Management Notes

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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

Making quality forage is more important than ever this year

With the significant rise in forage costs this year, it is vital to make the best quality silage possible. Focusing on cut and wilt times will help boost quality and reduce dependence on concentrates through the winter. Adopting a multi-cut silage system could help maximise quality and performance. Although cutting earlier reduces the yield per cut, quality in terms of protein, digestibility and metabolisable energy (ME) will increase. The increased cost of making multi-cut silage, which is estimated at £35 per tonne dry matter (DM) higher than a three cut system, must be recouped with concentrate savings. At £350 per tonne for purchased concentrate, rates would need to be reduced by 1.2 kg per cow per day to achieve this.

Rapid wilting is essential. As soon as grass is cut sugars start to decline as they are used by the plant. Wilting increases dry matter and reduces clamp losses from effluent.

After cutting there is a two hour window when the stomata of the plant remain open and water loss is at its greatest at approximately 100 litres per tonne of grass per hour. After this, water is lost where the leaves are broken or the crop has been conditioned, if a conditioner has been used.

Some key points on multi-cut silage;

- Individual cuts will be lighter than the traditional system. It is worthwhile discussing this with your contractor in terms of pricing.
- A 1.0 MJ per kg DM increase in ME is generally achievable when moving from a traditional to multi-cut strategy. DM intakes can increase by over 1.0 kg per cow per day when feeding this forage.
- Pay special attention to crop nutrition to ensure all nitrogen is absorbed before harvesting. Apply slurry immediately after harvesting.
- Apply fertiliser as soon as possible and not more than two units per acre (including slurry) for each growing day between cuts.
- As crops are lighter, consider the time the crop is wilted. To achieve 28-32% in ideal weather conditions, 24 hours wilting should be sufficient.
- Increasing the chop length to 5 cm will help with ensiling and fermentation.
- Silos need to be filled quickly and grass distributed evenly. The key is to remove the air and make the clamp as air tight as possible.
- Spread the grass in shallow layers and roll continuously. Ideally, the silo should be covered immediately and the cover weighted effectively, paying particular attention to the shoulders of the pit.

Use of an additive

Depending on weather conditions, a silage additive may be useful this year in reducing waste. Effective silage fermentation produces high levels of lactic acid reducing the crop pH. Proven silage additives can help this process. A variety of additives are available including bacterial inoculants, enzymes, non-protein nitrogen sources, acids and sugar sources. None of these products are a substitute for good silage making techniques, conditions and management but they can help make a good situation better.

May top tips;

- As May is a peak grass growth month, focus on pre-grazing grass cover for your herd. Only graze maximum 3,100 kg DM per hectare covers, higher covers should be removed quickly from the block to allow these areas back into the grazing block.
- Check silos and carry out any maintenance before silage making.
- Check there is adequate storage in tanks to collect all effluent.
- Calibrate parlour and out of parlour feeders to ensure accurate feeding.
- Spray docks/weeds if conditions are suitable and they are at the right stage for control. If spraying silage ground for docks, generally allow an interval of at least 21 days between spraying and harvest. As the interval depends on the product used, always read the label.

Beef and Sheep

Jack Friar

Breeding the spring calving herd

Attention is now moving towards the breeding season for spring calving suckler herds. The usual body condition score of 2.5+ and a rising plane of nutrition are important to help get cows back in calf quickly and achieve a calving interval close to 365 days.

Pre-breeding scanning of suckler cows is not a task carried out on every cow. However, it should be a consideration for cows that had a difficult calving, an infection and required a 'wash-out' or cows that retained their placenta after calving.

Set a defined breeding season with a definite start and end date for all cows to calve within a 12 week period. Aim for 60% to calve in the first month and 80% by the end of the second month. The advantages of this include, making life easier in terms of reduced labour and better herd management at calving. There is also less risk of disease spread from older to younger calves, increased performance in terms of weaning weights and more even batches of calves to sell. Another benefit is an increased number of replacement heifers that reach a suitable weight for bulling and calving at two years of age. If you think this is unachievable as your calving period is usually spread over four or five months, consider taking bulls out two weeks earlier each year to gradually reach a 12 week calving period. This should be achieved in three to five years.

