

## Teagasc Grange – beef

## Production of beef from an all-grass forage diet

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Teagasc Grange

**P**asture-only production systems allow beef to be marketed as 'grass-fed', providing further high-value market opportunities for Irish beef.

In the context of the 'feed-food debate', such forage-only diets can further enhance the sustainability of beef production. This is because only feedstuffs that are not directly edible by humans are consumed by the livestock (i.e. grazed pasture and grass silage) and these are converted into high-quality human food.

In Irish suckler calf-to-beef systems, where animals spend up to eight months annually at pasture, grazed pasture and grass silage accounts for around 90% of feed consumed.

Removing relatively expensive concentrates from the diet of beef cattle will require animal performance from pasture, both grazed and conserved, to be increased.

The success of such systems depends on excellent grassland man-



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agement, where individual animal growth rates are maximised, and on the ability to produce high-quality silage for the winter where optimum indoor performance for both growing and finishing animals is required.

Grass forage-only beef production systems pose a number of challenges at farm level. These include achieving liveweight targets at critical points in the animal's lifetime, as well as at-

taining a minimum carcass fat cover (2+, 6 on a scale of 1-15) especially at younger slaughter ages, which can be more difficult to achieve without strategic concentrate supplementation.

Failing to achieve key growth targets leads to older animals at slaughter, which can be a source of inefficiency.

To address these factors, a study was carried out at Teagasc Grange to compare the performance of early-maturing (Angus/Hereford) or late-maturing (Limousin/Charolais) sired suckler weanling steers, slaughtered at one of three ages – 20, 24, 28 months.

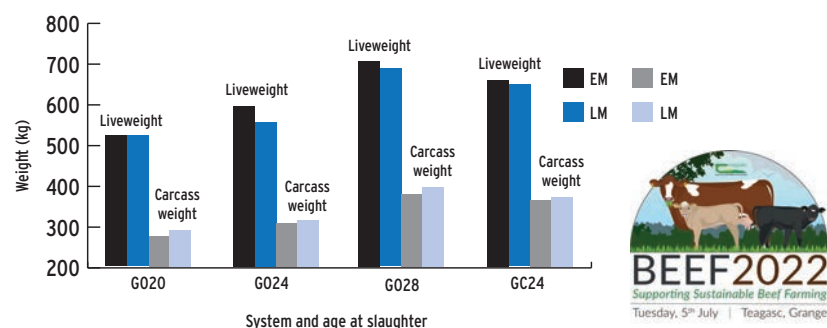
The slaughter ages reflect, respectively, animals slaughtered at the end of their second grazing season, at the end of their second indoor winter or after a short duration at pasture during their third grazing season.

Animals were offered a grass-forage-only (GO) diet (i.e. no concentrate supplementation during the grazing season or indoor winter period). The alternative was grazed grass only during the grazing season, but grass silage and concentrate supplementation during the winter, and slaughtered at 24 months (GC24) old.

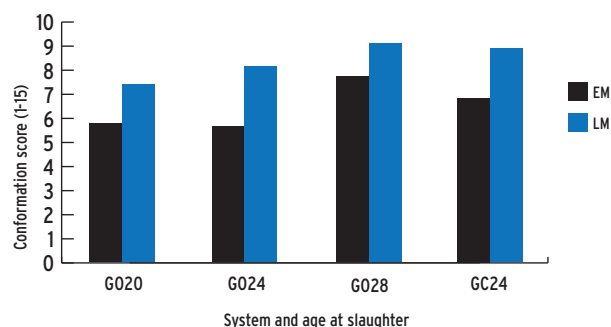
Key findings from an initial study showed that early-maturing steers tended to be heavier at slaughter, but late-maturing steers had a heavier carcass (reflecting their higher kill-out proportion), with superior conformation and a lower fat score.

When slaughtered directly off pasture at 20-months of age, only the early-maturing steers had an acceptable carcass fat score, whereas all breed types had acceptable carcass fatness when slaughtered at older ages.

**Figure 1:** Effect of breed maturity (early (EM) or late (LM)) on live and carcass weight.



**Figure 2:** Effect of breed maturity on carcass conformation score.



**Figure 3:** Effect of breed maturity on carcass fat score.

