

Feeding Wheat Distillers Grains Compared with Corn distillers Grains in Dairy Cow Diets: Effect on Milk Production

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In western Canada, dried distillers grains with soluble (**DDGS**) is produced from mixtures of corn and wheat at variable ratios, and used as a source of dietary crude protein. The objective of this study was to determine the effect of feeding corn DDGS (**CDG**), wheat DDGS (**WDG**), and a 50:50 mixture of both (**CWDG**) on dry matter intake, milk production, milk composition, and feed efficiency of dairy cows in mid-lactation. Sixteen multiparous and sixteen primiparous lactating Holstein cows were used in a replicated 4 × 4 Latin square with 3-wk periods. Dietary treatments were a control diet containing canola meal as the primary protein source (**CON**) and diets containing CDG, WDG, or CWDG. The treatment protein sources supplied 35% of dietary crude protein, and all diets were formulated for similar protein (17.9%) and fat (4.5%) contents. Dry matter intake tended to be higher when cows were fed WDG diet compared with CDG (25.4 vs. 22.9 kg/d; $P = 0.08$), but milk yield was not affected by treatment and averaged at 36.3 kg/d. As such, feeding CDG tended to increase feed efficiency compared with WDG (milk yield / dry matter intake; 1.64 vs. 1.45; $P = 0.08$). However, no differences in DMI and milk yield were observed between CON and DDGS containing diets. Furthermore, concentrations of milk fat, protein, lactose, and milk urea nitrogen were not affected by treatment, and averaged at 3.59%, 3.11%, 4.54%, and 10.7 mg/dL, respectively.

Implications: Milk production and composition of dairy cows in mid-lactation may not be affected by dietary protein source (i.e., canola meal, CDG, WDG, or CWDG) if diets are balanced carefully to meet their nutrient requirements, indicating that DDGS can be used as an alternative protein source in diets for lactating dairy cows. However, type of grain from which DDGS is produced may affect feed efficiency.