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The consumption of rabbit meat, commonly sold as whole carcass or at least as cut-up parts, is nowadays decreasing. Ready-to-eat products, like burgers, represent an important percentage of food production and they are sold as only meat or meat mixed with other ingredients, mainly spices and salt. In order to increase rabbit products reliability in the last year, few research studies were conducted on burgers manufacturing and on antioxidant compounds. One of the most used spices worldwide and very commonly used in rabbit culinary recipes is garlic. Salt, due to its antimicrobial properties could preserve meat products and also it could influence the activity of some enzymes responsible for flavour development. The objective of this research was to evaluate the influence of garlic powder and salt in rabbit burgers during a storage period of 7 days at 4 °C. Thus, meat quality, lipid oxidation and antioxidant capacity and fatty acids profile were determined on raw and cooked samples.

Four different formulations were produced: control (only meat), meat added with garlic powder (0.2%), meat added with salt (1%), and meat added with both garlic powder (0.2%) and salt (1%). Meat was mixed with the assigned ingredient and a total of 120 burgers of 100 g were formatted.

Burgers were statistically tested via two-way ANOVAs with formulation and storage time as main factors with Tukey's test as post hoc ($p < .05$). Garlic powder modified partially the colour (mainly b^*) of the burgers and increased partially the antioxidant capacity (DPPH) of the raw samples during time ($p < .05$). Addition of salt modified the colour (mainly a^*) and induced an increase in lipid peroxidation (TBARS) in raw burgers ($p < .001$). Moreover, further differences were highlighted in lipid peroxidation of cooked burgers in relation to the formulation and the storage time ($p < .001$). The burgers with both garlic powder and salt showed miscellaneous results. Mixing garlic powder and salt could be a potential practical application as the results partially showed that garlic could contrast the negative effects of the salt.

O110

Dietary effect of dried bay (*Laurus nobilis*) meal on rabbit meat quality

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Laurus nobilis (commonly called laurel or bay leaves) is known in the human field especially as food spice, rich in polar compounds such as phenols, flavonols and flavones having antioxidant and antimicrobial effects. The aim of this study was to evaluate the effect of dietary supplementation with dried bay leaves in growing rabbits on chemical composition and fatty acid profile of meat. The experiment lasted 56 days and was performed on 120 rabbits; at weaning (35 ± 2 days of age), the animals were divided into 4 groups (n. 30 per group) based on different dietary treatments. All rabbits were fed a basal diet. The experimental groups were: a negative control (CON) that received the basal diet without supplementation with dried bay leaves; a positive control group (CF) that received a 2.5% fat-enriched diet (pig fat in addition to the 2.6% of crude fat in basal diet); a supplemented group (SB) that received 1 g/kg feed of dried bay leaves meal; a combine-supplemented group (SBF) that received fat-enriched diet and dried bay leaves in the same doses used in CF and SB group. The dietary supplementation with dried bay leaves (SB and SBF) did not affect the gross (moisture, crude protein, ether extract, ash) composition, the pH value, the content in fat-soluble A and E vitamins and lipid oxidative stability of meat, whereas it reduced ($p < .05$) the cholesterol content in comparison with the positive control (CF). Concerning the fatty acid profile of meat, saturated fatty acids content decreased ($p < .001$) in the bay leaves groups SBF and SB compared to CON and CF groups; monounsaturated fatty acids were improved ($p < .001$) in SBF and SB groups compared to CF group, whereas polyunsaturated fatty acids were markedly higher ($p < .001$) in the experimental SB group compared to CON, CF and SBF groups. In conclusion, the dietary supplementation of dried bay leaves improved the lipid profile, particularly in the contents of cholesterol, and monounsaturated and polyunsaturated fatty acids, without affecting the chemical traits and oxidative markers of rabbit meat.

