Management Notes

cafre
College of Agriculture, Food & Rural Enterprise

Management Notes are prepared by staff from the College of Agriculture, Food and Rural Enterprise (CAFRE). CAFRE is a college within the Department of Agriculture, Environment and Rural Affairs (DAERA).

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Dairying

Richard Gibson

Managing the freshly calved cow

You may have a number of cows now that are freshly calved and wanting to 'milk off their backs'. These cows should be managed by:

- Providing a minimum of 60 cm of barrier feed space and 10 cm of water drinker space per cow to maximise feed intake.
- Housing them at a reduced stocking density, not every cubicle space should be filled! This gives them a chance to feed, drink and lie, therefore reducing their social stress.
- Developing a winter feed plan specific to the needs of your herd. Get your silage tested to assess forage quality. Feed early lactation cows the best quality silage available on the farm.
- Ensuring there is adequate silage available at the feed barrier after milking and 'push up' fresh feed regularly throughout the day.

Calf housing and management

Good calf and housing management is essential to achieve performance targets. The main areas to address are:

- **Hygiene** - thoroughly clean the shed and disinfect with a broad spectrum disinfectant before calves are born. When in use, pens should be frequently disinfected to prevent the build-up of disease organisms. The flooring/bedding should allow for easy cleaning and removal of waste. Ideally, bed calves every day and clean out pens weekly.
- **Drainage** - waste should not drain from one pen through another as this can spread disease. Improve drainage on concrete floors by having at least a 1:60 slope towards a channel.
- **Ventilation** - fresh air delivery should come from natural ventilation, with additional fan ventilation provided if necessary. If natural ventilation is not sufficient to provide adequate fresh air during the critical periods of damp, calm weather, install a fan and duct system. Only use an extractor fan system in buildings with a low volume and a small number of wall inlets. Fan and duct ventilation systems are inexpensive to buy and run and can provide fresh air to all corners of a building. A calf house should have at least six air changes per hour. Micro-organisms die quicker when relative humidity is below 80%. However, relative humidity levels above 85% could occur during damp, dark days. Air space is also critical in calf housing. Provide a minimum of six cubic metres total air capacity per calf at birth, increasing to ten cubic metres by twelve weeks of age. The more calves in a single air space, the greater the risk to health.

- **Moisture level** - this can be controlled through the use of sloped floors that ensure good drainage, fixing any leaks and good ventilation. Providing calves with a dry lying area by using a deep bed of straw will also help. Straw is superior to other bedding material in terms of insulation value. It has a high 'nesting score' which provides a preventative effect against calf respiratory disease in naturally ventilated sheds. Straw bedding should be at least 15 cm deep and kept dry at all times. To reduce the amount of heat lost from calves their legs should not be visible when lying in the straw, especially during cold weather.
- **Air speed** - fresh air is an essential requirement for good health, but draughts must be avoided at calf level. Fresh air delivery not only picks up aerial contaminants such as dust, fungal spores, gases and airborne pathogens, it is also an excellent biocide. Fresh air kills airborne bacteria and viruses ten to 20 times quicker than stale air.

November's top tips

- Identify cows to dry off in the next two months and assess body condition. Feed cows with a body condition score of less than 2.75 additional concentrates to improve condition.
- Assess body condition and body weight of young stock, especially maiden heifers. Will they be in the right condition for service? Holstein heifer replacements at first service should be between 360 kg and 400 kg. Do you need to increase your feeding rate?
- Carry out any vaccinations due, for example BVD, well in advance of the breeding season.
- Develop specific sire selection criteria when selecting bulls to achieve long term breeding goals.
- Calibrate parlour and out of parlour feeders to ensure accurate feeding.

Beef and Sheep

Nigel Gould

Fluke control in sheep

Assess the threat of liver fluke in your flock and develop an appropriate treatment strategy with your vet. Liver fluke requires an intermediary host, the mud snail, which is generally more prevalent on wetter areas. Higher levels of rainfall throughout the year and mild winters provide an ideal environment for the mud snail to thrive. Consider the incidences of liver fluke on your farm in previous years and the type of ground the flock are grazing. If you are sending lambs or cull ewes for slaughter, ask for the livers to be checked for fluke. Faecal sampling can also be used however, the test only detects fluke eggs, indicating the presence of adult fluke.

It takes ten to twelve weeks for fluke to mature and before eggs are laid. Considerable damage can occur by the immature fluke migrating to the liver.

