

## Breed maiden heifers to dairy AI

Edited by  
**Tom O'Dwyer**,  
Head of Dairy  
Knowledge Transfer

The pros and cons of breeding maiden dairy heifers are listed **Table 1**. Teagasc recommends that maiden heifers are bred to dairy AI. Contact your Teagasc adviser for a list of dairy AI sires suitable for use on maiden heifers.

The work involved in heat detecting maiden

heifers can be reduced by synchronisation. The simplest method is to AI maiden heifers to observed heat for one week and then at the start of the second week to inject unbred heifers with prostaglandin to synchronise their heats. Typically injected heifers will all be bred within the following four to five days.

**Table 1: Breeding maiden heifers pros and cons.**

### Pros

- Reduced number of dairy breed bull calves (as heifers have a higher conception rate than cows).
- Increased genetic gain (heifers should have the best genetics in the herd).
- Can be bred as a group close to the start of the breeding season.
- Helps to ensure that the replacement heifer calves are born early the following calving season.

### Cons

- Reduced choice of dairy AI bulls (limited by calving ease) – however many of the most suitable bulls now available are high economic breeding index (EBI).
- Increased labour (if the alternative is to use a stock bull) – but this can be minimised through the use of heat detection aids and synchronisation.

## Plan for the passengers

As we approach breeding, it is well worth taking a detailed look at your herd figures on a per cow basis. Which cows are the money makers? How many passengers are being carried for the sake of numbers? Which cows should be culled? Good information will lead to better decisions. Milk recording reports and the Irish Cattle Breeding Federation (ICBF) HerdPlus Cow's Own Worth (C.O.W.) Index will help you to categorise your herd for breeding:

- the top cows for EBI and performance: to be bred to high-EBI dairy bulls;
- the mid-range cows, clean and healthy but with lower-than-average milk solids and/or later calving date: to be bred to high dairy beef index bulls; and,
- the low performers, generally includes late calvers, high SCC and lame cows: to be culled.

---

## CellCheck partner labs

Knowing which mastitis-causing pathogens your herd is being challenged with can help to ensure that efforts at prevention are targeted correctly. To get good results, take good samples, and use a laboratory that has a proven performance record, i.e., a CellCheck partner laboratory.

### Taking good samples

Hygiene is essential; whatever bacteria are in the milk sample will grow in the lab, whether they come from the cow or from the environment. Mixed bacterial infections can occur in mastitis, but when multiple bacteria are identified in one sample, this typically indicates a contaminated sample.

Decide first on the number of dairy replacements needed and breed enough cows to dairy AI to meet this target (guideline 5.5 straws per heifer calf needed). Using at least one round of AI on replacement heifers has a big impact on meeting replacement number targets. Stable herds will usually need around 25 heifers reared per 100 cows.

Next mark the worst cows in the herd for culling. These will usually be easily identified due to late calving date and recurring issues like mastitis.

The remainder of the herd can be bred to beef bulls combining calving ease and carcass traits. Some of these will be inseminated in the first round of AI but nonetheless should be bred to beef sires. This approach will improve the quality of the heifer calf crop next year, reduce the number of male dairy calves and improve beef calf quality.



### CellCheck partner labs

CellCheck partner labs deliver mastitic milk sample services to an agreed standard; a list of the current CellCheck partner labs is available at [http://animalhealthireland.ie/?page\\_id=8731](http://animalhealthireland.ie/?page_id=8731). For step-by-step instructions on taking and handling milk samples in a sterile fashion, see 'Management Note A' in the 'CellCheck Farm Guidelines for Mastitis Control'.

## When to finish the first round

Begin the second round when the grass is almost right for grazing, i.e., 1,100-1,200kg DM/ha on the first paddock and when at least three other paddocks have a cover over 1,000kg DM/ha.

- Keep an eye on paddocks that were grazed first this spring. By watching these paddocks, you will make better decisions regarding how you finish your first round of grazing.
- Aim for a farm cover of 150-160kg DM/cow at the start of the second round of grazing.



