

BEEF

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What to do in February

For suckler farmers February is about getting as many live, healthy calves as possible on the ground while also planning the grazing season – from letting stock out to deciding on the first fertiliser

and slurry applications. Both will be instrumental in ensuring improved profitability, reduced workload and healthier animals, but you have to plan how you are going to achieve them.

Achieving a calf per cow per year

1. Ensure all cows are on a good pre-calving mineral for at least six weeks pre calving. This will ensure lively calves and reduced issues around calving. For most minerals, you should be feeding 100-120g per head per day. Talk to your advisor about the best minerals for your area.
2. Vaccinate cows – draw up a plan with your advisor and vet. Rotavirus and coronavirus scour vaccines must be given three to 12 weeks pre calving. Infectious bovine rhinotracheitis (IBR) vaccines should be given one month pre calving to allow enough time
- for antibodies to build in the colostrum. It is crucial all calves get a good suck of colostrum within two hours of calving to transfer the antibodies in the milk into the calf to allow it to build its immunity.
3. Check all calving equipment is serviced and working properly – calving gates, cameras, calving jack, etc.
4. Hygiene – clean out all calving pens and group pens. Disinfect, lime and bed with lots of clean dry straw and keep re-applying. Ensure cow tails and udders are clipped to reduce the chance of a calf ingesting faeces.

5. Do a shopping list and have all supplies on farm at least one week before calving – tags, calving ropes, gloves, stomach tubes, disinfectant, etc.

For a handy checklist, see:

<https://www.teagasc.ie/animals/beef/demonstration-farms/future-beef-programme/technical-notes-for-suckler-farmers/calving-checklist/>.

Remember to always stay safe. Survey a situation before getting into a pen with a cow. If concerned, have someone with you and always carry your mobile phone in an accessible pocket.

Fertiliser and slurry

All five conditions below should be met before any fertiliser is applied:

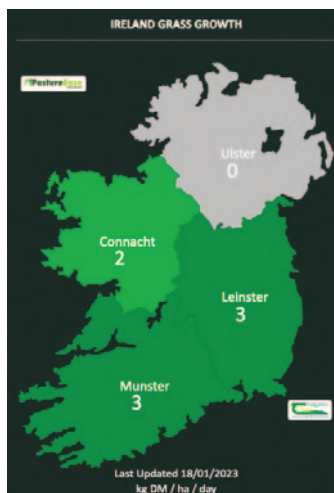
- soil temperature is consistently above 5.5°C;
- the tractor and spreader will not damage fields;
- the forecast is for dry conditions for seven to 10 days;
- grass is growing at +10kg DM/ha/day – check your area on PastureBase Ireland (**Figure 1**); and,
- you are planning to let stock out.

How much?

Match fertiliser application to growth rate. Grass requires 32kg of nitrogen (N) per tonne of grass dry matter grown. In February, average growth rates are approximately 10kg DM/ha/day, so in the 28 days of February, 280kg DM/ha is grown. At 32kg N/tonne DM, that's 9kg N/ha (7 units N/ac) required. However, we also know from research in Teagasc Johnstown Castle that soils are mineralising and releasing N, and will supply half the required N. Therefore, in February there is a low demand for N unless growth exceeds 10kg DM/ha/day. You can check this by grass measuring yourself or checking the PastureBase Ireland webpage.

It is in late February/early March, when growth rates reach 15-20kg/ha/day, that applied N is

FIGURE 1: Check grass growth on PastureBase Ireland.



required. Over the 31 days of March expect 500-600kg grass DM to grow. This will require 15-20kg N per ha (12-16 units/ac).

The soil is still releasing N, but days are longer now, grass growth is increasing and ground conditions are much better; therefore, the recommendation is to apply 15-25kg of N/ha (12-20 units/ac) in mid to late February when ground conditions and weather permit. Apply to fields where you expect the greatest response first – dry fields, reseeded fields, fields with good phosphorus (P) and potassium (K) indexes, etc.



