

Finishing options for early-maturing dairy-beef steers

Spring born, early-maturing (Angus and Hereford) dairy-beef steers are particularly suited to finishing toward the end of the second grazing season under 22-months or after an indoor finishing period under 24-months of age. The choice of system can be influenced by animal genetics, farm infrastructure and customer requirements. Late spring born calves or those of lower beef genetic potential, are typically not advanced enough, both in terms of live weight and body condition to allow slaughter by the end of the second grazing season and require finishing indoors by 24 months of age. Compared to dairy-beef heifers, steers have a greater ability to produce an 'inspec' carcass due to their higher carcass weight potential, however, such steers will require higher concentrate and silage inputs, and greater availability of housing facilities.

Under 22-months

- Finished from late-September to late-October (no second winter indoors)
- Supplemented for 60-90 days at pasture (4 kg concentrate/day)
- Target finished live weight of 560-600 kg
- 280-300 kg carcass, conformation of $\geq O=$ and fat score of 3- to 3+
- Lifetime ADG 0.8-0.9 kg
- Lifetime concentrate input 750 kg
- Traditionally low beef price months
- Higher animal numbers finished (reduced silage requirement)
- Early born calves of high Commercial Beef Value (CBV)
- Makes efficient use of housing facilities
- Useful where winter forage supply or quality is limited

Under 24-months

- Finishing by November to February during a second winter indoors
- Supplemented for 60-80 days indoor finishing (5 kg concentrate/day)
- Target finished live weight of 580-620 kg

- 300-320 kg carcass, conformation of $\geq O=$ and fat score of 3- to 3+
- Lifetime ADG 0.8 kg
- Lifetime concentrate input 650 kg
- High beef price months (January/February)
- Higher individual animal performance, but fewer cattle finished (increased silage requirement)
- Suited to later born less advanced animals
- Requires good housing facilities

Finishing management

Finishing diets should consist of high quality pasture or grass silage (>75% DMD) ad-libitum, and up to 5 kg of concentrate daily. As finishing periods increase in duration, the conversion of feed into carcass reduces, to a point where feed costs exceed carcass gain. It is essential that live weight gain and the level of fatness of finishing cattle are monitored regularly, allowing timely drafting.



Recent Teagasc Grange early-maturing steer system research

An experiment was carried out in Teagasc Grange to examine the feasibility of finishing early-maturing steers outdoors by the end of the second grazing season, by supplementing steers with 4 kg/day of a barley based concentrate from July until slaughter (outdoors), while an identical group of steers were not supplemented and were housed at the end of the grazing season and finished conventionally indoors on a silage and concentrate diet (5 kg concentrate, indoors). Finished steers were drafted based on meeting a body condition score of 3.75 (5-point scale), deemed to be equivalent of a carcass fat score of 3+/4-.

The Angus steers that were supplemented with concentrate during the second half of the grazing season reduced finishing age by 1.5 months, which meant that an expensive indoor finishing period was avoided compared to their non-supplemented counterparts.

Outdoor finishing reduces margin due to higher concentrate inputs and lighter carcasses produced during peak beef supply months. However, outdoor finishing is a profitable option for farms with high CBV cattle and limited housing facilities. High CBV animals outdoors produced a 310 kg carcass and were better suited than low CBV animals, of lower carcass weight potential. Cattle must be at an advanced live weight to commence supplementation at pasture (>480 kg) to ensure carcass weight is optimised (>300 kg) by the time targeted fatness is reached.

Table 1. Performance of dairy-beef steers finish outdoors and indoors		
Finishing strategy	Outdoors	Indoors
Physical performance		
Age (months)	19.6	21.0
No. cattle finished	143	127
Physical stocking rate (LU/ha)	2.7	2.5
Concentrates per head (kg)	864	694
Carcass weight (kg)	296	307
Carcass output (kg/ha)	1057	974
Financial performance		
Costs per kg carcass (€/kg)	3.55	3.51
Profit per kg carcass (€/kg)	1.12	1.27
Net margin (€/ha)	1190	1232
Net margin (€/per head)	334	390
Base price of €4.85/kg. Finishing concentrate price €375/t. Protected urea price €550/t. *Net margin excludes land & labour charge and assumes a calf purchase price of €200 per head for bull calves.		

Steer management guidelines

- To achieve a lifetime daily gain of 0.8 kg the calf rearing stage is critically important to ensure an adequately developed rumen capable of utilising grazed forage post turn-out.
- Castration should take place by 5-6 months of age, well in advance of housing for the first winter, to minimise stress and possible setbacks in performance.
- Weanling steers should be on average 230 kg at housing in the autumn. This requires excellent grassland management and a well implemented parasite control programme. Supplementation should cease 2 weeks post-turnout as calves, recommencing in September (1-1.5 kg/hd/day) to account for declining grazed pasture quality.
- Over the first winter a moderate growth rate of 0.6-0.7 kg/day is targeted from a diet of high quality grass silage (>72 DMD) and 1-2 kg of concentrate/day.
- Yearling steers turned-out in early spring should gain 200 kg over a 220 day grazing season.
- Forward planning and assigning of animals to tailored finishing strategies is important:
 - ▶ January/February born steers of high CBV and that are at an advanced live weight of >480 kg are best suited for finishing at pasture, to ensure an 'inspec' carcass is produced.
 - ▶ March/April born steers are best suited to indoor finishing at older ages to enhance skeletal development and the opportunity for a higher carcass weight.

More information on the Teagasc DairyBeef 500 Programme can be found at Teagasc.ie

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