

Technical Update- Preparing for Maize Harvest

Information correct as at 10:00am on 28.08.2020

- Start looking at maize dry matters now and speak to your contractor in good time.
- Make sure chop lengths and grain processing are right and check throughout harvest.
- Clamping is crucial to the success of the end-product
- Consider an effective additive if feeding maize quickly or during the summer months or if yeasts and moulds have been an issue in the past

On average last year's maize yields were down, with many crops harvested late in very difficult conditions and some being abandoned completely meaning that carryover stocks are tight. In many areas it is looking like crops will be ready earlier than average this year.

Optimum Dry Matter:

Start checking dry matters now. On average crops will dry down by 2%/week so this will allow you liaise with contractors on expected harvest date.

The ideal dry matter percent at harvest will give a finished product in the clamp of 32-35% remembering that the silage be around 2% drier than the standing crop. Below 28% there will be too much sugar giving a very acidic fermentation which will give acidosis problems. Leaving the crop to get too dry will lose feed value from the green material (which can be up to 30% of the ME of the crop), see an increase in the amount of undigestible lignin in the plant and make it more difficult to consolidate.

The gold standard of crop testing is as follows:

- Select 5 different points in the field
- Peel back the leaves from the cob on 10 adjacent plants and select the "average" plant
- Cut the whole plants at harvesting height and chop finely (garden shredders work well)
- Dry down to a stable weight in a microwave, air fryer or oven making sure it does not ignite.

Dry Matter% = $\text{Dry weight} / \text{Fresh weight} \times 100$

Alternatively, you can look at the milk line of the grain. It will be ½ way down from the outside of the grain at 32-35% whole plant dry matter and the grain will be "starchy" and not sweet to taste.

In the Field:

Cutting height will influence quality as the bottom of the plant is the least valuable, but tonnage is inversely related. Aim for 10-15 cm to avoid soil contamination whilst hitting the best compromise between yield and quality.

Decide on what chop length you want and tell the driver (do not assume they will know what you want or that the previous job had the same requirements). Check the crop coming into the pit on a regular basis and talk to driver if things are slipping. Whatever chop length you are targeting it is crucial that corn cracker is set up to smash the grains rather than just "knick" them.

Target chop length at 32-35% DM = 15-20 mm

At 35%+ DM then target a chop length of <15mm

If you are compact feeding you may want to go even shorter (<10mm) if you are happy with the clamp management.

In the Clamp:

This is the most important part of the operation and should dictate the speed of harvest. Target 250kg DM/m³ of silage and use the rule of thumb that the weight of the machinery on the pit should be 25% of the hourly input. Fill in thin layers and roll all the time.

Sheet down with good quality sheet as soon as filling is complete. Use Silostop oxygen barrier immediately on top of the maize and then cover this with a good black sheet and then a Secure Cover. There are 2 in 1 sheets now available which make the job easier. Weight the sheet down well, we now have several customers using lorry tyre sidewalls which are easier to handle than tyres and the mats are also excellent. In areas where birds are a problem then put a bird net over the top to prevent sheet damage. If you do notice any damage, then be prepared to mend/replace sheets when required.

Additives:

Maize will ferment well enough on its own, but for clamps that will be opened quickly and those likely to be fed in summer when it is hotter an additive with a preservative action will be beneficial. We recommend Silosolve FC as it carries out both functions and has been shown to increase the speed at which starch degradability improves.

For further discussion or to help with any questions that you may have, please contact Consultant Support on consultantsupport@kiteconsulting.com or 01902 851007 / 07542 403225

