

# BEEF

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## Using protected urea

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The arguments for using protected urea at this time of the year instead of CAN-based fertilisers are becoming increasingly stronger. Protected urea is urea which has been treated with a urease inhibitor. This inhibitor can be either coated on the outside of the fertiliser granule or incorporated into the urea granule melt during manufacture.

This process reduces both ammonia and nitrous oxide losses, and helps to reduce their impact on both air and water quality. Protected urea can be spread at any time of the year and is an ideal replacement for CAN as Teagasc trials have shown that it consistently yields as well as CAN in Irish grasslands.

Apart from the environmental benefits of using protected urea, it also makes economic sense to use it instead of CAN. Based on March 2019 prices, protected urea is 11% cheaper per unit of nitrogen (N) delivered when compared to CAN. Over the year a protected urea-based

programme of fertiliser is approximately €6 to €17 per hectare cheaper than a CAN-based programme. Over the coming years more technologies will have to be adopted to reduce emissions from ammonia and greenhouse gasses (GHG) from Irish farms. Protected urea is the number-one technology and will help significantly.



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## Calves at grass

Trials at Teagasc Johnstown Castle have shown that the performance of young dairy-bred beef calves in the first summer at grass can have a big impact on their subsequent lifetime performance. It is essential therefore that they meet their target daily gains throughout the summer and this essentially comes down to getting three things right: (i) grassland management; (ii) meal feeding at grass; and, (iii) parasite control. Calves are selective grazers and need therefore to be offered fresh leafy grass every three to four days. They should be going into light covers (no more than 1,000-1,400kg DM/ha) similar to what ewes would be offered. Ideally, they should not be forced to graze out paddocks but rather another group of stock should follow them to graze the last of the grass.

Whether or not meals should be fed in July and August will depend on the standard of grassland management on the farm. If calves are getting a constant supply of leafy grass and weather conditions are good, then meals can be cut out for these months. If however they are being forced to graze poorer-quality swards and/or the weather is unfavourable (especially wet weather) then there is a benefit in feeding a small amount of concentrates daily. Feeding over 1.0kg per day to calves is not only costly but also reduces their grass intake,

which then makes grassland management even more challenging as they are longer grazing down paddocks. Stomach worms and hoose need to be kept to a minimum in young calves in their first year at grass. Calves have no immunity built up to them and they can dramatically reduce their daily performance if treatment for them is delayed.

However, recent studies have shown that there is a resistance building in stomach worms to the different wormers that are on the market.

Essentially, this means that they are not as effective at killing these parasites as they used to be and if we are not careful they may be of no use to us in years to come if their efficacy continues to decline. One of the key steps to slowing down the problem of resistance to wormers is to only use them when they are needed.

Pooled fresh dung samples taken from a batch of calves can be sent to a laboratory and for a very small fee they can quickly tell you whether or not the calves need to be dosed for stomach worms. This is now considered best practice rather than treating calves based on the number of weeks they are at grass. Treating for hoose is different. Once calves start showing the signs of hoose, i.e., coughing after running, they should be treated immediately with an appropriate wormer.



*Ensure calf growth rates are maintained throughout the summer months.*

## Teagasc July events

Teagasc is holding a number of events in July that will be of interest to beef farmers and are well worth attending.

### BETTER Beef Farm Challenge events – Laois and Monaghan

Teagasc and the *Irish Farmers Journal* will be holding two national farm walks on BETTER Farm Beef Challenge farms. These will be on the farm of Wesley Browne in Dunraymond, Co. Monaghan on Thursday July 4, and on the farm of Joseph and Harry Lalor in Ballacolla, Co. Laois on Thursday July 11. Both these farms have large-scale suckler herds and they both also buy in dairy-bred beef calves. There will be two walks on each day starting at 2.00pm and 5.00pm. These are Department of Agriculture, Food and the Marine (DAFM)-approved knowledge transfer beef events. All are welcome.

### Reseeding event – Kilkenny

Teagasc is holding a reseeding open day on Friday July 12 on the farm of Eddie Gavin in Goresbridge, Co. Kilkenny. This event will cover: why you should be reseeding; the importance of soil fertility; different varieties of grass and clover; grassland management; and, a demonstration of different reseeding methods. The event starts at 10.30am and is a DAFM-approved knowledge transfer beef, sheep and dairy event. All are welcome.

### Breeding event – Galway

Teagasc, the Irish Cattle Breeding Federation (ICBF) and the *Irish Farmers Journal* will be holding an open day on the farm of Niall O'Meara in Kilimor, Ballinasloe, Co. Galway on Tuesday July 16 at 2.00pm. Niall was the national commercial herd winner of the FBD €200 Replacement Index Herd Competition 2018. This award rewards excellence in the beef breeding performance of his commercial suckler herd. At the open day there will be a selection of demonstrations, discussions and displays of stock. The emphasis is on highlighting the technologies and management tools Niall uses to achieve excellence in beef breeding. This will be a DAFM-approved knowledge transfer beef event and all are welcome.

## HEALTH & SAFETY



### The most dangerous month

July is the most dangerous month of the year on farms. For the 15-year period 2004-2018, almost 17% of farm deaths occurred during July. This is double the average per month. The principal causes of accidents in July are: vehicle and machine use (particularly tractors and



loaders); falls from heights and falling objects; cattle; and, slurry. During this month in particular, give attention to operating machinery safely. Never get into a 'crush zone' and always operate a vehicle from the driver's seat.

*Use three contact points when getting up/down from a tractor.*

## RESEARCH UPDATE

### Reducing emissions from cattle



Dr Sinéad Waters, Prof. David Kenny and Paul Smith of Teagasc Grange and Dr Alan Kelly (UCD) report on the rumen microbiome and greenhouse gas emissions in beef cattle.

Ruminant animals play a key role in global society, converting human indigestible plants into high-quality meat and dairy products for human consumption. This unique ability possessed by ruminants is a result of the rumen microbiome, a digestive ecosystem consisting of various microbes including bacteria, archaea, protozoa and fungi, all of which contribute different functions that allow the ruminant to obtain nutrition from plant matter. However, one group of rumen microbes, known as methanogens, are responsible for ruminant animals contributing ~40% of global agriculture's GHG emissions through the production of methane. Teagasc, along with UCD and the ICBF, are members of the FACCE ERA GAS-funded international research consortium, RumenPredict, which aims to link the rumen microbiome and host genetics to feed efficiency and GHG emissions. As part of the Irish contribution to the project, beef cattle, housed at the ICBF progeny test centre in Tully, Co. Kildare, are being recruited to the study. They are undergoing detailed measurements in: level of feed intake and efficiency; growth; GHG and nitrogen (N) output; and, meat yield and quality. Two new GreenFeed

systems have been installed in Tully to allow estimations of methane output. Preliminary data generated to date, suggests there is a near 20% difference in the gross methane emissions output between high- and low-emitting cohorts of animals. In addition to the collection of performance data, rumen samples are being collected to determine differences in the composition and functionality of the rumen microbiome between high- and low-emitting animals. Finally, in an effort to achieve the definitive goal of RumenPredict, which is to identify a link between the genetics of the host and its constituent rumen microbiome, a genome-wide association study will be conducted. It is envisaged that DNA-based biomarkers identified from this work will help to identify animals with a greater genetic propensity to efficiently utilise feed, while minimising their impact on the environment. This will assist in meeting the national aims of breeding animals that are both economically and environmentally sustainable to produce, and is wholly consistent with the goals of Food Wise 2025, the Government's roadmap for the future direction of the Irish agri-food industry.