

Section 4

Replacement Heifers

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Introduction

Choice of replacement strategy centres on breed selection, whether to breed your own replacements from within the herd or purchase them in, and at what age heifers should first calve down.

- ① How important is it to set targets for a suckler herd?
- ② How do I decide my replacement strategy?
- ③ What are the benefits of rearing replacements from within the suckler herd?
- ④ How should bulling heifers be managed?
- ⑤ How important is heifer weight at weaning, bulling and calving?

Replacement Heifers

1 How important is it to set targets for a suckler herd?

There is a worrying trend in the national herd in recent years: fertility performance defined as calves/cow/year appears to be declining and calving interval increasing.

Efficient suckler herds will:

- Rear as many calves as possible in relation to the number of cows put to the bull
- Have good quality calves at weaning time that have achieved good weight for age
- Use grass efficiently to help control production costs.

Key facts

Replacement rate in the national herd is 14%. Some 60% of replacements are homebred; 40% are bought in. Seventy five per cent of replacements are $\frac{3}{4}$ bred beef crosses with the remaining 25% being 1st crosses from the dairy herd.

2 How do I decide my replacement strategy?

The long term success of a suckler system will depend on regular replacement of breeding stock.

Checklist

Things to consider when choosing a replacement strategy:

- **Herd size.** Average herd size in Ireland is small, so breeding replacements from within the herd can complicate the system, create more stock groupings and may not be feasible where a terminal stock bull is used.
- **Existing cow base.** Milk production and fertility are key traits in replacements. Look critically at your existing cow base. Have you a good proportion of milky cows which, with correct sire selection, will breed good replacements. Have your cows gone too 'pure' in terms of breeding and are you losing out on hybrid vigour?

- **Farm facilities.** Have you sufficient feed and housing on farm to rear heifers through to calving?

- **Ability to source replacements** Have you a reliable source of replacements you can buy from?

- **Use of AI.** If you are using AI you have the opportunity to select good maternal sires to put on your best cows to breed your replacement stock even in smaller herds.

- **Implications for cashflow.** If you intend to breed all your own replacements, 40-50% of your cows will need to be bred to a maternal sire. Can the business withstand the decline in cashflow as a result of not selling these heifers as weanlings or stores? Equally, can you afford to go out, year-on-year, and buy in replacements?

- **Interest in maternal breeding.** A keen interest in improving the maternal traits within your herd together with attention to detail will yield results. The least valuable weanlings or stores should not, by default, become your replacements.

3 What are the benefits of rearing replacements from within the suckler herd?

Rearing replacements from within the suckler herd will allow you to;

- Focus on maintaining or even improving the potential milking ability of replacement heifers. This is particularly important as the % of continental blood in the herd increases. Use the ICBF maternal index to select both AI sires and stock bulls with strong maternal traits.
- Select heifers from your best cows in terms of their calving ability, temperament, fertility and condition.
- Avoid letting your herd become too purebred. A criss-cross breeding programme with at least two breeds will maintain hybrid vigour. This will give better calf weaning weights as a result of better fertility and higher growth rate. Where you have a crossbred cow and a sire of a third breed, hybrid vigour can account for a 22% increase in weaning weight.
- Keep a closed herd which leaves your stock less exposed to disease risks such as BVD, Leptospirosis and IBR.
- Assess the temperament of potential replacements prior to breeding.

④ How should bulling heifers be managed?

Key fact



The average age of suckler heifers calving down in Ireland is just over 32 months according to ICBF data. Heifers calving at three years of age have a lower lifetime economic efficiency compared to those calving at two years of age.

Key fact



Cows don't reach their mature weight until they are five years old. Heifers that calved down at two years will be smaller as first and second calvers compared to those calving older but by their third calving it will be difficult to see the difference.

Checklist



Heifers that are to calf down at two years of age should:

- Come from the best cows in the herd and be sired by bulls with strong maternal traits,
- Be born early in the calving season to allow them to be heavier at bulling,
- Achieve a daily liveweight gain of 1.1-1.3 kg/day up to weaning,
- Be fed to achieve 60-80 kg liveweight over the first winter so they will need good quality silage plus 1-2kg of concentrates,
- Be turned out early in spring to grass,
- Have reached 60% of their mature weight by bulling,
- Be bred to a known easy calving sire,
- Have reached up to 80% of their mature weight by the time they calve down,
- Receive preferential treatment as first and second calvers.

⑤ How important is heifer weight at weaning, bulling and calving?

Mature Cow Weight	Weaning Wt.	Bulling Wt.	Calving Wt.
Target % of Mature Wt.		60%	80%
600 kg	260-280 kg	360 kg	480 kg
700 kg	300-320 kg	420 kg	560 kg

Achieving at least 60% of their mature weight at bulling will ensure that there is a strong likelihood that heifers will be cycling at 15 months. Puberty in heifers is more related to weight than age so a good plane of nutrition is important. Traditional breeds and crossbred heifers reach puberty earlier than purebreds.

Particular attention needs to be paid to the weanling heifer at housing. She needs to be dosed for fluke and worms. Concentrate feeding should be front loaded at the start of the winter where they are offered up to 2 kg/hd/day depending on silage quality.

Key risks



Heifers that are bullied too light may well go in-calf but they are likely to struggle thereafter as 1st and 2nd calvers because they will have difficulty reaching the correct body condition score for mating.

Heifers are generally a very fertile group and should be bred for eight weeks. This will allow each animal two services. Heifers that are not in calf after this are less fertile and may become problem breeders in the future.

Reaching 60% of their mature weight at bulling means that heifers need to achieve a steady gain of around 0.85 kg/day from birth. By the time they calf down at 80% of their mature weight their required daily gain has dropped to 0.7 kg/day.

Heifers should be calved down in fit condition but not fat. Once calved, they require preferential treatment, particularly if they are to remain indoors for a period.

Key risk



Heifers are shy feeders if mixed with mature cows and can lose condition quickly. Heifers can be fed as a group and given 1.5-2 kg of concentrates/day after calving until turnout, to maintain body condition. This is vital if they are to remain in the herd and calve down as second calvers.