Breeding replacement heifers

Aim is to calve replacements at 24 months of age. However, there is still some reluctance to try this even though there are many benefits. Some of the advantages of calving heifers at 24 months of age include:

- Increased lifetime output of cows, one more calf is produced during their time in the herd.
- Allows for faster genetic progress in the herd.
- Lower rearing costs and quicker payback of rearing costs.
- Helps towards reducing the carbon footprint of the herd.

Unlike cows, heifers should only have a breeding season of eight weeks. This allows heifers to be served at least twice. After this heifers not in calf should be culled as they are likely to have future fertility issues. Having a four week shorter breeding season also allows extra time for recovery after calving and to resume cycling again before the start of the next breeding season.

Sire selection is critical for making two year old calving work. Use an easy calving bull so that the size and shape of the calf allows it to be born easier. Bull selection should also focus on low calf birth weight and short gestation length to reduce the risk of calving difficulties.

It's not too late to introduce rotational grazing

In many cases farms that have rotational grazing in place will be well into their second rotation. If you don't have it in place it is not too late to implement it. What are the advantages? Sub-dividing fields into paddocks offers a number of benefits. These include giving ewes and lambs access to leafy grass on a consistent basis which will improve performance and allows for forward creep grazing lambs in the build up to weaning. It helps improve grass utilisation and provides more control over grazing management. Another advantage, especially relevant this year, is that it allows for a more targeted fertiliser programme.

Watch out for

Weed infestations - as silage harvesting is only weeks away on some farms always read the label and product information before using herbicide products. Adhere to label recommendations regarding application rate, cutting and grazing intervals etc.

Kill out percentage of lambs - record liveweights and carcase weights of lambs and work out kill out percentages. As the kill out of spring lambs can be deceiving, act accordingly on weights to ensure you maximise farm profits.

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Crops

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WINTER CEREALS

A relatively mild spring, after a winter of good growth, means crop development is generally a little ahead of normal and some level of disease can be found in most winter cereals. Keep a close eye on crop development making sure key timings of fertiliser and sprays are not missed. It is important to maintain good timing as fungicides are more effective when applied preventatively. This means the effect of a missed timing will only be visible weeks later by which time the fungicides curative activity is less active at controlling disease and protecting yield potential.

Winter barley disease control

Crops that received T1 sprays from mid-April, will be due their T2 fungicide three to four weeks after T1, ideally when the flag leaf and the first few awns have emerged. Best performance comes with Prothioconazole plus a SDHI in the mix, where crops have the yield potential to justify the additional expense.

Winter wheat disease control

A well timed T2 fungicide gives a bigger yield response in wheat than any other spray timing. Apply at flag leaf emergence, no later than four weeks after the T1 spray. New active ingredients from BASF and Corteva have shown in AHDB fungicide trials to give better disease control than existing top performing SDHI/Triazole fungicides. They may be worth the extra spend at T2 for high yield potential crops under high disease pressure.

To maintain longevity and efficacy of fungicides, it is important to use them responsibly as part of fungicide programmes which, minimise the risk of resistant septoria strains developing. Follow label advice on applications per season and only use where necessary. Keep up dose rates of actives in mixes and always use in combination with a multisite protectant, such as Folpet which protects other active ingredients in the mix.

SPRING CROPS

Spring cereals were mostly sown in time into good seedbeds. Where herbicide has not yet been applied, apply a mixture of at least two broad spectrum herbicides when most of the weeds are at the two to four leaf stages, ensuring weed competition is removed early.

Early sowing should mean good yield potential for spring cereals. Tank mixing a low rate fungicide with the herbicide will prevent the establishment of disease and protect yield potential.

