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## The nutritional value of the heat-treated and untreated lupine

Matus Rajsky, Zuzana Formelova, Maria Chrenkova, Zuzana Mlynekova and Maria Polacikova

National Agricultural and Food Centre, Slovak Republic

The objective of the study was to compare the nutritional value of various heat-treated (by dry heat): 110 °C and 120 °C for 5, 10, 15 minutes and by wet heat: 800 °C (f. Cimbrina Dantoaster) and untreated samples of lupine (*Lupinus albus*). Degradability of nutrients was determined using *in sacco* method and intestinal digestibility of crude protein by mobile bag method. Dry cows with large rumen and duodenal cannulas were used for determination of degradability and intestinal digestibility. Suitable heat treatment should decrease solubility of crude protein and also its degradability in rumen and increase bypass of crude protein into small intestine. The treatment, however, caused a significant decrease in the content of crude protein soluble in NaCl (from 157.21 down to 60.11 g.kg<sup>-1</sup>), which indicates suitability of this treatment and better utilization of crude protein in small intestine. Lowest effective degradability of crude protein was determined in lupine treated at 800 °C and highest in the lupine treated at 110 °C. In the lupine treated at 800 °C, 42.7% by pass protein was determined. The results indicate that wet treatment utilizing HTST processing (High Temperature Short Time), decreased the effective degradability of crude protein (from 73.58% to 55.14%) and had positive impact on intestinal digestibility of crude protein by 8.46%.

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### Biography

Matus Rajsky is the Head of Institute for Nutrition at Research Institute for Animal Production Nitra, National Agricultural and Food Centre. He focuses his research on nutrition, feeding and ecology of animals, especially on farm ruminants and free living ruminants. He is involved in several projects related to feed quality, animal nutrition, physiology of animal nutrition, feeding of animals and proposals of new feeds.

rajsky@vuzv.sk

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