Agriculture and Food Development Authority

DairyBeef 500 Factsheet

DAIRYBEEF 500

Sustainable Dairy Beef Production

Finishing Holstein Friesian dairy-beef steers

Spring born Holstein Friesian male calves are the most predominant breed available for dairy-beef production in Ireland with ~350,000 calves available annually. These male calves are best suited to beef finishing systems with targeted finishing ages of under 24 and 28-months, meaning animals require a second winter on farm. The provision of a second winter period and older slaughter ages means that Holstein Friesian steers systems carry fewer animals and can have reduced carcass output/ha than beef x dairy steer and heifer systems. Farms who enter into Holstein Friesian finishing systems generally have very good grassland management and grazing infrastructure and have ample housing facilities for first and second winter periods indoors. Despite the lower purchase price of Holstein Friesian male calves compared to beef sired calves, they have a higher production cost, due to increased inputs and have lower carcass value due to poor carcass conformation. Producers need to carefully budget for this system and market cattle at finishing based on their reduced ability to meet market specification, primarily due to poor carcass conformation potential.

24-month steer system

- Animals are housed in October after the second season at pasture.
- Weighing 530 kg at the start of finishing
- Steers are fed a diet of silage ad-lib plus 5 kg/day of concentrate, depending on silage quality.
- High silage quality (72 % DMD +) is an essential cost saving measure.
- The finishing period is approximately 100-120 days and the target live weight at slaughter is 620 kg.
- Expected carcass weight of 310-320 kg at 24 months, with an expected carcass conformation grade of O-/P+ and a fat score of 3-/3=.
- Lifetime concentrate input for this system is 1t.
- Grazed grass, silage and concentrates account for 52%, 26% and 22%, respectively, of the animals' overall diet.

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-turnout.
- 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, recommencing in September (1-1.5 kg/hd/day) to account for declining grazed pasture quality.
- Over the 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 should be turned-out in early spring and should gain 200 kg over a 220 day grazing season.
- Highly digestible, leafy grass should be offered to steers to ensure adequate growth rates (0.9 kg/day) over the second grazing season.

Recent Teagasc Grange Holstein Friesian steer system research

An experiment was carried out at Teagasc Grange to examine the feasibility of finishing high Economic Breeding Index (EBI) Holstein Friesian steers, following a conventional rearing strategy, followed by a finishing period on a diet of high quality grass silage and 5 kg/day of a barley based concentrate during a second winter 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-.

Table 1. Farm system performance of 24-month Holstein Friesian steers

Physical performance	
Age (months)	23.6
No. cattle finished (40 ha farm)	111
Physical stocking rate (LU/ha)	2.7
Concentrates per head (kg)	1031
Carcass weight (kg)	312
Carcass output (kg/ha)	865
Financial performance	
Costs per kg carcass (€/kg)	3.90
Profit per kg carcass (€/kg)	0.86
Net margin (€/ha)	747
Net margin (€/per head)	269

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 €60 per head for bull calves.*

Steers in this system achieved a carcass weight of 312 kg, conformation of P+/O-, and a fat score of 3+, with an average slaughter age of 23.6 months. Poor carcass conformation limits beef price received using the quality payment system. In this study only 23% of finished carcasses produced met overall market specification, with this primarily due to poor carcass conformation. In this study Holstein Friesian steers required a 120-130 day finishing period to achieve a fat score of 3+, with limited opportunity for earlier slaughter compared to early-maturing beef sired animals. Holstein-Friesian steers systems do offer advantages, including lower initial purchase price, earlier birth date, and a generally uniform carcass performance allowing producers to forecast returns with greater certainty. However, this system has a greater conserved silage requirement due to older slaughter ages, with additional housing requirements also present. This increase in slaughter age limits the total number of animals that can be finished, reducing carcass output/ha, and ultimately limiting profit.

28-month steer system (third grazing season finishing)

- Poor performing steers should be earmarked for finishing during a third grazing season prior to housing for their second winter.
- Steers are offered high-quality grass (72% DMD) silage ad-lib for the second winter, targeting an average daily gain of 0.5-0.6 kg.
- Where silage quality drops below this level, a degree of meal supplementation may be required.
- Steers are turned out to pasture in February/March for a third grazing season, during which time an ADG of 1.2 kg is targeted.
- Slaughtering occurs in May/June – typically a high beef price point in the year.
- A carcass weight of 350 kg is targeted.
- Lifetime concentrate input for animals produced under this system is 500 kg
- Grazed grass, silage and concentrates account for 65%, 26% and 9%, respectively, of the animals' overall diet.

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

A Teagasc Joint Programme supported by:

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