

EXTRUSION INFLUENCE ON NUTRITIONAL AND ENERGY VALUE OF FEED MATERIAL

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Abstract. There has been a huge interest recently in fabaceae crops and their usage possibilities in the diet of poultry, pigs and ruminants. Except soybeans, the most suitable fabaceae crops for this purpose are peas, lupines, faba beans and rapeseeds. Extrusion is a mechanical and thermal process of material processing. The word “extrusion” derives from the Latin language *exfrudere*, the word *ex* means out, and the word *frudere* means to thrust.

Nutritional value was studied using the following methods: dry matter determined by drying samples; crude protein examined by Kjeldahl method; crude fats counted after sample extrusion with ether; crude ash were counted by residue of organic material sample burnt at the temperature of 550°C; NFE = dry matter amount – crude protein amount – crude fats amount - crude fibre amount - crude ash amount; crude fibre determined as the residue of insoluble nitrogen free material in acid and alkali; NDF, ADF and ADL were determined using analyser ANKOM 200 Fibre Analyzer (Ankom Technology, Macedon, USA).

Studies have shown that extrusion influences nutritional value indicators of fabaceae and brassicaceae plants differently; however, most often the differences are detected within the tolerance range ($P>0.05$). In the future it would be useful to determine digestibility of extruded and non-extruded fabaceae and brassicaceae plants in order to determine processing impact on feed material uptake in organisms of livestock.

Keywords: extrusion, soybeans, rapeseeds, lupines, peas, faba beans