STEINKE, KURT*, and ANDREW CHOMAS, Department of Plant, Soil, and Microbial Sciences, Michigan State University, Plant and Soil Sciences Building, 1066 Bogue Street, East Lansing, MI 48824. **Enhanced efficiency fertilizers in Michigan sugarbeet production.**

Enhanced efficiency fertilizers are products aimed at reducing nutrient losses and increasing plant nutrient availability thus improving both environmental and economic efficiencies. In 2010, Michigan Sugar Company began an initiative to increase beet quality with a statewide mean goal of 19% sugar. To accomplish incremental increases in beet quality and maintain or increase root yield, improved management practices including refined N management strategies were one consideration. Previous research showed that 40 lbs. N/A applied as a 2x2 application at planting continued to be an efficient, effective method of getting early N to the sugarbeet plant. However, growers are also looking to reduce the number of passes over a field during the season which has raised producer interest in one-pass spring N applications. The objective of this study was to determine if enhanced efficiency fertilizers affect root yield and quality, beet N accumulation, and other plant characteristics. Multiple studies were conducted in the Michigan Sugar growing area and arranged as a randomized complete block with four replications. A lack of excessively wet conditions limited N losses and the usefulness of these products. While many of these products did not improve sugarbeet root yield and quality and reduced quality similar to urea, enhanced efficiency fertilizers did not inhibit or restrict plant growth and development. Rainfall variability may affect widespread adoption of these fertilizer technologies but environmentally vulnerable production regions may want to consider usage over the long-term.