



23rd European Symposium
on Poultry Nutrition

ESPN
2023

RIMINI/ITALY
JUNE 21 - 24

BOOK OF ABSTRACTS

P55 - Non-soy protein sources**P55-005 Effect of microwaves on the metabolizable energy of green pea (*Pisum sativum*)**B. Iglesias^{2,1}, M. Charrière², M. Gaggiotti³, V. Fain Binda², N. Bagattin¹

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The feeding cost represents between 55 and 70% of the production costs of chicken meat or eggs. Currently, the poultry sector is facing a new and challenging scenario, the increase in the price of traditional ingredients. Corn and soybeans showed a price increase of 88 and 57% in the last 24 months, respectively. This price increase motivates the need to look for alternative ingredients in order to lower costs. The green pea (*Pisum sativum*) is presented as a viable alternative. Peas are an ingredient with good potential for animal feed, characterized by having a high crude protein content (20-26%), good palatability and low content of anti-nutritional factors. The use of microwaves is not a new technology, however, it is little exploited, so, the aim of this trial was to evaluate the effect of microwaves on the metabolizable energy of green peas. A sample of 200 g of raw green peas was placed on the plate of a 900-watt home microwave and cooked at 70% power for 0, 3, 5, 6, 7, and 9 min, using a completely randomized design with 6 treatments and 3 repetitions each. Moisture (M), crude protein (CP), ureasic activity (UA), protein solubility (PS), acid detergent insoluble nitrogen (ADIN), true metabolizable energy (TME) and coefficient of utilization of gross energy (TME/GE) were determined. The data were subjected to analysis of variance (ANOVA), when the degree of significance was less than 5%, the comparison of means was performed by the test of minimal significant differences; also, lineal regression was used to determine lineal or quadratic effect. As the cooking time increased, the M, UA and PS of the sample decreased linearly ($p \leq 0.05$). Whereas the percentage of CP standardized to 12% H was not affected by the cooking time ($p > 0.05$), NIDA increased significantly just after 9 min of cooking. Regarding the TME, the response was quadratic, with the best results at 5 min of cooking time with an increase of 204 kcal/kg and +4.9 percentage points in TME/GE, compared to peas without heat treatment (0 min). Despite the fact that peas have low levels of anti-nutritional factors, a beneficial effect was found when applying a thermal process using microwaves, and it was established that the best results of TME and TME/GE are achieved with 5 min of cooking at 70% power in a 900-watt home microwave.