A. Golus and Jim Daniel, Professor and Research Technologist, University of Nebraska, North Platte, NE 69101, and Product Development Manager, United Agri Products, Johnstown, CO 80534.

A study was conducted during the summer of 2002 to evaluate various glyphosate formulations and additives for control of slimleaf lambsquarter. The field was located near North Platte, NE on the West Central Research and Extension Center Dryland Farm. Seven treatments were laid out in randomized complete block design with three replications. All treatments were applied with a tractor sprayer with a fifteen foot boom (six 11003XR nozzles on 30 inch spacing). Nozzle pressure was 20 psi, carrier volume 10 gpa and speed 4.1 mph. The plot was located in winter wheat stubble, which was harvested on July 1. Treatments included two glyphosate formulations (1 = Roundup UltraMax, isopropylamine salt; 2 = Engame, monocarbamide dihydrogen sulfate acid) applied at three different rates (0.25, 0.5 and 0.75 lb ae/acre) with two additives (1 = Liberate - lecithin, methyl esters of fatty acids and alcohol ethoxylate; 2 = ammonium sulfate). Application date was July 19, 2002, with a temperature of 99 deg F. High temperatures for four days before and after application were: (July 15 to July 23) 91, 93, 97, 98, 99 - DOT, 102, 103, 94 and 89. Slimleaf lambsquarter at application was 6 to 12 inches tall, and under extreme stress due to the very hot and dry conditions. Plots were rated visually for percent control of slimleaf lambsquarter on August 11 and September 8. Glyphosate 1 plus additive 1 and 2 yielded 32, 53 and 82 percent control at the rates of 0.25, 0.5 and 0.75, respectively on September 8. Glyphosate 2 plus additive 1 resulted in 52, 97 and 100 percent control on the same date.