

Back to basics

How to make better silage in 2009 – come rain, wind or shine

What can you do to make sure your silage is considerably better than the average crop produced in 2008? Here are some tips, straight from some grassland and nutritional experts, which should help you to ensure you make a quality crop – whatever the weather.

Autumn 2008 saw some of the worst silage analysis results in recent history. Much of it was down to the previous wet spring, which was followed by an equally wet summer. Not much you can do about that, producers cry. No – but there's still plenty you can do to maximise your chances of producing a decent first cut, whatever the weather. "Anything that's not being done correctly will be exacerbated by poor weather," says the Institute of Biological, Environmental and Rural Sciences' David Davies.

"So make sure you follow best practice to the letter and get yourself in a position where you're ready to go a

week before you would ideally cut and that way, if the weather's good, you can take advantage of it."

Dr Davies says that being ready also means that silage making isn't as rushed and stressful as it otherwise might be, corners are not cut and so crop quality isn't compromised.

Limagrain's product manager Ian Misselbrook says that producers should study the weather reports more closely, rather than panic and cut in less-than-ideal conditions.

"And if they do cut in wet weather, take the time to turn it and dry it. It's an extra pass with the tractor, but it's well worth it to avoid wet silage. Wet silage

means poor silage. It is worth waiting for a dry day or turning to improve dry matter."

Preparation

"It's all about preparation and something producers can be doing now is looking at ground and soil conditions," continues David Davies. "If you have a mole problem, for example, then March is the month to get out there and tackle it, and to roll the ground to remove the molehills. This minimises the risk of soil contamination."

OPICO's James Woolway agrees that producers should turn their attention to the soil. "Other than long-term management such as reseeding or overseeding, take time to look at the silage ground in the autumn. Sward-lifting will ensure good drainage and prevent or repair damage caused by heavy machinery and reduce the loss of early spring growth through water logging."

In early spring he says he'd like to see

Weed out those competitors and boost silage quality

Weed control in silage leys is an area that's also often overlooked. Broadleaved weeds in silage leys are bad news. They compete for light, water and nutrients. Putting docks into the clamp pulls down resulting feed quality and dry matter content.

Long term control of deep-rooted weeds requires an on-going programme using fully translocated herbicides that work on the root system, not just above ground.

Unfortunately there will be no aminopyralid products, such as Forefront, available this spring. Manufacturer Dow AgroSciences voluntarily suspended its approval due to some problems last year, whereby manure produced from animals that ate forage made from treated grass was subsequently used to fertilise sensitive crops such as potatoes and legumes.

"During the past three years, Forefront has proved extremely effective and

helped many producers get on top of weed infestations," says the company's Robin Bentley. "They should still take action to control broadleaved weeds this spring, or risk undoing all the good work done in previous years."

"Older products, such as CMPP (which has had its registration for use on grass revoked), and MCPA, do not have the performance needed to deliver a long lasting effect. So, in the absence of Forefront, Doxstar is a good alternative."



Clamp fill should be rapid to safeguard quality

harrowing, where necessary, to break the surface cap, allow air into the soil to release locked up nitrogen and to promote grass growth. "And rolling is also good for pushing stones down into the ground and preventing damage to mowers and equipment."

All good sound advice and none of it is really new, but there are still so many producers making mistakes, which more often than not are driven by contractors, according to Realistic Agri's Peter Jefferies.

"For example, cutting too low scalps the ground and picks up soil. And to add insult to injury, the bottom 75mm of the sward is 'a waste of time' – cutting too low hinders regrowth and that portion of the plant is also full of soluble nitrogen."

He says that producers are also obsessed with getting the crop really dry: "And as a result, it's being knocked about too much in the field. This can also result in soil contamination and raises the ash content of the resulting silage."

Drier silage is easier to manage, but it can be problem if too dry. "So I think the optimum is between 24-30% DM. Once it falls to 24% DM you won't get effluent flow."

Fermentation

Taking a detailed look at your silage analyses can give a valuable insight into how to improve silage fermentation, according to Promar International's Derek Gardner.

"Fermentation quality is responsible for much of the variation in silage intake. And your silage analysis can give some valuable pointers as to where silage making can be improved as it can give some big clues about fermentation quality," he says.

The ideal silage dry matter is around 27%. If it's too dry then a lactic fermentation takes longer to start up, which leads to a poorer quality feed.

Dry silage also increases aerobic losses when the pit is opened. Too wet and you use up much more of the grass sugars to achieve a stable lactic fermentation.

The level of $\text{NH}_3\text{-N}$ in silage should be as low as possible – ideally less than 3%. Ammonia nitrogen comes from grass protein breaking down because silage fermentation is slow.

Silage fermentation quality also depends on the population of lactic bacilli dominating the other spoilage bacteria, yeast, and moulds. Levels of acetic acid should be much lower than lactic acid levels as acetic acid puts cows off eating the silage. Any butyric acid in silage is also unacceptable to a cow. Mud and muck inoculate the silage with all the wrong types of bacteria so make sure you're not picking up soil with the crop and keep all gateways and access to the

pit clean to eliminate these sources of contamination.”

Sweeteners

Sugars levels are a good guide of how well the grass fermented. “There should be between 2% and 4% left after ‘fuelling’ the silage fermentation to provide essential food for the rumen,” says Mr Gardener.

“If it's lower, and the acetic and butyric acids are high, then perhaps fermentation was slow, with too much sugar used up in that less efficient fermentation. Or maybe sugar was too low in the first place, suggesting that grass was cut too soon, that it wasn't wilted enough or that low sugar varieties predominate in the sward.”

Clamp management is also essential, not least because it is important to start an effective lactic fermentation as soon as possible after grass gets into the clamp.

“A lactic fermentation starts 20 minutes after oxygen is excluded,” explains Mr Gardener. “So buy quality plastic sheets well in advance, sheet the clamp walls and get the top sheet on as quickly as possible.

“And never roll the clamp first thing in the morning as all you do is push out carbon dioxide, draw in fresh oxygen and so stop the lactic fermentation.”

“Clamp fill should be rapid and followed by thorough consolidation,” adds Peter Jefferies. “Sealing it as quickly as possible is vital and the recommendation today is to use thin, clear plastics, that are airtight, and then covered with heavier woven covers weighed down with gravel bags.

“Do everything you possibly can to follow best practice, secure your clamp and secure some good silage in 2009.”

Rachael Porter

Thorough consolidation and sealing the clamp quickly – and making sure it's airtight – will improve your chances of producing a high quality silage crop in 2009

