

THE EATING QUALITY OF LAMB IS NOT COMPROMISED WHEN LAMBS ARE BACKGROUNDED OR FINISHED ON LUCERNE

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Lucerne, a perennial pasture, can provide good quality forage for livestock during the traditional Western Australian summer and autumn feed gap. However, little work has been done locally to determine if the meat produced by stock fed lucerne is undesirable due to a meat taint. Previous results have been inconclusive and contradictory. Park *et al.* (1972) demonstrated that meat from lambs raised on lucerne had a significantly lower flavour acceptability due to a more intense 'sharp and sickly' aroma and flavour. However, Hopkins *et al.* (1998) showed an increased acceptability of meat from animals grazed on a lucerne-based diet v. an oat-lupin mix. This study examined if a taint in the meat from animals fed lucerne was detectable.

The study was conducted on a commercial property 50 km north east of Esperance, Western Australia, and split into 2 phases, a backgrounding and a finishing phase. Three hundred South African Meat Merino crossbred lambs of mixed sex were assigned by liveweight to 1 of 2 backgrounding treatments, lucerne or senesced annual pasture plus barley stubble and lupins (pasture). Thirty lambs (15 from each of the backgrounding treatments) were slaughtered at WAMMCO International, Katanning after 108 days. The remaining lambs were then assigned by liveweight to 3 finishing diets, lucerne, a commercial feedlot pellet (pellet) or a loose grain mix plus hay diet (grain). The lambs were slaughtered after being fed for an average of 42 days, and the eye of shortloin was removed from each animal (including the initial 30) for evaluation by a consumer taste panel.

The samples evaluated by the taste panel were prepared from the denuded eye of shortloin. Each sample was cooked on a silex flat top grill set at 210°C for 2 minutes and 15 seconds, and served within 2 minutes to the taste panelists. A total of 73 panelists participated, with each panelist being randomly allocated 1 meat sample per run, completing 8 runs to evaluate the 8 treatments. The panelist's assessed attributes (Table 1) on a continuous 15 cm scale, which was converted to a score out of 10. Data were analysed using a general linear model accounting for differences due to animals, run, panelist, session, steak number and treatment.

Table 1. Consumer panel ratings on a scale of 0 to 10.

Background Finish	Lucerne	Lucerne Lucerne	Lucerne Pellet	Lucerne Grain	Pasture	Pasture Lucerne	Pasture Pellet	Pasture Grain	Scale
Strength of flavour	6.3	6.4	6.6	6.1	5.6	5.9	5.9	6.0	0 = weak, 10 = strong
Liking of flavour	6.5	6.4	6.3	6.3	6.2	6.1	6.9	6.0	0 = dislike, 10 = like
Strength of aroma	5.4	5.9	5.7	5.5	5.9	5.5	5.1	5.5	0 = weak, 10 = strong
Liking of aroma	6.3	6.1	5.8	5.9	6.1	5.9	6.6	6.2	0 = dislike, 10 = like
Tenderness	6.8	6.4	7.0	6.8	7.5	6.0	7.2	6.8	0 = tough, 10 = tender
Juiciness	7.5	6.9	6.9	6.9	7.8	6.4	6.8	6.0	0 = dry, 10 = juicy
Residual fat sensation	4.1	4.9	4.4	4.4	3.9	4.4	4.1	4.1	0 = weak, 10 = strong
Overall acceptability	6.6	6.7	6.6	6.3	7.0	6.6	6.4	6.5	0 = dislike, 10 = like

The consumer taste panels were unable to detect any change in the eating quality of prime lambs backgrounded and/or finished on pure lucerne stands. Thus, these results indicate that lucerne does not cause any meat taint issues, and can be used to background and finish prime lambs.

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