

GUZA, COREY J.*, DENNIS E. MONTEI and RICHARD R. LIST, Michigan Sugar Company, 2600 S. Euclid Avenue, Bay City, MI 48706. **Effect of forced air ventilation on sugarbeet storage in Michigan.**

ABSTRACT

Michigan Sugar Company has experienced sugarbeet pile storage losses due to changing weather patterns. Warmer than normal December and January temperatures have been common in Michigan, resulting in increased sugarbeet respiration loss and physical deterioration. Michigan Sugar Company has tested forced air pile ventilation for two years, the 2005–2006 campaign and the 2006–2007 campaign at both the Bay City and Sebewaing, MI locations. Sugar factory data along with captive samples placed in the pile were used to determine the success of the project. Despite challenging weather conditions in both years of the test, the ventilated sugarbeets continued to process well in the factory as indicated by a drop in lime salts and improvement in extraction and recoverable white sugar per ton (RWST). Cossette samples taken from the factory before, during and after the ventilated beets were processed indicated that ventilation maintained RWST. This was due to the higher sugar content and clear juice purity in the ventilated beets compared to the non-ventilated beets. The results from the captive samples in which the variety Beta 5451 was used, indicated an improvement in percent clear juice purity and percent sugar with ventilation, particularly at the Bay City location. A visual evaluation also indicated an improvement in sugarbeet storage with ventilation compared to no ventilation. The first year of testing proved that ventilating piles was a success, resulting in an average of 18 lbs of sugar per ton increase in the ventilated piles vs. the non-ventilated check. In the second year of the study, ventilation improved sugar recovery by 39 lbs of sugar per ton.