

Samaraweera, Upasiri<sup>1\*</sup>; Jeffrey L. Carlson<sup>1</sup>, Ron E. Ehlert<sup>1</sup>, Ken A. Kubat<sup>1</sup>, Ray E. Smith,<sup>2</sup> Minn-Dak Farmers Coop, 7525 Red River Road, Wahpeton, ND 58075 and <sup>2</sup> United Sugars Corporation, 7401 Metro Blvd., Suite 350, Edina MN 55439. **Hard and Lumpy Sugar Complaints, Is it really Hard and Lumpy?**

Minn-Dak cooperative and United Sugars Corporation have been grappling with hard and lumpy complaints over a long period. A hard and/or lumpy complaint appears to be a “catch all” if sugar does not flow freely during the unloading process. These investigations have revealed that when bulk sugar fails to flow freely during the unloading process, it may have little to do with the condition of the sugar. These investigations have found that the true cause of some complaints were poor unloading and loading practices, defective unloading equipment, the type of the rail car unloading gates and the physical condition of the gates. The paper will describe how the true hard and lumpy sugar is formed with literature references, as an introduction and our experience with issues relating to in bulk rail car loading and unloading.