Early finishing of males from the beef suckler herd

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Summary

- High concentrate diets result in high growth rates and younger slaughter ages.
- Late-maturing breeds are more efficient on high concentrate diets.
- Steers and bulls can be produced off pasture at 19/20 months old, but concentrate supplementation may be needed to achieve an acceptable level of carcass fatness in late-maturing breeds

Introduction

The majority of progeny from the suckler herd are spring-born, late-maturing breed types. Steer beef systems, typically slaughtering at over 24 months of age, predominate – until recent years they accounted for ~95% of suckler male output. The relatively poor margins in winter finishing have led producers to explore different finishing options. Bull beef systems have expanded over the past decade and now account for ~25% of male slaughtering. When compared with steers reared similarly, bulls have better feed conversion efficiency, higher live weight and carcass gains, higher lean meat yield, better conformation and, when fed high concentrate diets, may be slaughtered at a younger age. Until autumn 2013, bull beef was sold at prices broadly equivalent to steer beef. However, the orderly marketing of older (over 16 months of age) and heavier (over 400 kg) bull carcasses was seriously disrupted in 2013 and the market for finished bulls changed to the extent that a clear outlet needs to be established before a producer enters a bull beef system of production. On-going research shows that the best margins for suckler beef are associated with 18-19 month bull systems incorporating grazed spring pasture (for ~3-months) before finishing on a high concentrate diet. However, producing bulls outside the current market specifications should only be considered after discussions with the factory outlet. More recent information on reducing the age of slaughter of suckler bulls, and steers, is summarised below. Bull beef production should be seen as a specialised enterprise requiring a high level of technical expertise.

Indoor finishing of suckler bulls

A system of bull beef production was developed at Grange many years ago in which suckler weanling bulls were fed a diet of *ad libitum* good quality grass silage plus, on average, 5 kg concentrate/head daily from winter housing until they were 15-16 months of age. The system produced a carcass of ~370 kg and showed positive profit margins. Performance of spring-born, early- and late-maturing suckler bulls, offered *ad-libitum* concentrates (from January) until they achieved carcass weights of 260, 300, 340 and 380 kg, was recently compared. At the lowest carcass weight, early-maturing bulls were fatter (~3- v 2+), but at carcass weights over 300 kg all carcasses had acceptable fat covers, with early-maturing breed bulls being fatter. Feed conversion efficiency was best for the late-maturing breed bulls. Estimated carcass gain was 0.8-0.9 and 0.6-0.7 kg/day for late- and early-maturing bulls, respectively. Overall, to achieve the same carcass weight, the early-maturing breeds needed to be ~25 kg heavier at slaughter, had a ~2.5% lower kill-out, were ~1.0 con-

formation score poorer and ~1.5 fat classes higher (15 point scales) and were older at slaughter. Previous studies at Grange, taking suckler-bred bulls to carcass weights over 420 kg, showed the rate of carcass gain remained high for late-maturing breeds but decreased for early-maturing breeds. These high concentrate systems offer the opportunity of finishing at a younger age. Margins can, nevertheless, be low and are highly influenced by the price of concentrate, carcass value and rate of daily gain achieved.

Finishing suckler-bred male cattle at 19 to 20-months of age

A study was recently undertaken at Grange where spring-born, late-maturing, weaned, suckler breed males (~345 kg, 9.5 months old) were reared as bulls or steers. After a common first indoor winter (store period – average daily liveweight gain ~0.7 kg/day) steers were either: 1) grazed for 175 days, 2) offered 5 kg concentrate/head daily for the last 75 days at pasture, 3) housed and offered *ad libitum* concentrates for the final 75 days, or 4) remained indoors on *ad libitum* concentrates for 175 days. Treatments 3) and 4) were repeated for the bulls. At the end of the 175 days all animals were slaughtered (19/20 months of age). Steers offered pasture only for the 175 days achieved a carcass weight of 300 kg and a fat score of 2=. When supplemented at pasture for the final 75 days, steer carcass weights and fat scores increased to 338 kg and 2+/3-, respectively. When housed and offered *ad libitum* concentrates for the final 75 days, steers reached a carcass weight and fat score of 363 kg and 3=/3+, while bulls on the same treatment achieved 406 kg carcass and a fat score of 2+/3-. Feeding *ad libitum* concentrates throughout resulted in carcass weights of 382 and 420 kg for steers and bulls, respectively, and fat scores of 3=/3+ and 3=. With steers, the additional carcass response to pasture supplementation exceeded the cost of concentrate feeding, and it also improved kill-out proportion and both fat and conformation scores. For steers offered *ad libitum* concentrates indoors for the final 75 days, the value of the additional carcass gain was matched by the cost of additional concentrate fed. Finishing the animals as bulls enhanced carcass weight by approximately 40 kg and improved the financial margins in the system.

Conclusions

Late-maturing suckler-bred steers and bulls can be produced off pasture at 19/20 months old, but concentrate supplementation may be needed to achieve an acceptable fat cover. Compared to steers, bulls at this age had superior performance.