An EBLEX funded study has shown the financial impact that Hereford bulls with high EBVs for 400 Day Weight can have on herd performance.

The results demonstrated that commercial beef producers could make significant financial gains by using sires with superior EBVs for growth, but they need to look carefully at their systems if they are to exploit these superior genetics in the most profitable manner.

**Approach**

A subset of Hereford and Hereford cross steer slaughter records were extracted from the Dovecote Park dataset. Farms marketing large numbers of steers, using a range of bulls with high accuracy values for 400 Day Weight EBVs and significant progeny numbers per sire were analysed to evaluate “within herd” differences.

A subset of progeny within these herds were evaluated excluding:

- Progeny by sires with low numbers of progeny (typically less than 15)
- Progeny by unrecorded sires
- Progeny by sires with low accuracy values (typically less than 50)

Three parameters of performance were analysed:

- Progeny carcase weight (kg)
- Number of days for progeny to reach slaughter (days)
- Progeny carcase gain (kg/day). This was a division of carcase weight by the number of days to slaughter and is obviously a function of the first two parameters.

The relationship between progeny performance and sire EBV was evaluated in terms of the correlation between the attributes. This relationship was converted into a relative financial figure, using standard values for carcase weight and finishing costs.

**Limitations**

It is acknowledged that this an analysis of real farm data, not information extracted from a carefully controlled trial.

Challenges that arise within this specific dataset include:

- A lack of knowledge about the breed of dam, particularly where some progeny are out of dairy cows and others are out of beef animals.
- The possibility that certain sires are being preferentially mated.
- The likelihood that finishers are purchasing grown calves from a variety of different sources.
• Interactions between the pattern of sire use and year/season/farm management regime (particularly diet).

Whilst these are recognised, it is thought that the sheer volume of data available and the number of herds reviewed should avoid the introduction of bias that could cloud these findings.

Results

Across the dataset it was clear that sires with improved genetics were capable of producing progeny that could be taken to higher carcase weights and be finished more quickly. These attributes have a financial value and it was shown that a 10kg increase in the 400 Day Weight EBV of a Hereford sire could typically be worth between £15 and £49 per calf depending on the finishing system.

Conclusions

The physical differences in progeny performance and predicted financial benefits associated with the use of Hereford bulls with different 400-Day Weight EBVs were striking.

• Clear relationships exist between a bulls 400 Day Weight EBV and the average carcase weight, days to slaughter and carcase gain of their progeny
• Differences in progeny performance are not small and have a highly significant financial value to commercial producers
• The value to a producer using a Hereford sire with a 400 Day Weight EBV 10kg higher than current levels is averaging £35/calf.

Producers are clearly exploiting sires with high EBVs for 400 Day Weight in different ways. Some farms are increasing carcase weights while others are reducing the number of days to slaughter. Individual farm economics will determine which of these approaches is the most appropriate, bearing in mind the end market, target marketing period and daily finishing costs.