

Effect of fat tail docking on meat quality of Awassi sheep in comparison with Lacaune sheep

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1 ABSTRACT

This experiment was conducted to study the effect of fat tail docking on Awassi lamb sheep's meat in comparison with thin-tail Lacaune sheep's meat (imported breed in Lebanon). Twenty seven ram lambs were divided into three groups, intact fat-tail Awassi (IA), docked fat-tail Awassi (DA), and imported thin-tail Lacaune (IL). Docking was performed at one week of age, by applying tight rubber rings on the tail. Animals having the same body weight were slaughtered at one year of age. Three samples of muscles were excised from each carcass; *Biceps Femoris* (*Bf*), *Longissimus Dorsii* (*Ld*) and *Gluteus Medius* (*Gm*). Samples were wrapped in an oxygen permeable film and stored at 4°C and -30°C for the assessment of pH, and meat quality traits. The ultimate pH was significantly higher ($P<0.01$) in Lacaune breed as compared to both docked and intact Awassi breed. DA animals had significantly higher ($P<0.01$) fat content in *Ld* muscle than IA and IL lambs. Both Awassi groups presented higher L* values than Lacaune animals ($P<0.05$). In addition for Awassi breed, L* values of *Bf* and *Gm* muscles were significantly greater ($P<0.05$) than that of *Ld* muscle. b* values were significantly greater ($P<0.05$) in *Gm* of all animals under study. Lacaune group had lower drip loss values than Awassi groups ($P<0.05$ in *Bf* and *Gm* muscles and $P<0.01$ in *Ld* muscle). However for Awassi breed, the drip loss in *Ld* muscle of DA animals was significantly lower ($P<0.01$) than IA ones. Furthermore, thawing and cooking losses were neither affected by breed nor by docking. Regarding the PND values, the *Ld* muscle of DA group presented higher values ($P<0.05$) than *Bf* and *Gm* muscles of both intact groups. In addition, cooked meat PND values were significantly higher ($P<0.05$) in *Ld* muscle of DA when compared to intact groups. Due to the scarcity of information in this area of research, further investigations are needed.