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O111

Evaluation of *Pectoralis minor* gaping defect in broiler chickens

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In the recent years, the occurrence of a new quality issue affecting the *P. minor* muscle such as separation of fibre bundles in different positions (gaping) has been signalled by a certain number of broiler abattoirs located in different Countries around the World. Thus, after defining the criteria to classify the affected muscles as Moderate (MOD) or Severe (SEV) cases, the incidence of gaping under commercial conditions was assessed on a total of 8.600 broiler chickens belonging from 43 flocks during a six-month period. In addition, 72 *P. minor* muscles (24/group) were selected to evaluate the impact of gaping defect on the main quality traits (pH, colour, drip and cooking losses, and shear force), proximate composition (moisture, protein, lipid, ash and collagen) and thermal properties. The total incidence of *P. minor* displaying gaping defect (16.8%, being 8.8 and 8.0% MOD and SEV affected cases, respectively) evidences that this defect represents an important quality issue as affected muscles are usually downgraded because of their impaired appearance. The analyses of the main quality traits and technological properties evidenced that the occurrence of gaping is associated with significantly higher ($p < .01$) lightness values coupled with remarkably lower ($p < .01$) ultimate pH and impaired water holding capacity of the meat. Indeed, a remarkable increase ($p < .05$) in cooking loss was found as the severity of the gaping defect increased. These quality traits overlap with those previously observed in pork *semimembranosus* muscles affected by destructureation and have strong similarities with the PSE-like condition formerly described in chicken meat. In addition, no significant differences among the groups were found concerning proximate composition and the enthalpy of thermal shrinkage associated to the intramuscular connective tissue thus suggesting that the occurrence of this defect is not associated to an alteration of the histological features of the muscle. In conclusion, the findings of the present study evidenced that nowadays gaping defect can represent an important quality issue which can result in economic losses for the broiler industry in view of the increasing consumer preference toward *P. minor* cut-up (commercially referred to terderloin or tender). This defect likely develops because of the biochemical processes taking place during the *post-mortem* conversion of muscle to meat and its severity might be related to the operations carried out during deboning.

O112

***In ovo* delivery of GOS in slow-growing broiler chickens exposed to heat stress: implications for meat quality traits**

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Beside from commercial broilers, chickens are the extremely rich source of genetic diversity and could have different reaction to microbiome stimulation by *in ovo* delivery of prebiotics. The aim of the study was to evaluate carcass and meat quality traits in slow-growing chickens stimulated *in ovo* with trans-galactooligosaccharides (GOS) and exposed to heat stress. Fertilised eggs from Hubbard JA57 chickens were incubated. On the day 12 of egg incubation, 3000 eggs were divided into: prebiotic group (GOS) injected with a single dose of 3.5 mg GOS/egg, saline group (S) injected with physiological saline and control group (C) un-injected. After hatching, 900 male chicks were reared in floor pens: three groups (GOS, S and C, 6 pens/group, 25 birds/pen) reared in thermoneutral conditions (TN) and three groups (GOS, S and C, 6 pens/group, 25 birds/pen) reared under heat stress conditions (HS). Chronic heat stress (30 °C) was applied from day 36 to 50. At 50 days of age, 15 randomly chosen birds/treatment/temperature were slaughtered and pectoral muscle (PM) was removed for the analyses. Data were analysed by GLM procedure in a 3 × 2 factorial design: treatment and temperature were the main factors. Treatment had no influence on carcass weight. GOS reduced ($p < .05$) PM weight and its yield as compared to C group. As expected, temperature had a strong effect on carcass and PM weight, significantly lower in HS group. Muscle pH was higher ($p < .05$) in GOS group compared to C. Meat from GOS group showed a lower lightness and a higher redness compared to C and S groups. WHC, proximate composition, cholesterol and intramuscular collagen were not affected by treatment. Heat stress increased moisture ($p < .01$) and reduced protein ($p < .05$) content. Cholesterol and collagen contents were not affected by temperature. Neither fatty acid composition (total saturated, monounsaturated and polyunsaturated fatty acids) nor nutritional indices of meat were significantly affected by treatment and temperature. Significant interactions between factors were observed for carcass weight, protein and lipids contents, and for n6/n3 ratio. In conclusion, *in ovo* injection of the GOS prebiotic had no negative effect on physico-chemical and nutritional properties of meat produced by slow-growing broiler chickens reared under intensive conditions, but reduced weight and yield of breast muscle. Heat stress has a negative and marked effect on carcass traits and reduced the protein content.

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