Ensure soil temperatures are consistently above 5.5° before applying fertiliser.

Slurry or bag fertiliser?

Table 1 shows protected urea is 31% cheaper than CAN per unit of N, so protected urea is the fertiliser of choice from a cost point of view. It is also least likely to be lost in wetter spring conditions. If applying 20 units of N per acre as protected urea the cost is €22 per acre and will supply more than the required amount of N. Compare this to 2,000 gallons of cattle slurry/acre. A typical 6% dry matter cattle slurry will contain approximately nine units of N, five units of P and 32 units of K per 1,000 gallons. Based on current fertiliser prices 2,000 gallons of slurry is worth €104.

Ideally slurry needs to be returned to where it came

from, i.e., the silage ground.

Why? Because a first-cut silage (5t DM) can remove 16 units of P and 100 units of K per acre per cut, while grazing will only remove between six and nine units of P and eight to 12 units of K per acre per year. A total of 3,000 gallons of good quality slurry can replace silage P and K offtakes, while slurry is a valuable source of P and K and is best utilised on silage fields due to its ideal P:K ratio for silage crops.

Therefore, based on cost and efficiency, apply chemical N in February. Follow in March with 2,500-3,000 gallons per acre of slurry to silage fields, and then to fields with low P and K indexes. On fields not receiving slurry, apply 75kg (one and a half bags) of 18-6-12 per acre or a similar product. Pig slurry where available locally is a better balanced slurry compared to cattle slurry for grazing fields. Take soil samples and follow your nutrient management plan.

Remember grazed grass is still our cheapest feed in Ireland. You do need some N to grow grass, so it is imperative that you apply fertiliser when conditions are right and grass is growing.

Table 1: Cost per kg of N.

	Urea (46% N)	Protected urea (46%)	CAN (27% N)
kg N/t	460kg N	460kg N	270kg N
€/tonne	€950	€1,000	€850
€/kg N (€/unit N)	€2.07 (€1.04)	€2.18 (€1.09)	€3.15 (€1.58)

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RESEARCH UPDATE

Multi-species swards for beef production



EDWARD O'RIORDAN, SARAH BURKE, PAUL CROSSON and MARK MCGEE of Teagasc, Animal & Grassland Research and Innovation Centre, Grange report on the results of multi-species sward research.

In livestock grazing systems perennial ryegrass has predominated as the sown species of choice. With increased fertiliser N costs and a greater environmental awareness, the inclusion of legumes, in particular white clover, in the grassland reseeding mixture has become the standard. Previous research at Teagasc Grange showed that liveweight gain of steers tended to be higher on perennial ryegrass/white clover swards compared to perennial ryegrass swards. Due to its ability to fix atmospheric N, white clover inclusion resulted in annual savings of chemical fertiliser equivalent to in excess of 100kg N/ha for beef cattle grazing systems. More recently, there is interest in using multi-species swards, which include grasses (perennial ryegrass, timothy, etc.), legumes (white and red clover, etc.) and herbs (chicory, plantain, etc.) to further exploit complementarities between pasture species. Results from recent field plot cutting experiments at Teagasc Grange showed that

herbage yield is primarily driven by the legume (clover) component of multi-species swards. Currently at Grange, grass/white clover and multi-species swards are being compared under grazing and conservation for beef cattle production. Preliminary findings for the 2022 grazing season indicate that:

- herbage production and steer daily liveweight gain was similar for both sward types;
- the visual appearance of the multi-species swards is considerably different than what most people are accustomed to seeing, especially when the herbs are in flower – this takes getting used to;
- compared to the grass/white clover swards, multi-species swards had a lower dry matter content, mainly due to the chicory and to a lesser extent the plantain, and took a longer time to be sufficiently wilted for ensiling;
- in both sward types, the sown species' composition varied substantially throughout the year; and,
- increased vigilance is needed when herding, especially when introducing cattle to these swards for the first time, as incidences of bloat were observed on both sward types.