EFFECT OF WEED CONTROL AND CUTTING SYSTEM ON ROUNDUP READY ALFALFA STAND LONGEVITY. Calvin Glaspie, Andrew Chomas, Timothy Dietz, James Kells and Wesley Everman, Graduate Research Assistant, Research Technician, Research Technician, Professor, Assistant Professor, Department of Crop and Soil Sciences Michigan State University, East Lansing MI 48864.

Glyphosate resistant alfalfa offers growers options for weed control in alfalfa. Weed management systems which utilize glyphosate as the main method of control could have potential benefits not previously observed with traditional practices. One proposed benefit of using glyphosate resistant alfalfa is increased longevity of an alfalfa stand under heavy harvest management. It is hypothesized that a stand of glyphosate resistant alfalfa will have a greater longevity due to effective control of weeds with minimal injury to the crop often seen with commonly used herbicides used. To test glyphosate resistant alfalfa persistence and yield potential, a field trial was established in August of 2003 on a capac loam soil with a pH of 7.4 at the Michigan State University Agronomy Farm in East Lansing, Michigan. Glyphosate resistant alfalfa was planted at a rate of 18 lbs/A at a 6" spacing and managed according to commercial production practices in Michigan. Treatments were arranged in a split plot design with cutting frequency as the whole plot and herbicide treatment as the sub plot. Whole plots were managed either as an intensive management system or as a moderate management system based on number of cuttings in a season. Herbicide treatments consisted of no herbicide applied, glyphosate at 0.75 lb ae/A or hexazinone at 0.5 lb ai/A as needed based on visual observation of weed pressure. Cuttings were taken each year after establishment at 750/850 growing degree days base 42 starting March 1st and subsequent cuttings at 28/35 day intervals for the intensive and moderate management systems, respectively. Dry biomass yield, forage quality and stand population data were collected percent. Weed and alfalfa percent dry biomass were calculated from hand separation data. Initial results indicate no significant differences between treatments when averaged across management blocks for yield, forage quality, weed control and stand persistence from 2004-2007. Data in 2008 shows segregation in treatment effects on weed biomass. A higher proportion of dry matter (DM) yield per acre in the untreated was weeds (1.7832 DM tons/a) compared to the hexazinone and glyphosate treatments (0.676 and 0.6529 DM tons/a respectively) across cutting blocks. The study is ongoing with an expected conclusion date in 2010.

2008 North Central Weed Science Society Proc. 63:182.