Dairy Beef Herbage Allowance Trial

Johnstown Castle 2015-2019

Objective:

To evaluate the performance of dairy beef crossbred animals allocated three herbage allowances (3.3, 3.65 and 4.0 animals/ha for 2015, 2.8, 3.2 and 3.4 LU/ha for 2016).

To establish the optimum herbage allowance that aims to increase the carcass output while also investigating the environmental impacts of reducing the herbage allocation.

Sub-objectives:

a) Carry out an economic appraisal of the production systems across various herbage allowances
b) Consider the influence of herbage allowance on meat eating quality
c) Investigate the environmental impact of reduced herbage allowance on beef farms
d) Determine the influence of strain of sire

Tasks:

- Compare performance of animals on different stocking densities.
- Evaluate economic performance.
- Evaluate genetic performance.
- Determine the effect of dairy beef systems on colour, chemical composition and sensory characteristic of beef muscle.
- Optimise soil fertility and evaluate environmental sustainability of increased herbage allowance for dairy beef production systems.

Trial Design:

- Full farm systems study consisting of three herbage allowances.
- 216 animals used each year; 72 animals per treatment.
- Three sire breeds; Angus, Hereford and Limousin
  - Min. reliability of 50% for calving difficulty
  - PTA for calving difficulty of 4% or less
  - Short gestation
- 2015- Heifers slaughtered off pasture at 19 and 21 months. Half steers slaughtered at 21 months, remaining slaughtered at 27 months.
- 2016- Animals will be slaughtered to a fatness level (fat score of 3= minimum), determined by Body Condition Scoring every three weeks from 19 months of age onwards.

Grassland Management:

- Animals will be rotationally grazed on a paddock system.
- To avoid confounding of live weight gains, each grazing group will be allocated herbage of similar pre-grazing height and mass.
- Post-grazing sward surface heights will reflect the differences in herbage allowance; animals with the lower herbage allowance will graze to a lower post-grazing residual.
- Surplus herbage will be removed as baled silage.
- Grassland measurements (herbage mass determination, chemical analysis, pre and post-grazing heights and herbage utilisation) and grass budgeting will be carried out to aid management decisions.