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Influence of NSP-degrading enzymes on growth performance, carcass traits and sensory meat quality of broiler chickens fed wheat-based diets

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Improving digestibility of NSP in poultry diets is one way in which producers can positively impact both feed efficiency and animal nutrition. NSP-degrading enzymes can save money by uplifting the average feedstuff quality, increase the flexibility to use a wider range of raw materials and reduce the risk of animal gut disturbances. Objective: objective of this trial was to evaluate the influence of NSP-degrading enzymes on growth performance, carcass traits and meat sensory quality of broiler chickens fed wheat-based diets. 500 Ross 308 chicken broilers were fed with two basal wheat-based diets. Dietary treatments were divided into two groups: Control diet without enzyme supplementation and experimental diet supplemented with NSP-degrading enzymes. A sensory panel for the analysis consisted of 6 assessors. A structured numerical scale was used for evaluation of the intensity of each attribute.

Intensity of meat sensory attributes, such as overall odour, non-typical odour, taste, non-typical taste, color intensity was determined. NSP-degrading enzymes increased broiler chicken's preslaughter weight by 2.5% ($p \leq 0, 05$) and decreased feed consumption by 1.3%. Boneless chicken breast fillet without skin was 4% bigger ($p \leq 0, 05$) comparing to control group's chicken breast. Chicken breast external fillet and inner fillet in the experimental group were respectively 5.6% and 3.8% bigger. Sensory analysis determined that experimental group's cooked chicken meat had 7.5% ($p \leq 0, 05$) more intense odour. The obtained results demonstrate that adding NSP-degrading enzymes to chicken broilers diets had positive effect on their carcass traits and feed consumption, besides that, it had no negative effect on sensory meat quality.

Biography

Guoda Stanyte has a higher education and industrial, management and scientific work experience in animal husbandry field, and constantly purposefully improves her professional qualification. Currently she is a PhD student specializing in poultry and had performed trials with laying hens and chicken broilers which are connected to EU common agricultural policy (CAP) and more efficient use of native raw materials and non-starch polysaccharides (NSP) degrading enzymes in poultry diets. Guoda Stanyte published 24 publications under animal husbandry topic, mostly in international scientific editions since 2016. She is a member of World's Poultry Science Association.

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