### Fertiliser advice for grazing

- For most farms, the target is to have 90-100 units of fertiliser nitrogen (N)/acre applied by May 1.
- If phosphorus (P) and potassium (K) is required, a compound fertiliser should be used, e.g., 18:6:12 plus sulphur (S) (2 bags/acre).
- S is required on most soils.
- Where P is limited (derogation farms), cattle slurry will be an important source of P to fill the P gap and must be targeted at fields with low soil P levels in the first instance.

## Getting to grips with cash flow

Now that the bulk of the cows are calved, it's a good time to check your financial position. There are many ways to record your monthly cash flows, including the Teagasc Cost Control Planner, farm software programmes and accountancy packages.

- Start by deciding which recording system you will use.
- Next, create a monthly budget showing both your projected income and planned

expenditure. Don't be put off by this step – you don't have to be 100% accurate and chances are that your pattern of receipts and payments are similar to last year.

- Then, record your monthly actuals – both receipts and payments.
- Finally, compare your current position, e.g., to the end of April with your budget. At this point you may wish to discuss the figures – and their implications – with your adviser or accountant.

## HEALTH & SAFETY

### Be careful with tractors and ATVs

Farming moves fully outdoors during April as the busy grass and crop growing season gets into top gear. Farm accidents spike during busy periods so heightened safety vigilance is needed. Fatal accidents at this time of year are

mainly associated with farm vehicles particularly tractors and ATVs. With tractors it is vital to watch out for bystanders and be conscious of parking vehicles correctly. With ATVs it is vital to keep in control by controlling throttle speed and shifting one's weight as counterbalance. Wear a certified helmet.



Operate ATVs safely.

# RESEARCH UPDATE

## Protected urea



Research shows that protected urea is better for the environment, yields the same as, and is cheaper than, CAN.

Protected urea is urea which is treated with an active ingredient called a urease inhibitor. Urease is the enzyme which catalyses the conversion of urea to ammonium. The urease inhibitor (one example is NBPT) moderates the rate at which urea converts to ammonium, thereby reducing ammonia losses (and helping the environment). Teagasc trials have shown that protected urea consistently yields as well as CAN in Irish grasslands, with no difference in annual production between the two fertilisers. Based on March 2019 prices, it is less costly than CAN, while not quite matching the price per kg of N of urea (Table 2). Most importantly, the use of protected

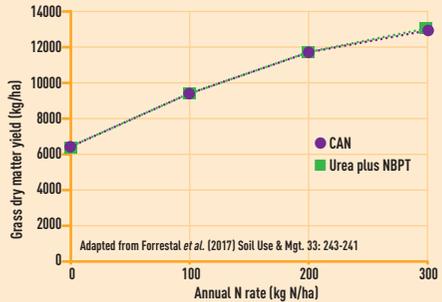


FIGURE 1: Summary of total annual grass dry matter yield (kg DM/ha) for CAN and protected urea evaluated across two years at three sites.

urea can reduce agricultural greenhouse gas emissions and ammonia emissions.

Table 2: Prices in € per tonne fertiliser and € per kg N delivered for the three main fertiliser N types available as per March 14, 2019.

Fertiliser N product	N content (%)	Cost per tonne (€)	Cost/kg N (€)
Urea	46%	391	0.85
Protected urea	46%	437	0.95
CAN	27%	284	1.05

## Safely controlling weeds in grassland

When using grassland herbicides (especially MCPA-based products, e.g., Mortone, Agritox, M50, Lupo) the following precautions should be taken.

- ✗ Don't fill sprayers from watercourses.
- ✗ Don't apply MCPA if the soil is water logged or if rain is forecast.
- ✗ Don't apply if the grass and rushes are wet.
- ✗ Don't apply on a windy day.
- ✗ Only glyphosate products can be used in weed lickers.
- ✓ Adhere to guidelines on buffer zones and safe guard zones.
- ✓ Triple-rinse all pesticide containers after use, and put the rinse into the sprayer.
- ✓ All foil lids from containers should be put back into the rinsed containers and the cap screwed tightly on.