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**PHYSICO-CHEMICAL CHARACTERISTICS OF WHEAT DISTILLER'S  
GRAINS WITH SOLUBLES**

MARIA ROSARIO MOSQUEDA<sup>1</sup>, LOPE G. TABIL<sup>1</sup>

<sup>1</sup> M.R. MOSQUEDA, Agricultural and Bioresource Engineering, University of Saskatchewan, Canada,  
charie.mosqueda@usask.ca.

<sup>1</sup> L.G. TABIL, lope.tabil@usask.ca.

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**ABSTRACT** There is very limited information on the physical, flow and chemical properties of dried distiller's grains with solubles (DDGS) derived from wheat-based fuel ethanol production. As wheat distiller's grains become increasingly more available in Western Canada, baseline information on these properties is essential in responding to the problems posed by existing processing, handling, storage, and transportation systems. Aimed as an initial step toward addressing challenges on DDGS flowability and maintenance of product quality, the following properties were quantified before and after drying, using standard laboratory methods: particle morphology and size distribution, bulk and particle densities, friction and flow properties, pneumatic properties, airflow resistance, thermal properties, hygroscopic properties, surface characteristics and chemical composition. Relationships and interactions between these various properties were also examined and their implications discussed.

**Keywords:** Wheat DDGS, Distiller's grains, Flow properties, Physico-chemical properties.