Apply nitrogen (N) top dressing once tramlines are visible at the two to three leaf stage (GS 12 to 13). Later applications than this may green the crop but add little yield.

Inspect protein crops for grass weeds and volunteers. If necessary, apply a graminicide (grass weed herbicide) once grasses have emerged and before the crop canopy closes over. A fungicide is recommended for beans at mid-flowering to control chocolate spot and bean rust, usually applied in the second half of June.

POTATOES

Plans should be in place for early weed control. Where using pre-emergence herbicides, check regularly to ensure they are applied on time to avoid crop damage.

For later plantings, take the shorter growing season into consideration. Reduce N by 1.0 kg per hectare per day past the target planting date and apply the remaining N pre-crop emergence.

Careful N management now will encourage earlier natural senescence and improve the probability of a successful burndown using PPO inhibitors.

You are reminded that blight samples submitted from Northern Ireland (NI) were predominantly of the A37_2 strain which has reduced sensitivity to fluazinam (Shirlan). Given the widespread occurrence of this strain in NI, fluazinam for blight control can no longer be relied upon.

Horticulture

Kieran Lavelle

Cover crops in field vegetable production

A cover crop is a non-cash crop grown primarily for the purpose of protecting or improving soils between periods of regular crop production. Cover crops can be used repeatedly as part of a long term strategy to improve soil quality and organic matter. They also provide other benefits, such as weed suppression and improved resilience to pests and diseases. Estimates show that the yield of vegetables may be decreased by 45%-95% in the case of weed to vegetable competition. The duration of the cover crop can vary from a few weeks to several months or years, depending on the approach used and the specific objective.

The active growth, rooting, ground cover and habitat afforded by cover crops can provide benefits in rotations over a bare fallow. They can be used in vegetable rotations as a 'catch crop'. Providing cover at key times helps to reduce nutrient losses via run-off and leaching.

Cover crops protect water quality by restricting soil erosion and reducing nitrogen losses by an average of 48%. By stimulating biological activity in the soil, cover crops planted on a large scale can also sequester huge amounts of atmospheric carbon.

Cover crop straights and mixtures are often used to reduce soil compaction, improve soil structure and help retain or fix nitrogen. Those with deep or fibrous roots, such as grazing rye help to improve soil structure by breaking it up. Others, like mustard grow very fast to produce lots of lush foliage that can be incorporated into the soil after just a few months to boost its organic content. Mustard is a particularly good cover crop for clay soil.

Some cover crops directly add nutrients to the soil by fixing nitrogen at their roots. Examples include winter field beans and peas, clover and vetch. These are all types of legume and are a good choice for sowing before nitrogen hungry brassicas, such as cabbage.

Mussel scale

Mussel scale (Lepidosaphes ulmi) is not a common pest in apple orchards in Northern Ireland, but climate change and loss of various insecticides may lead to more infestations. It infects a wide range of woody plants and hawthorn is believed to be a major source of infection in orchards. As the name suggests, the scale is shaped like mussels, 2-3 mm in length and can be found on the fruit and bark of trees. The scale feeds and lay their eggs under the protection of the shell, with the next generation emerging and moving to new feeding sites as 'crawlers' in mid to late May, depending on the weather.

The main damage caused by a mussel scale infestation is contamination of fruit. If more than 1% of fruit is contaminated at harvest, an insecticidal spray can be justified. However, heavy infestations on the bark can also affect tree growth and vigour. Winter spraying has little affect on numbers due to the protection offered by the waxy shell on the scales. Instead spraying has to be targeted at the young crawlers as they do not have a protective shell at emergence.

The timing of the spray is critical, as best control is achieved by spraying when approximately half the crawlers have emerged. This trigger point is determined by counting eggs under ten of the scales and making a count of scales on the infected area. A band of double sided sticky tape is attached to the branch above and below infected areas of bark. When the crawlers hatch, numbers can be counted on the tape.