SusCatt - Increasing productivity, resource efficiency and product quality to increase the economic competitiveness of forage and grazing based cattle production systems

Profitability of dairy and beef × dairy bulls in forage-based beef production

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About

Can dairy bred bulls be economically sustainable? We compared the economics of pure-bred and beef-cross bulls under two forage systems, in three Swedish regions covering a range of conditions for forage and grain production.

Objective

The income from beef production is a combination of slaughter income, other payments and supports. This study investigated if cross-bred bulls offer greater profitability compared to pure-bred dairy calves under two forage-based systems, accessing higher or lower payments and supports.

What did we do?

The study was based on a trial reported in SusCatt Technical Note 2.2.1. Bulls of two breed combinations (dairy vs. beef x dairy) were compared in two forage feeding systems. The dairy breeds were Swedish Red and Swedish Holstein and beef breed used was Angus. The systems included moderately high indoor feed intensity reaching slaughter conditions at 15 months of age, and the other system involved lower indoor feed intensity and slaughter at 18 months of age. An enterprise budgeting technique used performance from the original all-in-all-out trials to assess profitability of continuous rearing, assuming calves were born throughout the year. Profitability was assessed for three different geographical Swedish regions;

1. plain district (PD) of southern Sweden, no less-favoured area (LFA) support, with facilities for chopped silage and home-grown grain.
2. forest district (FD) of southern Sweden, situated in an LFA, with round-bale silage making, and purchased grain.
3. northern Sweden (ND), within LFA, with facilities for chopped silage and home-grown grain.

The bulls in the experimental facilities at SLU Götala Beef and Lamb Research Centre, Skara. Photo: Elisabet Nadeau

In addition to basic calculations, sensitivity analyses were conducted to allow i) using existing building without a profitable alternative use and ii) if payments and supports were 20% lower than present.

Higher income from older bulls

The enterprise budgeting calculations (in the figure) showed that breed choice influenced incomes more than the production system, where beef crosses gave a better profitability. Older, heavier bulls gave higher revenue compared to faster finished, younger and lighter bulls. In comparison to steers, bulls have a higher income from carcasses but lower payments and supports.

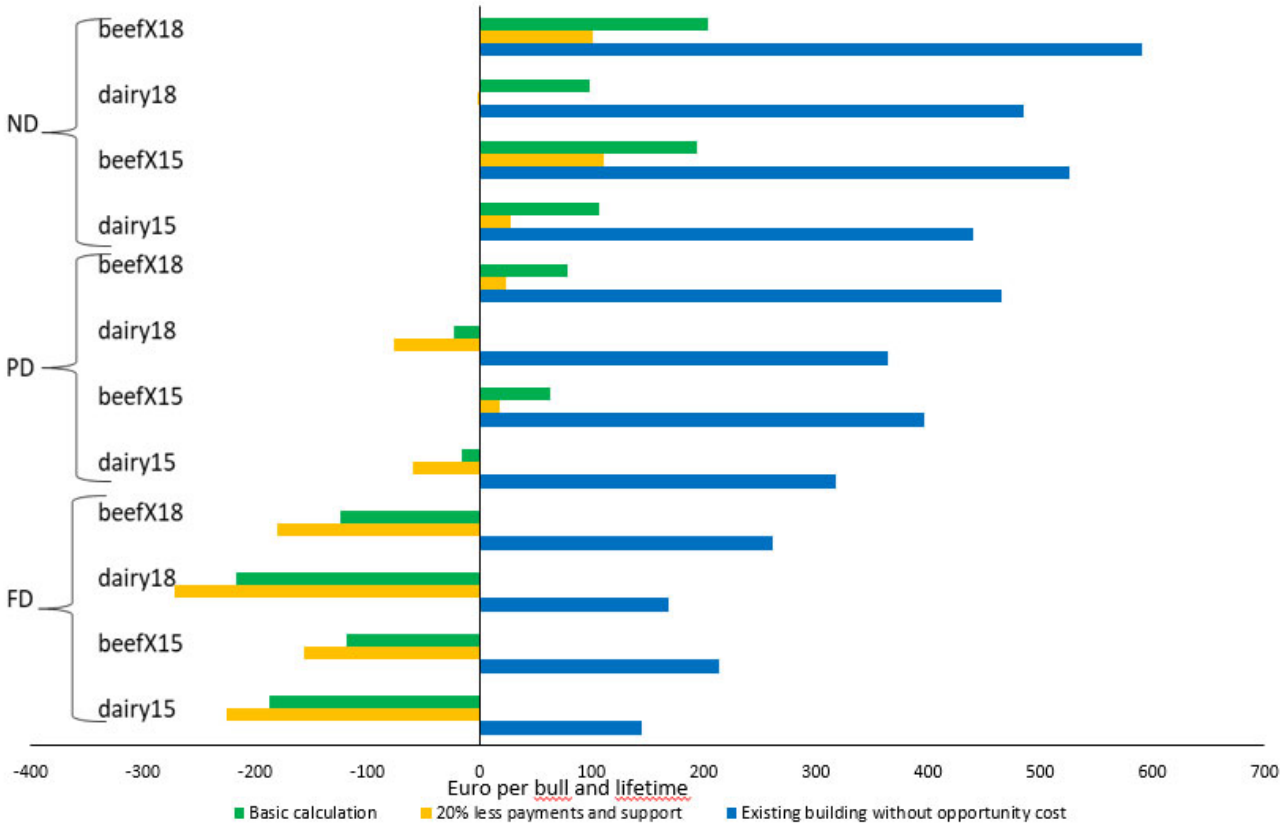

Figure. Basic calculations and sensitivity analysis for profitability (Euro/bull) of purebred (dairy) and beef crossbred (beefX) bulls slaughtered at 15 months (15) or 18 months(18) of age, in forest (FD)), plain (PD) and northern (ND) districts of Sweden.

Small differences in costs

The largest costs were for buildings and calf purchase, followed by grain, silage making and labour, with only relatively small differences between the twelve combinations tested. However, there was a difference in cost between breeds for calf purchase, as the beef crosses were more expensive. Differences between the rearing systems were driven by higher feed consumption and associated costs, but also labour and building over the extra three months before slaughter for older cattle. Costs were similar between the regions except for silage making, due to computed differences in forage yield and harvest machinery chains, and home grown or purchased grain.

Economical results

Results suggest the choice of beef semen for dairy cows is a major factor influencing profitability in finishing male calves, together with the target age of slaughter. The figures also indicate that bulls reared on farms with their own grain and facilities for cheaper silage making have a close to zero or a positive bottom line. However, if existing buildings without alternative profitable uses could be utilized, all rearing systems would yield a positive margin, given the current payments and supports of today.

If replacement heifers are not required, using beef rather than dairy semen for dairy cows is a good choice for profitability with facilities for indoor, forage-based systems. Other relevant issues are access to low cost feeds and buildings, where more extensive finishing at 18 months gave better profit than slaughtering young bulls after semi-intensive rearing.

Imprint

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