

**Silo-King® enhances the storage life and digestibility of wet distillers grains.** D. Spangler, S. Gravert, G. Ayangbile, and D. Casper\*, *Agri-King, Inc.*

Enhancing the storage life of wet corn distillers grains (WDG) would increase its value as a commodity. The nutritional quality of WDG can rapidly decline due to spoilage from mold and yeast growth. Silo-King® enhances the fermentation and storage of forages by enhancing lactic acid production which inhibits yeast and mold growth. The objective was to evaluate Silo-King® to enhance storage life and nutritional quality of WDG. Fresh commercially produced WDG was obtained, split into 4 lots, and subjected to 1 of 4 treatments. Treatments were untreated (C), Mold-X® applied at 907g (M), Silo-King® applied at 453.6g (SK-1) or Silo-King® applied at 907g (SK-2) per 907 kg of WDG. The experimental period was 21 days with measurements repeatedly collected on several days. Data were analyzed as repeated measurements. Storage temperatures (29.1, 13.9, 14.8, and 13.0 OC for C, M, SK-1, and SK-2, respectively) were significantly ( $P < .01$ ) reduced for all treatments compared to C. Higher application rates of Silo-King® (SK-2 compared to SK-1) tended ( $P < .08$ ) to result in lower storage temperatures. In vitro dry matter digestibility (55.7, 62.0, 63.2 and 63.9% DM) was improved with M, SK-1, and SK-2 compared to C. Lactic acid concentrations were highest for SK-2, which was similar to SK-1, but significantly greater ( $P < .05$ ) than M or C. Acetic acid concentrations (1.41, .40, .38, and .38% DM) were greatest for the C compared to the other treatments. Mold counts (6.02, 4.24, 4.02, and 3.98 log<sub>10</sub> CFU/g) and yeast counts (7.42, 5.88, 5.58, and 5.27 log<sub>10</sub> CFU/g) were highest for C compared to other treatments. This study demonstrated the nutritional profile and quality of WDG if left untreated will deteriorate from yeast and mold growth in a short period of time. This deterioration of quality also reduces dry matter digestibility and nutrient supply to the animal. Treating WDG with Mold-X® or Silo-King® will extend the storage life and maintain the nutritional profile and quality of WDG, thereby increasing the value of WDG as a commodity for feeding livestock.

**Key Words:** Wet distiller's grains, Silo-King®, Storage life

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