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Tenderstretching and ageing time are key parameters for premium beef

I. Legrand¹, J.F. Hocquette², C. Denoyelle³, R. Polkinghorne⁴ and P. Bru⁵

¹Institut de l'Elevage, Service Qualité des Viandes, MRAL, 87000 Limoges, France, ²INRA, UMRH, Theix, 63122 Saint-Genès Champanelle, France, ³Institut de l'Elevage, 149 Rue de Bercy, 75012 Paris, France, ⁴Birkenwood Pty Ltd, 8431 Timor Road, Murrurundi, NSW 2338, Australia, ⁵Beauvallet, CV Plainemaison, 18 rue des abattoirs, 87000 Limoges, France; jean-francois.hocquette@inra.fr

Australia has developed the Meat Standards Australia (MSA) grading scheme to predict eating quality of beef. Through large-scale sensory testing of meat by untrained consumers, MSA has identified animal and carcass factors along the supply chain that impact on consumer palatability. This experiment was designed to study the effects of tenderstretching and ageing time on beef eating quality. Nine Limousin cows from 5 to 14 years of age were slaughtered in a commercial slaughterhouse. Carcass weights ranged from 400 to 455 kg. For each cow, two hanging methods were used during 48 h post-slaughter for the two half carcasses: AT (Achilles tendon) or TS (Tenderstretch from the ligament). For each hanging method, four cuts of high value (striploin, cube roll, eye of rump, topside) were sampled, aged 10 or 20 days and then scored by 240 untrained consumers for tenderness, flavour liking, juiciness and overall liking after grilling using the MSA protocol. The statistical analysis included animal number ($P < 0.05$) and consumer number ($P < 0.001$) as covariates plus fixed effects: side of the carcass (NS), cut, ageing time and hanging method ($P < 0.05$ to $P < 0.001$ depending on the score). Across cuts, TS increased tenderness by 23 and 14% for beef aged 10 or 20 days respectively and overall liking by 18 and 8%. Increasing aged time from 10 to 20 days increased tenderness by 14 and 5% for AT and TS respectively, and overall liking by 13 and 3%. In conclusion, both TS and a longer ageing time induced a better beef palatability, the effect of TS being more important. The effect of TS was also higher at 10 days of ageing than at 20 days, but both effects are partially additive. This experiment allowed the private company Beauvallet to launch a new premium beef brand 'Or Rouge' which is in development in France.



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