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Chicory for Finishing Lambs

Using chicory as an alternative crop for finishing lambs can be expected to yield higher carcass weights with similar or better carcase grades, and with no detrimental effects on meat sensory eating quality.

Over the last few years there has been a growing body of evidence that lambs grazing chicory have lower levels of internal parasites (worms), and therefore grow faster and thus finish earlier in the season.

Recent studies have demonstrated that these benefits result during both the pre and post weaning period. Driven by the practical benefits and by articles in the press, there has been a considerable increased uptake of chicory by the farming community for finishing lambs.

For example, chicory seed sales in Scotland have increased by 300 per cent relative to 2007. However, little is known about whether finishing lambs on chicory will affect product quality, so a reaserch project was commissioned by the UK Meat Levy Bodies to assess the effect of chicory-finishing lambs on carcass and meat quality.

The grazing part of the project was conducted at SAC Edinburgh, and the meat quality evaluations done at University of Bristol.

Forage details

Chicory or grass/clover swards were compared in two different years for finishing Suffolk and Texel x Mule lambs. In year one a pure stand of chicory was used: in year two a commercial mix of predominantly chicory with plantain was used.

Compared to grass/clover, chicory had a lower dry matter content (11% vs 22%), but its dry matter was significantly higher in crude protein (23% vs 9%), mineral ash (10.6% vs 5.5%), crude fat (4.6% vs 2.7%), but was lower in fibre. Digestibility was similar at 81%, resulting in higher ME content for chicory compared to grass/clover (12.6 vs 12.0 MJ ME). The concentration of most macro-minerals and trace elements ws more than twice as high in chicory as in grass/clover.

Grazing

Lambs were set stocked in year one at 25 per hectare (10 per acre), and in year two stocking rate was varied between 7.5 and 30 lambs per hectare (3 and 12 per acre) with short periods at 60 lambs per hectare (24 per acre) to control bolting in the chicory swards. Forage heights ranged from 10 to 25 cm for grass/clover and 10 to 35 cm for chicory.

Slaughtering

In year one, adverse weather meant that lambs were slaughtered earlier than planned. Chicory lambs reached 39kg slaughter liveweight at 25 weeeks, and grass/clover lambs 36kg liveweight at 26 weeks. In year two lambs were slaughtered at an average age of 27.5 weeks with chicory lambs weighing 47kg and grass/clover lambs at 45kg. Slaughtering took place in Scotland where carcass quality was assessed, and then the loins were matured and frozen and set to Bristol for meat quality sensory assessment.

Carcase quality

In both years, chicory lambs had consistently higher kiling-out percentages compared to grass/clover lambs. In year one there was no difference in carcase grade, with the average being O2. In year two the average carcass grade of chicory lambs was U3L, with grass/clover lambs averaging R3L.

Meat quality

Cooked loin samples were assessed by a trained taste panel. In year one, chicory lambs had increased juiciness and less grassy flavour, but only in the ewe lambs. In year two, chicory lambs had higher lamb flavour, and ewe lambs had higher lamb flavour, and ewe lambs scored again as less grassy, but also tended to score less fatty/greasy compated to their grass/clover counterparts.

Faecal egg counts

None of the meat quality sensory evaluations were correlated with final faecal egg counts, suggesting that any effect of chicory on meat quality was unlikely to be mediated through the effect of chicory on parasitism.

Conclusion

Using chicory as an alternative crop for finishing lambs can be expected to yield higher carcass weights with similar or better carcase grades, and with no detrimental effects on meat sensory eating quality.

Dr Mike Tempest, Technical Director, LMC. Courtesy of 'Sheep Farmer' magazine, Shepherd Publishing Ltd

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