Can beef genetics play a role in your dairy herd?

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Summary

- Dairy beef carcass conformation is decreasing on the quality pricing system (QPS) grid.
- Beef calves sired by high genetic merit beef bulls could increase profit as much as €17,800 to a 100 head dairy beef production system.
- Dairy farmers have the potential to increase the marketability of their beef calves through selection of higher genetic merit beef bulls using the Dairy Beef Index (DBI).

Introduction

Dairy farmers are selecting beef sires for their herds predominantly on calving ease and gestation length. Research by ICBF and Teagasc indicates that this bull selection policy is causing a decline in the quality of the beef cross animals coming from the dairy herd for important economic traits for beef farmers.

The Teagasc/ABP dairy beef programme

The Teagasc/ABP programme, in collaboration with the ICBF dairy beef Gene Ireland programme, has three primary objectives: 1) to identify the most suitable beef bull genetics for crossing on dairy herds; 2) to genetically improve the main breeds supplying beef bulls to the dairy herd; and 3) quantify the carbon efficiency variation between sires. 650 calves are purchased from farms at 2–4 weeks of age. Calves are reared by ABP Blade, and at 15 weeks of age 400 calves are moved onto the ABP trial farm in Carlow until slaughter, and 250 calves are reared and finished at Teagasc, Johnstown Castle. Animal performance is measured throughout the production cycle and meat quality evaluations are conducted in collaboration with Meat Technology Ireland. Over 3,250 calves have been purchased as part of the programme, and 1,700 have been slaughtered at ABP Cahir and Slaney Foods.

Results of the Teagasc/ABP dairy beef programme

The results show large variations in progeny performance between individual sires for key economic carcass traits across the Angus, Hereford, Limousin and Shorthorn breeds.

How much is the right sire worth to a beef farmer?

Based on the results from Table 1, if a beef farmer purchased Angus calves sired by AI bull AA2309 rather than ZLT, there will be an increase in carcass weight per animal of 38 kg. The carcass conformation was better for ZLT progeny and fat score was similar for progeny from both sires. Progeny from AA2309 would leave an increased carcass value of €112/head, or €11,200 in a 100 head dairy beef herd. Based on the ICBF Terminal Index, AA2309 is a 5-star bull for the carcass weight sub-index, whereas ZLT is a 1-star bull. Progeny from AA2309 were slaughtered 22 days younger than ZLT progeny at a heavier carcass weight. Based on a cost of €3/day, progeny from AA2309 would have a reduction in on-farm costs of €66. Therefore, progeny from AA2309 could increase farm profit by €178/animal or €17,800 in a 100 head dairy beef herd.

Table 1. The effect of Angus and Hereford sire on carcass weight (Cwt), carcass conformation (Conf), carcass fat (Fat), kill-out% and carcass value

Sire	Breed	Cwt (kg)	Conf (1–15)	Fat (1–15)	Value (€)*	Age (days)
ZLT	AA	279	7.18 (R-)	7.58 (3+)	1,090	647
ZTP	AA	281	5.74 (O+)	8.12 (4-)	1,074	644
KYA	AA	294	5.64 (O+)	7.56 (3+)	1,133	639
TKR	AA	304	6.28 (O+)	7.74 (4-)	1,188	634
AA2309	AA	317	6.37 (O+)	8.42 (4-)	1,202	625
FPI	AA	323	5.70 (O+)	7.33 (3+)	1,247	651
CRP	HE	289	5.44 (O=)	8.29 (4-)	1,100	640
HE2463	HE	294	5.02 (O=)	8.70 (4=)	1,084	634
HWP	HE	309	4.76 (O=)	7.77 (4-)	1,155	633
GPZ	HE	310	6.36 (O+)	7.75 (4-)	1,210	638
HE2147	HE	327	5.93 (O+)	7.78 (4-)	1,267	638

**Carcass value is based on a €3.70/kg base price on the QPS grid, €0.12/kg quality assurance payment and €0.20/kg breed bonus payment*

Why should the genetic merit of a beef calf matter to a dairy farmer?

There are many advantages for a dairy farmer that selects higher genetic merit beef bulls for carcass traits while also focusing on calving ease and gestation length by using the DBI.

- Based on the results above, it's clear a beef farmer can make a higher margin from calves bred from higher genetic merit beef bulls. Therefore, calves from higher genetic merit bulls should be a more marketable product.
- If dairy farmers selected higher genetic merit bulls for use on their dairy herd, it could aid the development of collaboration agreements with beef farmers to purchase all of their beef calves. An important initial step in the agreement would be identification of the most suitable beef bulls for use on your herd using the DBI. In addition, a health plan should be developed, and the price and age at sale agreed before the busy calving season starts.

Conclusions

As a dairy farmer, there is scope to increase the marketability and value of your beef calf crop by using beef bulls with higher genetic merit for beef traits. Due to labour and calf housing constraints on dairy farms, collaboration between dairy and beef farmers has the potential to provide advantages for both.