There are two forms of liver fluke: acute and chronic. Acute fluke affects sheep, mainly in autumn, whilst the chronic form affects both sheep and cattle. Acute liver fluke is caused by the migration of large number of immature flukes to the liver and can be linked to a period of high summer rainfall. The chronic form can persist through the year, but mainly occurs in winter and spring. It can result in reduced thrive and in some cases animals show swelling under the jaw. Triclabendazole is the only flukicide group which targets the early immature stages of liver fluke. However, there have been cases of resistance to this group which is a cause for concern. It is therefore important to protect the efficacy of this flukicide. This can be achieved through a farm specific targeted fluke treatment strategy, including the use of other flukicide groups. For example, if sheep are being treated at least four weeks after housing, there is no need to use a triclabendazole product. Sustainable Control of Parasites in Sheep (SCOPS) is an industry led initiative which promotes best practice in the control of parasites in sheep. For more information visit www.scops.org.uk

Silage quality and supplementation requirement

Analyse silage to determine quality and use this information to develop a feed plan for the different classes of stock on the farm. For example, target the best quality silage towards weanlings and ewes pre-lambing. Use poorer quality silage first and target it towards dry spring calving cows at this time of year. With the high cost of concentrate feeds this year, quality silage is more important than ever. Due to the high cost of concentrates, you may be tempted to reduce the amount fed or to feed none this winter. However, you need to think very carefully about this for each class of stock. Average to poor quality silage will not facilitate this on most farms. Also, remember to keep better quality silage for ewes pre-lambing on a mixed cattle and sheep farm. Even where silage quality is excellent, in-lamb ewes will require some concentrates in the final six weeks pre-lambing. Inadequate nutrition in the final stages of pregnancy will likely result in higher losses at lambing. Autumn calving cows also have a high nutritional demand, with some level of concentrates usually required at least until cows are back in calf.

Body condition scoring of suckler cows

Assess cow body condition score (BCS) post-weaning and group cows accordingly. BCS is scored on a scale of one to five, with one being emaciated and five obese. One BCS in a suckler cow equates to approximately 70-90 kg of live weight. The ideal BCS for spring calving suckler cows is 3.0 at weaning and 2.5 at calving and mating. Offer very thin cows unrestricted access to moderate to good quality silage. Cows in good body condition can be offered a restricted allocation of silage to either reduce or maintain body condition score by calving time. Unless silage is of poor quality, allowing unrestricted access results in cows laying down more condition, which may increase the incidence of calving difficulty. This in turn may negatively affect subsequent fertility and calving interval.

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Horticulture

Kieran Lavelle

Growing media – The move towards peat free substrates

Growers in Northern Ireland are facing the challenge of adapting to a peat free growing substrate. Some of the key issues surrounding the use of peat free substrates are as follows:

- **Leaching** - due to the variable levels of cation exchange in alternative substrates, there is a higher chance nutrients will leach out of the container, resulting in deficiency and therefore poor growth and uniformity.
- **Nutrient lockup –** this is an issue with nitrogen in wood based substrates. Nitrogen fixation occurs as the wood material breaks down, reducing the availability of nitrogen to the plant. Nitrogen is an essential nutrient for plant growth and establishment.
- **Inconsistency with electrical conductivity (EC) and pH** - alternative substrates, such as coir and wood material can have varying degrees of EC and pH. This makes it difficult to manage and forecast substrate requirements throughout the season, leading to issues with fertigation planning.
- **Irrigation** - there is continuous concern surrounding the water holding capabilities of peat free media. Wood based substrates tend to dry out much more rapidly in comparison to a peat based substrate.
- **Particle size** - a particular issue with propagation substrates. Due to the larger particle size of most of the alternative substrates, they are not suitable for propagation as fine media is essential.
- **Cost** - the cost of alternative substrates can be considerably more than peat based substrates. With the necessity to add further fertiliser to alleviate issues around leaching and lockup also having an impact on cost.

On Wednesday 17th November 2021 at 7.00pm, Fargro's Growing Media Specialist, Sean Whitworth, will deliver a webinar on alternative substrates and the challenges growers will face. He will provide information on potential solutions on how to adapt and overcome them.

