

Better outcomes for ‘surplus’ dairy calves

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Overview

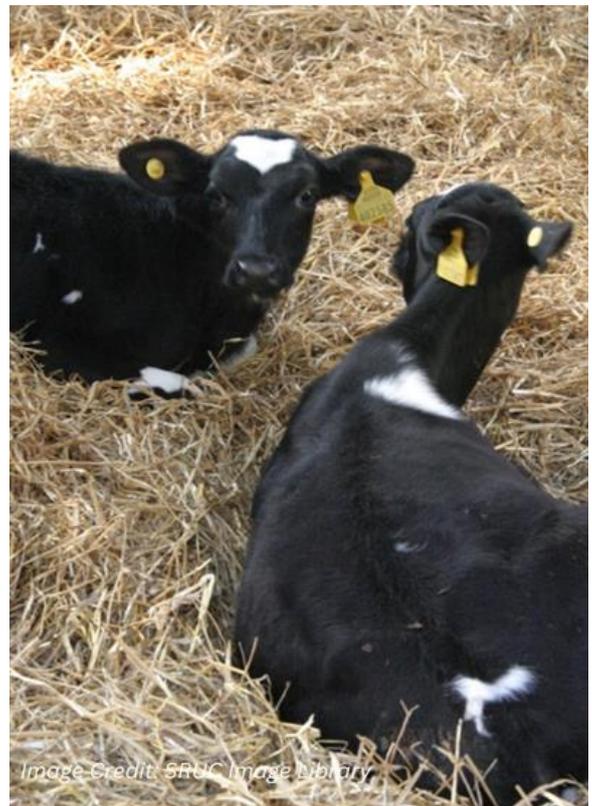
Previously, calves born on dairy farms, but which were not required for rearing to replace animals in the milking herd (so called ‘surplus’ calves, or ‘non-replacement’ calves) were slaughtered early in life. However, many factors in both the dairy and beef sectors have changed. New research shows that the use of female sex-sorted semen on dairy farms has reduced the number of unwanted male calves born, while the use of beef semen allows production of calves for the dairy-beef market. High beef prices and efficient procurement through integrated schemes means that the majority of calves are valued, leading to better welfare outcomes.

Main Findings

Since dairy cows must get pregnant in order to then produce milk, more calves are born onto dairy farms than are needed to replace the milking herd. Finding a viable use for these calves increases their value, and likely the quality of their care. Value depends on markets, and whether dairy farmers are meeting market requirements.

We used stakeholder interviews to investigate current drivers.

- Better reproductive management has reduced the number of unwanted calves on dairy farms
 - High rates of female sex-sorted semen has reduced numbers of male calves born
 - Use of beef semen means calves destined to be sold have better beef credentials
- UK is world leading in the use of sexed semen on dairy farms – 84% of all semen used is female sexed-sorted
- High beef prices mean that, currently, almost every calf will be reared for beef
- Integrated supply chains mean less transport and mixing for calves
- Small stature breeds such as Jersey and other Channel Island breeds are not favoured as less meat is produced from each animal and they grow more slowly
- Beef prices cannot remain high indefinitely, and dairy-beef buyers may become more selective in their purchasing, leaving fewer desirable calves without a buyer, and poorer outcomes
- Policymakers should be mindful of these factors



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Introduction – what are ‘surplus’ (or ‘non-replacement’) calves and what are the welfare issues with them?

In dairy farming, cows must give birth to a calf to enter lactation and produce milk for sale. Some of the female calves are kept and reared on the farm to become part of the milking herd, and are known as ‘replacement’ animals, whilst all the male calves and the remaining female calves are surplus to requirements. It was common to call these animals ‘surplus’ calves, but it is now preferable to call them ‘non-replacement’ calves to avoid using a negative label. **Only about 30% of the calves born in any one year are needed as replacement animals for milk production.** In the past, the non-replacement calves were sent for slaughter at an early age (as so-called ‘bobby’ calves) or slaughtered on the farm. However, public outcry has reduced the early slaughter of these animals. In 2020, the GB Calf Strategy pledged to end calf euthanasia.

Even if they are not slaughtered early, there is a risk that these calves are not given the same standard of care that the replacement calves receive because they are not future productive animals for the dairy farm. **Finding a way to increase the ‘usefulness’ or value of these non-replacement calves to the dairy farmer would promote better care for them.**

What was the aim of the study?

