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### **EFFECT OF SIMULATED HAIL ON YIELD OF SUGAR BEET**

**Effet d'une chute de grêle simulée sur le rendement des betteraves sucrières /  
Effekt von simuliertem Hagelschlag auf den Zuckerrübenenertrag**

#### **ABSTRACT**

Minnesota and North Dakota produce about 60% of the sugar beet (*Beta vulgaris* L.) crop in the United States. One common occurrence during the summer is hailstorm that can cause significant leaf loss to the sugar beet crop. Research was conducted at multiple sites in Minnesota and North Dakota in 2010 and 2011 to evaluate the effect of leaf loss by simulated hail in mid-July and mid-August on recoverable sucrose. Plots comprised of two 9 m long rows spaced 0.6 m apart with seed spacing of 10 cm within the row. Treatments included removal of 0 (control), 4, 8 and 16 leaves per plant in mid-July or mid-August and the experiment was arranged as a randomized complete block design with four replicates. The crop was managed using current recommended practices. In September, plots were defoliated, harvested, weighed, and analyzed for quality. Yield and recoverable sucrose were different for the different sites. However, across all sites and in both years, there were significant reductions in tonnage and recoverable sucrose when 8 and 16 leaves were removed and losses were higher when leaf removal was earlier in the season compared to the control.

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