

Effect of Dietary Wheat Supplementation on Dairy Cow Performance Is Not Influenced By the Addition of Rumen Buffers

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In a previous study, we had demonstrated that wheat grain fed to lactating dairy cows at up to 20% of diet DM in conjunction with sodium bicarbonate at 0.5% of diet DM had no adverse effects on rumen pH or milk and milk component yields compared to those obtained when barley was fed.

The current study was conducted to determine if a diet containing 20% wheat could safely be fed to dairy cows without the addition of rumen buffers. Twelve 2nd lactation Holstein cows were used in a replicated crossover with 21 day periods. Cows were fed a total mixed ration twice daily consisting of 35% barley silage, 15% alfalfa hay and 50% concentrate on a DM basis. The concentrate contained 40% rolled hard red spring wheat with (SB) or without (Ctl) sodium bicarbonate at 0.5% of total diet DM.

Dry matter intake (21.3 and 20.7 kg/d for Ctl and SB, respectively), and milk yield (31.4 and 30.2 kg/d) were unaffected by treatment. Milk fat content (3.77%) and fat yield (1155 g/d) were not different between treatments. Similarly, milk protein content (3.31%) and yield (1007 g/d) were also not influenced by treatment. Treatment had no effect on rumen pH (6.26 and 6.22 for Ctl and SB, respectively).

Implications: These results suggest that up to 20% wheat can be included in the diet of lactating cows without a need for rumen buffers provided that the cows consume adequate fibre. If readily available and priced competitively, wheat should be considered a suitable feedstuff for lactating dairy cows.