

# Management Notes



Richard Gibson

## Dairying

### Monitor energy costs

Energy costs continue to increase. Data collected across a number of Business Development Groups in Co Down suggests a significant variation in total electricity usage between farms. CAFRE dairy benchmarking also highlights an electricity cost range from 0.5 ppl to 1.0 ppl in 2021. With this cost set to increase, there is significant potential for savings to be made. Milk cooling, water heating and the vacuum pump each account for 25-30% of total electricity consumption, with the remainder being used by lighting, heating and ventilation.

Water heating and milk cooling offer the greatest potential for saving and should be reviewed first. Practical tips to reduce water heating costs include:

- Insulate all pipe work and ensure the hot water tank is well insulated. Trials carried

out show that an uninsulated water heater can lose up to 50% of heat within 17 hours. This compares to just 5% for a well insulated heater.

- Place the heater as close as possible to the point of use to minimise the length of pipe work required and the potential for heat loss.
- Maximise the use of cheaper rate electricity. Fit a time switch to your heater and make sure it is set correctly. This is especially important if the power has been off, even for a few hours.
- Consider a Heat Recovery Unit (HRU). This can be connected to the refrigeration system of your bulk tank and uses waste heat to pre-heat water before it enters the heater. Depending on the size and number of compressors and the type of bulk tank, a HRU can recover as much as 50% of heat extracted from the unit.

### Maximise output from grazing this spring

Grass is the most valuable asset on your farm. With concentrate feed costs still a significant portion of overall costs, boosting yields from forage can help the overall bottom line. Maximising the quantity of grass grown on farm and the utilisation of this grass by the herd must be a priority over the next few months. Key points to consider:

- Prepare for turnout by checking water troughs, fixing any water leaks and fences and gathering up temporary reels/posts.
- Start walking and assessing grass covers on your grazing platform on a weekly basis. This allows you to identify the most suitable areas to graze on your farm. If you measure grass you should have an opening grass cover and planned first rotation.
- Budget grass allocation to cows and aim to have the first grazing rotation completed in early April. The first grazing rotation sets up the grazing block for high quality grass in the second round.
- Select cows for turnout based on fertility status and current milk produced.
- Routine maintenance of laneways and paddock entrances should be completed at this stage. However, it is never too late to improve grazing infrastructure.

### Improving the laneway network can pay dividends

Well designed and constructed laneways allow easy movement of cows. Good laneways shed water, drain freely, are easy to maintain and do not damage cows hooves. Lameness in dairy stock can be caused by rough, sharp stones, broken sections of laneway, steep laneways with sharp narrow corners and bends, including those at the entrance to the milking parlour.

The speed at which cows travel is also important. If cows are allowed to walk at their own speed, they will pick their way along poor tracks. However, under pressure cows will not have time to negotiate sharp stones, holes or other obstacles. Laneways which are too narrow will also upset cow flow and cause jostling along fence lines. This can damage cows hooves and the edge of the laneway.

Routine maintenance should be part of your regular work programme, not a reaction to a problem. The main focus should be to keep surfaces in good repair and maintain effective drainage.

## Beef and Sheep



Nigel Gould

### Spring grassland management

With record high fertiliser prices, it is more important than ever to carefully consider the fertiliser strategy on your farm this year. Where timely closing of grazing areas was carried out last autumn, milder winter conditions have generally led to relatively good growth rates and higher grass covers this spring. Do not be tempted to delay fertiliser application in the hope of reduced prices later in the season. For more heavily stocked farms in particular, this is likely to lead to a grass deficit before spring is over. Instead, select the most responsive swards for earlier applications, bearing in mind that the minimum soil temperature required for grass growth is 5°C. The most responsive swards will be those that were reseeded in the last few years and have optimum soil

fertility levels. In Northern Ireland target pH is 6.2, target P-index is 2- and 2+ for extensive and intensive grazing respectively and target K-index is 2-. Target slurry towards fields with low P and K indices and consider lower application rates, but across a larger area. As always, for both chemical and organic fertilisers, pay close attention to weather forecasts and ground conditions to minimise losses and maximise value from applications. A dedicated page has been set up on the CAFRE website which contains useful materials for farmers looking to use fertilisers more effectively. This will be added to as the season progresses and can be found at [www.cafre.ac.uk/using-fertilisers-effectively](http://www.cafre.ac.uk/using-fertilisers-effectively)