If you are interested in getting more information on the move towards peat free substrates, and how to register for the event, please contact Conor Gallinagh, Ornamental Crops Development Adviser, CAFRE on 07919695676 or email: Conor.Gallinagh@daera-ni.gov.uk

Free living nematodes – Carrot production

Nematodes are non-segmented multicellular roundworms that can live in almost all ecological regions and climate. Nematode populations can reach 7.5 billion in the top 15 to 20 cm of one hectare of any soil type. They feed on a wide range of food sources such as plants, fungal hyphae, algae and bacteria.

Free living nematode (FLN) damage in carrots causes fanging and stunting, resulting in reduced marketable yields up to 10%. FLN damage on root crops is influenced by weather with crop damage in dry conditions moderate and higher levels seen in wetter conditions. Rainfall makes it easier for FLN to move within the soil profile, resulting in increased feeding activity on smaller roots.

Broad spectrum nematicides, such as Fluopyram are successfully used to control FLN and root-knot nematode in carrot and parsnip production. It also has been shown to have an incidental effect on Sclerotinia control.

It is important that soil testing is carried out to determine if, and what species, of nematode are present within the soil. Applications of control can be applied by horizontal boom sprayers over newly formed ridged beds before planting. This must then be incorporated with rotary cultivation (such as a bed former) to a minimum depth of 10-20 cm before planting. Where destoning is required, this must be done before application as there is a risk of dilution of product.

Field trials in carrot production have shown an increase in total yield of 7.1 tonnes per hectare, with a marketable yield increase of 7.5% when treated with Fluopyram compared to untreated crops. FLN damage has been reduced by 35% across 21 trials carried out in the United Kingdom.

If you would like more information or to enquire about getting a soil sample analysed, please contact Eoin Quinn, Horticulture Development Adviser, CAFRE on 02894426828 or email: daera-quinne@nigov.net

Finance

Jason McFerran

Evidence based decision making

Financial benchmarking is valued by many farmers and growers as a useful management tool to assess their business performance. The financial and physical performance information produced, allows for more informed decision making regarding the farm business. This is especially important in the current period of rapidly rising input costs.

A key element of the College of Agriculture, Food and Rural Enterprise (CAFRE) benchmarking is that it allows farmers to monitor their farm business performance year on year. They can also see how changes they have made have impacted the business and how their farm compares to other similar farms. CAFRE provides this benchmarking service to members of Business Development Groups (BDG's).

Ruth Moore, CAFRE Beef and Sheep Adviser in County Fermanagh, recently spoke to one of her BDG clients, Ian Brown. Ian runs a suckler herd in Fermanagh, with both spring and autumn calving cows. His focus on cow fertility and continually improving herd genetics has allowed him to increase the output of the sucker herd. Ian has benchmarked his farm for the past ten years and his business has benefited from the process.

Ian Brown explained, "Benchmarking has allowed me to identify areas of my farm business that I can change to enhance performance, both physically and financially. It is great to have the figures for the whole farm in one report and to be able to compare my farm with other suckler farms, as well as seeing how my figures change from year to year. I can make more informed decisions to identify better practices to implement on the farm. The real benefit of benchmarking is to make use of the data, by identifying some key goals, both long and short term and then start monitoring these".

Increasing costs

Over the last number of months, we have seen a sharp rise in input costs such as fertiliser, concentrates and recently fuel and energy. This is in addition to the significant rise in the cost of building materials and machinery over the last year. Most concerning is the rise in fertiliser cost which has been driven by the hike in the price of gas which is used in nitrogen manufacture. It is therefore important, now more than ever, that you have a good insight into your costs of production to identify areas for potential cost saving or where productivity and efficiency could be improved. This will assist both short and long term planning of the farm business.

Keeping a close eye on costs can make a significant impact on farm performance and can make the difference between a farm business making or losing money. The 2019/20 CAFRE beef and sheep annual benchmarking report has been recently released. It shows a difference in costs between the top 25% and bottom 25% of suckler to beef benchmarked farms (based on net margin per cow) of £115 per cow on variable costs alone. Looking at the variable costs, the top 25% are generally lower on all costs, not just one. Concentrate is the largest variable cost, followed by forage costs, which are mostly made up of fertiliser. Also included are veterinary and miscellaneous costs.

Fixed costs, which tend to be the largest costs are mainly comprised of mechanisation costs and building depreciation. However, it is worth remembering that although money spent on new housing and facilities on the farm will increase costs in the short term, they are an investment for the future.

CAFRE Beef and Sheep Adviser, Ruth Moore takes delivery of recently printed annual benchmarking reports from CAFRE Business Technologist, Allen Hall