

Physical Attributes and Nutritional Composition of Meat from Dual purpose (Sasso C431 and TR51) Broiler Breeds in Ntabazinduna, Zimbabwe

Nomagugu Ndlovu, Mabel S Ndebele, Tecklah Usai, Ruth Nyoka, Patience Marume

Abstract

The growing animal welfare concerns regarding poultry production have led to the rearing of slow-growing meat type chickens also known as free-range chickens. In Zimbabwe these slow-growing chickens are gaining popularity as an alternative to the commercial broiler chickens owing to their preferred sensory attributes comparatively. Little is known regarding the quality of the meat versus that of the conventional broilers. We evaluated the physical characteristics and nutritional composition of meat from dual purpose slow-growing hybrids, Sasso C431 and TR51 in comparison with the commercial broiler breed Ross 308, under intensive feeding conditions. Birds were fed the standard commercial chicken feed produced by Hamara, a local chicken and chicken feed producing company. Birds were slaughtered on days 42, 56 and 70 of life where carcass and breast yield were measured. The pH, drip loss and cooking losses were determined for all carcasses. Proximate composition (dry matter, ash, protein, fat, carbohydrate) and mineral composition (iron, zinc and phosphorus) were determined for all the meat samples. The fast-growing broiler breed had a higher breast yield; than the slower-growing breeds, Sasso C431 and TR51 breeds ($P < 0.05$). The highest cooking and drip loss were observed in the faster growing breed Ross 308 and the lowest ones for Sasso C431 and TR51 breeds ($P < 0.05$). Shear texture values were higher in the Sasso C431 and TR51 than the Ross 308 breed ($P < 0.05$). The Sasso C431 and TR51 breeds can produce more meat with a lower fat and a higher protein compared to the Ross breeds.

Keywords: Carcass traits, Chicken, Fast growing breeds, Meat quality, Slow growing breeds