

Effects of Feeding Increasing Levels of Wet Corn Gluten Feed on Production and Ruminant Fermentation in Lactating Dairy Cows

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Mullins et al., 2010. J. Dairy Sci. 93:5329-5337.

Figure 1. Effects of level of wet corn gluten feed (WCGF) on performance of lactating Holstein cows.

| Item ¹ | Dietary WCGF (DM basis) | | | | SEM | P-value | |
|---|-------------------------|------|------|------|------|---------|-----------|
| | 0% | 11% | 23% | 34% | | Linear | Quadratic |
| DMI (kg/d) | 26.7 | 25.9 | 29.3 | 29.7 | 1.6 | 0.03 | 0.55 |
| Yield (kg/d) | | | | | | | |
| Milk | 36.8 | 37.0 | 40.1 | 38.9 | 2.6 | 0.007 | 0.28 |
| Milk fat | 1.37 | 1.39 | 1.49 | 1.44 | 0.11 | 0.06 | 0.21 |
| Milk protein | 1.11 | 1.14 | 1.21 | 1.21 | 0.08 | 0.01 | 0.49 |
| Milk lactose | 1.85 | 1.85 | 2.02 | 1.95 | 0.13 | 0.01 | 0.32 |
| SCM | 35.2 | 35.7 | 38.5 | 37.2 | 2.5 | 0.01 | 0.19 |
| ECM | 38.2 | 38.8 | 41.7 | 40.4 | 2.8 | 0.01 | 0.19 |
| Milk fat (%) | 3.65 | 3.76 | 3.72 | 3.67 | 0.11 | 0.93 | 0.23 |
| Milk protein (%) | 3.02 | 3.07 | 3.05 | 3.11 | 0.08 | 0.13 | 0.80 |
| Milk lactose (%) | 5.02 | 5.00 | 5.03 | 5.01 | 0.03 | 0.94 | 0.96 |
| SCC (1,000/mL) | 40.6 | 64.1 | 31.9 | 50.2 | 14.8 | 0.96 | 0.87 |
| MUN (mg/dL) | 17.2 | 16.3 | 16.3 | 17.3 | 0.90 | 0.83 | 0.08 |
| ECM/DMI (kg/kg) | 1.44 | 1.50 | 1.34 | 1.29 | 0.06 | 0.007 | 0.20 |
| NE _p /DMI ² (Mcal/kg) | 1.02 | 1.05 | 0.97 | 0.98 | 0.06 | 0.33 | 0.75 |
| BW change (kg/28 d) | 45.6 | 14.3 | 9.2 | 29.7 | 17.6 | 0.65 | 0.73 |
| BCS change/28 d | -0.02 | 0.09 | 0.15 | 0.25 | 0.07 | 0.02 | 0.92 |

¹Total n = 24 for DMI, ECM/DMI, and NE_p/DMI; n = 25 for SCC; n = 28 for other variables. The SEM shown is the mean of treatment SEM.

²NE_p = net energy for productive use, defined as milk energy plus energy for BCS gain.

Figure 2. Results

| Item | Control | 23% | 34% | Difference |
|--------------------|-------------|-------------|-------------|------------|
| Milk (lbs) | 81.13 | 88.4 | 85.75 | 4.62 |
| Milk fat (lbs) | 3.02 | 3.28 | 3.17 | 0.15 |
| Milk protein (lbs) | 2.44 | 2.67 | 2.67 | 0.23 |
| ECM (lbs) | 84.2 | 91.9 | 89.1 | 4.9 |

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