

A comparison of the performance of suckler-bred bulls and steers in grazed and indoor systems

In 2014, the GB prime cattle slaughter population consisted of 57% steers, 33% heifers and 11% young bulls. Over the past ten years, there has been an increase in the proportion of steers being slaughtered, while the proportion of young bulls being finished has declined.

Traditionally, young bulls are often produced indoors and fed on an intensive concentrate diet. Steers on the other hand tend to be finished on more extensive rations after one or more grazing seasons.

A study carried out in Ireland aimed to compare the performance of bulls and steers in two different finishing systems, with the aim of avoiding a second winter finishing period. Spring-born continental-cross bull and steer suckler calves were used in the experiment.

During the first winter period all of the calves were fed *ad libitum* (*ad lib.*) grass silage and 3kg concentrate daily. After this half of the bull calves and half of the steer calves were kept indoors and fed *ad lib.*

concentrates, whereas the other half were turned out to pasture for 98 days and then brought indoors and introduced to the *ad lib.* concentrate diet plus grass silage.

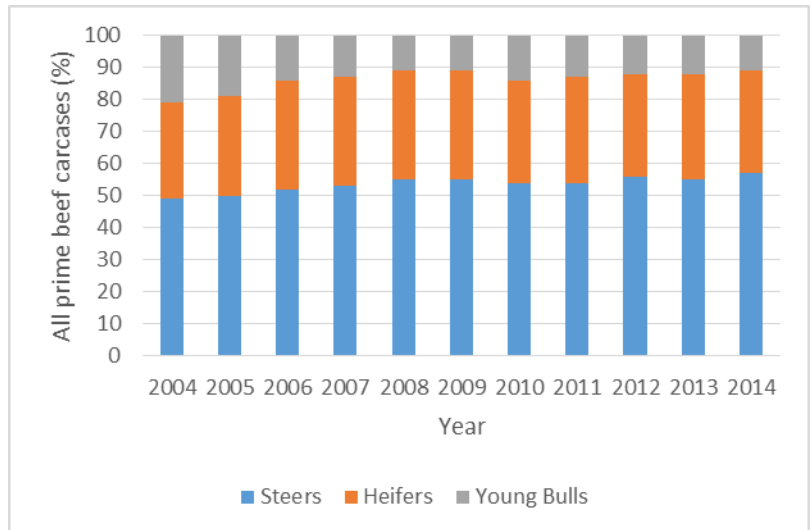


Figure 1: Steers, heifers and bulls as a percentage of all prime beef carcasses classified in GB

| Gender | Bull | | Steer | | Significant | |
|------------------------------------|--------|---------|--------|---------|-------------|--------|
| | Grazed | Indoors | Grazed | Indoors | Gender | System |
| Post-turnout weight (kg) | 438 | 464 | 433 | 468 | | ✓ |
| Liveweight gain growing (kg/day) | 1.5 | 1.8 | 1.3 | 1.6 | ✓ | ✓ |
| Liveweight gain finishing (kg/day) | 1.8 | 1.3 | 1.5 | 0.9 | ✓ | ✓ |
| Slaughter weight (kg) | 711 | 728 | 651 | 683 | ✓ | |
| Kill-out proportion (%) | 57.1 | 57.5 | 55.9 | 56.0 | ✓ | |
| Carcase weight (kg) | 406 | 419 | 364 | 382 | ✓ | |
| Fat score (1-5) | 6.7 | 7.9 | 7.6 | 8.6 | ✓ | ✓ |
| Conformation score (1-15) | 9.9 | 10.2 | 8.9 | 9.1 | ✓ | |

Table 1: The effect of gender and diet on the performance of suckler bulls and steers

The results showed that the bulls performed better than steers for all traits measured including liveweight gain, slaughter weight, kill out proportion, carcass weight and conformation score with the exception of fatness at slaughter, where steers were fatter. When grazed, the bulls grew at 0.2kg per day faster than steers and when housed they maintained this liveweight advantage.

The system also had an effect on performance, with cattle fed indoors on the high concentrate diet increasing the liveweight gain of both the bulls and steers. The animals were also significantly fatter at slaughter when produced on the indoor system.

Review work by Teagasc in Ireland has compared bulls and steers of similar breed, reared under similar management on the same diet and slaughtered at the same age and found that for the bulls:

- Liveweight gain was 8.4% faster
- Carcass weight was 9.5 % heavier
- Lean meat yield was 20% greater

Other work has found similar results, although the magnitude of the difference between studies varies. Differences in favour of bulls is generally more pronounced at higher feeding/feed energy levels and with increasing slaughter weight.

Despite the advantage that bulls have over steers, in commercial practice the effects of gender are often confounded by the effects of the system. Steers and bulls are often produced in contrasting systems, including different ration composition and different ages and weights at slaughter. In practice, the choice of bulls versus steers will often depend on which cattle type makes best use of the resources on the farm and fits the target market specification.