Variation of Nitrogen Fertilizer Response in Sugarbeet Production Fields. (S04-blumenthal155652-Poster)

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Abstract:

The importance of proper nitrogen nutrition in sugarbeet production is well-known. Lack of nitrogen will result in significant reduction in root yields, while excess nitrogen will promote significant decreases in sucrose content. The objective of this study was to evaluate in field-scale experiments the effect of fertilizer nitrogen on yield components of sugarbeets. In 2000 and 2001, two experiments were established each year in western Nebraska. Five rates (0, 30, 60, 90, and 120 kg N/ ha) of UAN were applied sidedress in early June in field length strips. Soil parameters, stand establishment, root yield and quality were measured. Due to harsh weather conditions in 2000 (late planting of the crop on May 10 and hailstorm on July 11) yields were with an average of 46.3 Mg/ha rather low and on a whole-field scale nitrogen fertilization did not increase the amount of sucrose harvested. In 2001 yields averaged 61.0 Mg/ha and nitrogen fertilization increased beet tonnage by 5.6 Mg/ha. Effects and interactions of soil nitrate at planting, fertilizer treatments, and stand density on yield components of sugarbeet varied within and among fields.

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