

Comparison of Quality Traits of Breast Meat from Spent Hen and Broiler Chicken

J.A.P.P. Lakshani, D.K.D.D. Jayasena

Department of Animal Science, Uva Wellassa University, Badulla, Sri Lanka

Meat is the edible post-mortem component originating from live animals. It contains high biological value protein, iron, essential fatty acids and vitamins. Broiler chicken is the commercial chicken, which are raised because of fast growing rate and has high valuable market demand and price. Spent hens are the birds which finished the productive first laying cycle. Farms have problems in selling these birds in considerable price and used for different processing. The objective of this study was determined the differences in physical, chemical and sensory properties of breast meat of spent hen and broiler chicken. Carcasses of broiler chicken were purchased from local market in Badulla and spent hen from Seven Hills farm in Maskeliya. Collected and dissected breast fillets were stored under refrigeration condition (-20°C) and excess fat and connective tissues were trimmed off before mincing. The results indicate that broiler breast fillet contained higher moisture content ($p<0.05$) compared to spent hen chicken, but higher protein ($p<0.05$) content was observed in breast fillet of spent hen chicken. Monounsaturated Fatty acids (MUFA) content was higher ($p<0.05$) in broiler chicken compared to the spent hen chicken, while Polyunsaturated Fatty acids (PUFA) content was lower ($p<0.05$) compared to the breast fillet of spent hen chicken. Myristic acid, eicosapentaenoic acid, docosatetraenoic acid and docosahexaenoic acid contents were higher ($p<0.05$) in spent hen chicken compared to the broiler chicken, although palmitoleic acid, vaccenic acid, oleic acid and linolenic acid contents were higher ($p<0.05$) in broiler chicken than spent hen chicken. Omega 6 to omega 3 ratio was higher ($p<0.05$) in broiler chicken. Higher ($p<0.05$) colour value (L^*) and cooking loss value was found in spent hen chicken and breast fillet of broiler chicken contained higher ($p<0.05$) pH value compared to the spent hen chicken. In sensory evaluation there is no significance difference ($p>0.05$) between sensory parameters of breast fillets of two chicken species. In conclusion broiler chicken contained higher pH, moisture, MUFA and good to be consume because of SFA content is low. Spent hen chicken meat also good to be consume because of good source of protein and PUFA content is low.

Keywords: Broiler, Fatty acids profile, Physiochemical properties, Sensory characters, Spent hen