### Turning out cattle

While turnout may seem a while away on some farms, it will be closer on drier land where good grass covers have built up since closing last autumn. Target younger, lighter stock towards earlier turnout. These are

generally classed as higher priority stock on farm and will cause less poaching. Where ground conditions allow, turnout suckler cows and their calves next. Turning spring calving cows out to grass in advance of the breeding season should boost fertility later on, as well as increase milk yield. Turning out in the morning allows time for the animals to become acclimatised to the lower night time temperatures. Choose well sheltered areas for young calves in particular. For all cattle, turning them out slightly hungry ensures they go out with their heads down grazing, causing less poaching. For store cattle, ideally concentrate levels will have been reduced in the lead up to turnout. To achieve compensatory growth at grass and the target daily live weight gain of over 1.0 kg per day, live weight gain of 0.6-0.7 kg per day in the shed will generally suffice.

### Turning out ewes post-lambing

With lambing underway or about to start in most mid season flocks, turnout of ewes with their lambs at foot is getting closer. Choose well sheltered areas with target grass covers greater than 2200 kg DM per hectare (approximately 6 cm). Marking lambs and ewes with numbers or letters makes identification of ewe and lamb sets easier if any health issues occur and they have to be taken back inside. Monitor closely, particularly in the days following turnout. Ideally, turn them out in the morning to allow them time to acclimatise to the lower

night time temperatures. Hypothermia is often the main risk factor with young lambs early in the season, particularly in periods of poor weather.



### Preventing grass tetany

Grass tetany (Hypomagnesaemia) can be an issue in early spring. Rapidly growing lush grass with a quick passage rate through the animal can lead to magnesium deficiency. Higher producing animals, such as lactating cows and ewes, are most at risk, especially in periods of wet weather. It can be made worse by high levels of potassium in the grass which can interfere with the absorption of magnesium. As magnesium is not stored in the body it must be consumed in the diet. High magnesium lick buckets are the most common way of preventing grass tetany.

## Information Technology



Pamela Gardiner

### Using Information Technology to make efficient use of chemical fertiliser

Fertiliser prices are at a historic high and the pressure to reduce the negative impact farming has on the environment is at the core of agricultural production.

How can you ensure you are using the correct amount of fertiliser for your grass crop this year?

#### 1. Determine crop requirement

Soil testing helps you establish soil health. It allows you to achieve an optimal pH as well as determine if P, K or S is required in addition to nitrogen. CAFRE's online crop nutrient calculator, found at DAERA Online Services, helps you to work out your crop requirements.

#### 2. Set up equipment correctly and measure flow rate

Your fertiliser spreader has the job of distributing fertiliser evenly across its bout width in a controllable and measured manner.

It should therefore be stable, level both left to right and front to back as well as operating at the correct height above the crop. Check these settings before application and adjust if necessary. Calibrating your spreader by measuring the weight of fertiliser dispensed over a set time is a useful exercise to complete at least once per year.



#### 3. Know your bout width and drive accurately

To ensure an accurate distribution of fertiliser at the rate required, you must be able to drive to the correct bout widths at the correct speed. Ground speed will be displayed on the tractor's dashboard or it can be calculated

## Crops



Leigh McClean

### CROPS Winter cereals

Winter barley requires at least one third of its total N during late tillering, before mid March and winter wheat the same proportion before the end of March. For thin crops, sow N earlier to encourage tillering or increase application rates at first dressing once field conditions allow. Include at least 20-30 kg per hectare sulphur in your early fertiliser dressings and top up remaining phosphate and potash.

