in dairy rations evaluated

Abomasal outflow of amino acids with canola meal or wheat distillers grains

<table>
<thead>
<tr>
<th></th>
<th>Canola meal</th>
<th>Wheat distillers grains</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total essential amino acids</td>
<td>3,000 g</td>
<td>4,000 g</td>
</tr>
<tr>
<td>Total non-essential amino acids</td>
<td>1,700 g</td>
<td>1,500 g</td>
</tr>
<tr>
<td>Total amino acids</td>
<td>4,700 g</td>
<td>5,500 g</td>
</tr>
</tbody>
</table>

Source: Mutsvangwa and Doranalli (2014).

Mutsvangwa, T., and K. Doranalli. 2014. Effects of feeding canola meal (CM) and wheat distillers’ grains with solubles (W-DDGS) as the major protein source in low or high crude protein diets on ruminal nitrogen utilization, omasal nutrient flow and milk production in dairy cows. J. Dairy Sci. 97(E-Suppl. 1):825.

References


In a study with dairy cows producing more than 44 kg of milk, Swanepoel et al. (2014) fed the cows diets that contained 20% canola meal and found that feed intake remained high, while milk production increased slightly.
Maxin et al. (2013) compared a diet with 20.8% canola meal that replaced all soybean meal and some corn grain and noted no differences in dry matter intake, milk yield or milk component yield for cows producing 35 kg of milk per day.
The amino acid profile continues to be the major advantage of canola meal relative to other vegetable protein ingredients. Supporting the meta-analysis of Martineau et al. (2014), Mutsvangwa and Doranalli (2014) demonstrated that greater amounts of potentially limiting amino acids reached the intestines when canola meal replaced wheat distillers grains (Figure).
Milk production output in 2015 is higher than the average production levels that were included in the meta-analyses. However, results from recent studies continue to show that canola meal supports milk production, as indicated by the most recently completed feeding trial (Table 4). Lower MUN values have also been consistently reported, indicating that cows seem to make better use of absorbed amino acids.
Canola is a valuable protein ingredient, and recent research has helped validate this assertion while addressing questions posed by dairy nutritionists regarding specific feeding values.
As part of the Canola Council of Canada’s Science Cluster program, recent research has, likewise, been conducted in swine and poultry as well as ruminants.
A newly released “Canola Meal Feed Industry Guide” provides details on feeding canola to livestock species and can be found online on Canolamazing.com.