A number of the underlying issues that have led to early slaughter have changed in recent years. The use of sexed semen, which is manipulated so that it only contains sperm for one of the sexes, has allowed farmers to move away from the 50:50 ratio of male:female calves born. Additionally, beef supply chains in the UK are increasingly using dairy-beef calves (calves with a dairy cow dam and a beef breed sire), because of the consistency of product and the ‘low-carbon’ efficiency.

By conducting a series of interviews, we aimed to **understand the current fate of non-replacement calves, and what influences the value of non-replacement dairy calves.** We interviewed industry experts involved in calf rearing including livestock representatives from AHDB, representatives of companies involved in the dairy-beef supply chain and veterinarians with expertise with dairy-beef calves.

Outcomes

The use of female sex-sorted semen on dairy farms has reduced the number of unwanted male calves born

Evidence pointed to by the experts interviewed showed that there has been a considerable rise in the use of sexed semen **in UK dairy herds, with 84% of all semen sold being sexed** (AHDB, 2024), which is higher than most other dairy-producing countries in the world (Newton, 2023). Sexed semen is being used strategically. Dairy farmers can use female sex-sorted semen from dairy bulls on their best cows to produce the replacement dairy heifers and then use semen from beef bulls on the other cows in their herd, producing dairy-beef cross calves suitable for the beef supply chain. Data also shows that **the UK has higher rates of beef semen used on dairy farms than other countries** (Newton, 2023). In sum, this means that there are few unwanted dairy-cross male calves being produced in the UK at present, and the non-replacement calves that are produced are fit for use in the dairy-beef supply chain.

High prices for beef mean that each calf has a value

Experts from the dairy-beef supply chains stated that there is currently a high demand for calves from dairy farms for rearing for dairy-beef. This is due to high prices for beef, driven by a global reduction in the number of purebred beef cattle and global demand for beef (AHDB, 2026). As a result of this, dairy-beef suppliers are keen to acquire calves to be reared for beef. High prices are being paid for calves of any breed, particularly those that are dairy-beef crosses because they are a consistent size and the dairy origin reduces the overall carbon footprint of beef production compared to traditional beef systems (De Vries et al., 2015). The outcome of this is that sale **of non-replacement calves is now a significant source of income for the dairy farm**, and in the opinion of the interviewees, their health and welfare will be promoted.

Integrated schemes

It is also apparent that there is **significant benefit to calves involved in ‘integrated’ supply schemes.** An integrated scheme is one in which calves from a dairy farm are owned by a beef company for some or part of their lives. Calves are often sourced directly from the dairy farm and transferred directly to a calf rearing farm,

rather than going to a livestock market where they are sold on to a calf rearer. Some companies will guarantee a premium price to dairy farmers for using a particular beef bull breed, while others may contract farmers to rear calves for them, and follow them through to the finishing stage.

In terms of calf welfare, there are several advantages of an integrated system:

- Direct transfer to the rearer means calves are not being subjected to the stress of being transported twice, and they are not being mixed with calves from other farms at the mart, which increases the risk of disease transmission.
- Welfare may also be negatively impacted by the time spent without feed during the sale and transportation periods.
- The purchase of calves direct from the dairy farmer, the potential for a guaranteed sale and the possibility of a premium price means that the calf has more value to the dairy farmer, which may result in better care (although research is needed to confirm this)

Some challenges remain

However, some challenges remain. Calves with dams of Jersey or other Channel Island breeds are typically smaller and grow more slowly than calves with other dairy dams (e.g., Holstein). This means that they are inefficient to rear, requiring more feed for the same amount of growth. Their smaller size also causes problems in the abattoir as the height of the slaughter line must be adjusted. Though currently beef prices are high and Jersey-cross animals are being bought and reared for beef, if beef prices fall, which is likely in the long-term, these animals may not be bought or have a lower value than other cross-bred calves, which may affect welfare. Coordinating slaughter so that batches of these calves enter the abattoir together or using alternative beef sires to improve growth rates from Jersey-beef cross calves are interventions that could be explored.

Policy Implications

- Conditions are favourable for the use of calves from the dairy farm in the beef supply chain at present.
- Market forces clearly have a major influence on the value of animals, and consequently on their welfare.
- Beef prices are high at present but may drop in the future. Channel Island cross calves likely vulnerable
- Promotion of integrated schemes is likely to be good for calf welfare
- Policy makers need to be aware of market forces and take action if the situation changes

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