Where herbicide was not applied in the autumn, prioritise winter barley, as the few grass weed herbicides effective for this crop will only work on small grass weeds. As latest application dates are generally earlier than for winter wheat consult product labels for latest application date or growth stage.

### Fertiliser use

Significant fertiliser price rises have growers questioning fertiliser rates and cropping



decisions for 2022. Higher nitrogen (N) fertiliser cost reduces the economic optimum application rate, which differs on individual farms depending on the N purchase price. To work out your optimum N rate use the AHDB nitrogen fertiliser adjustment calculator. Assess fields individually. If reducing N rates, target lowest yield potential fields first, as crops with higher yield potential are more likely to give a financial return if 'normal' fertiliser rates are applied.

based on your tractor's gearing and engine speed. Online calculators are available to calculate the required flow rate for most common speeds and bout widths.

Driving accurate bout widths can be challenging, especially when grass cover is low. GPS based technologies make this process easier and reduce potential wasteful overlapping or gapping. The simplest and cheapest GPS based system can provide you with a visual guide on a lightbar or mobile app. This guides you along a programmed line running parallel to your previous pass. These systems are quick to setup and operate and can be moved between tractors easily. They provide the operator with sufficient positional information to distribute fertiliser accurately in the field. For operators requiring additional assistance with bout widths, self-steering systems will use GPS information to ensure the tractor remains on the correct trajectory, with little or no input from the operator. These systems require significantly more investment and are more suited to applications such as cultivation, where accurate location information is required to establish and treat crops.

### 4. Targeted applications

Variations across every field means not all parts of the field need the same application of fertiliser to ensure optimum crop production. As a result of averaging the rate across the field, you are oversupplying some areas, which can have both financial and environmental implications, as well as undersupplying other areas which would benefit from additional

nutrients. An integrated approach, that measures the crop variability within a field and links this information to subsequent nutrient applications, will result in the most efficient method to produce grass on farm.

High levels of investment are required for this technology and it may be uneconomical for most farmers in NI. Consider if a contractor can offer services, such as yield/quality mapping at silage harvest and use this information to help determine future crop requirements.

Remote sensing technologies (drones with multispectral sensors) can measure vegetative indices during the growing season. This data can build up an accurate measurement of plant health and be used to create field zonation information, which will help determine the appropriate fertiliser application rates needed across the field.

Variable rate fertiliser equipment can deliver a targeted application based on yield mapping or crop health analysis, thus avoiding over or undersupply.

### Measure to manage

Increasing costs and pressure to reduce inputs will continue to be part of farming in NI. Understanding your crop requirements and being able to meet them both across and within a field, will allow you to apply nutrients where they are needed. Measure soil health, measure equipment accuracy, measure crop production and manage the needs of your crop to improve cost efficiencies and reduce environmental impact.

crops were drilled early into good conditions. Be prepared to take advantage of an early drilling window. Get seed on farm and apply pre-emergence herbicide immediately after drilling. This is essential to ensure the crop gets off to a good start.

### POTATOES Seed preparation for planting

Check seed as it arrives on farm and have a sample hot boxed to determine the presence of disease and overall sprouting vigour. Pre-sprouting, including tray and bag systems, must ensure adequate temperature control and ventilation (to control sprout growth and protect against frost) and light (to control sprout growth). Seed of early potato varieties should be set up in sprouting boxes with the aim of producing one strong sprout per seed tuber, one stem and a small number of large tubers early. The opposite holds for maincrop potatoes where multiple sprouting is encouraged to produce many tubers which can increase in size over a longer growing season.

### Mini-chitting

This system of seed preparation aims to produce seed tubers with sprouts no more than 2 mm long. Seed is stored at 3-4°C until close to planting time. Refrigeration is then turned off for seven to ten days to allow chitting to occur. Once sprouts of 1-2 mm have formed evenly, seed is cooled down again to 3-4°C to prevent further sprout growth before planting. The main benefit of mini-chitting is a crop that emerges quickly and evenly.