

myKWS MAIZE

NEWSLETTER | ISSUE 9 | AUTUMN 2021

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THE FUTURE
SINCE 1856



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HARVEST READINESS

Tests to determine when you maize is harvest ready

Welcome...

...to the Autumn 2021 issue of the myKWS quarterly newsletter. This series offers tips and timely advice on growing maize, to help you with decisions throughout the season.

In this issue, we cover the harvest period and suggest some pointers on how to check for crop maturity, as harvest approaches.

We also profile one of our flagship varieties, the ultra-early Cito, with comments from two dairy farmer growers and an agronomist. They describe how the variety is performing on their units in West Sussex and in The Midlands. This newsletter also includes information on our Maize 360, which takes you on a virtual tour of our demonstration site in Gloucestershire.



Please scan this QR code to sign up for future issues.

? DID YOU KNOW?

KWS Grain Maize Trial

In response to growing farmer interest in varieties for grain maize, KWS has increased its focus in trials this year. Look out for results in our December newsletter.

SEASONAL REVIEW SUMMARY

JOHN MORGAN, KWS


Maize maturity plays catch up in the 2021 season.

- Predicted harvest date two weeks later than five-year average
- Late spring start has benefited early-maturing, short-season varieties (FAO range 150-170)

"The four-week delay has for some growers has been partially offset by the fairly favourable summer months; despite some periods of high rainfall. I would estimate that harvest will be delayed on these farms by about a fortnight, compared with the five-year average.

"Early-maturing varieties require fewer growing days in order to ripen, compared with their maincrop and late-maturing counterparts. This trait has been a distinct advantage in 2021, given the type of season we have experienced."

It is likely that significant differences will be recorded in the harvest index, which is a measure of the cob:stover ratio, reflecting the erratic drilling pattern, he says.

While it is too early to put a figure on starch levels there may be some slightly disappointing results, although the UK crop will still make a valuable contribution to dairy cow diets over the winter. 



John Morgan

ACTION STATIONS

It's September already and time to start monitoring your crops closely for signs of approaching maturity. If you haven't already tried our free, online heat units service, it might be worth a look. It will help you to monitor progress by providing local information on soil temperatures.



HEAT UNITS SERVICE

Available April-October

- Free online tool to check your predicted harvest date heat units graphic
- Based on the FAO of your selected hybrids and the average heat units for your location
- Enter your postcode to calculate real time heat unit numbers. Updated weekly
- Your predicted harvest date is based on the crop reaching a grain kernel moisture content of 35%
- Actual silage harvest is around 3-4 weeks before this, depending on ripening conditions
- Uses local meteorological data to monitor crop progress against 5-year mean



SEND US YOUR PICS

KWS are building a maize community to share ideas and life on the farm.

We would love to see and share your photos and videos – of both the fun and serious sides to farming. You can tag us in your own posts @kwsukltd on Instagram and Twitter or find us on [Facebook.com/KWSUKltd](https://www.facebook.com/KWSUKltd).

We would also really like to share your experiences on our own channels, you can email your pics to us, along with a bit of info, to maize@kws-uk.com. We look forward to seeing them!

FOCUS ON

CITO KWS

Ultra Early: FAO 150



BREEDER'S VIEW

CITO KWS gives farmers more options for early feed-out or late planting, as well as maximum starch content for low heat unit areas.”

If you think that an ultra-early maize variety might suit your farming system, you could consider Cito KWS. However don't take our word for it, we have two farm case studies which demonstrate its feed-out potential and explain how it fits into the rotation.



David Exwood

CITO KWS: CASE STUDY ONE


CITO 'FITS THE BILL'

David Exwood, Westons Farm, near Horsham, West Sussex

“Cito “fits the bill,” according to Mr Exwood, who has grown the variety to feed his beef cattle for the past three years. It is the only variety sown this year on the mixed unit, where maize is slotted into the arable rotation.

“Cito has a number of positive qualities,” he says. “Its most important feature is its consistently high starch levels. Another benefit is that it permits an early harvest. The crop is usually cut in mid-September, which enables us to hit the optimum window for a following wheat crop. Cito has proved to be a reliable performer.”

This year's crop is looking “tremendous,” he reports. The silage will make a valuable contribution towards the beef total mixed ration. The farm has its own small herd of spring-calving Sussex females, whose calves are reared for the production of beef for the family's award-winning farm shop. www.westonsfarmshop.co.uk The unit also purchases 240 calves from a local dairy farm each year for finishing.

“The consistently high starch yields from the Cito maize silage produce excellent daily live weight gains, allowing us to finish cattle to a very tight specification and delivering the best returns,” comments Mr Exwood. 

Cito KWS: Maize Silage Analysis – Westons Farm

DM	30%
Starch	35.2%
ME	12 MJ/kg/DM
D-value	76.3%

CITO KWS: CASE STUDY TWO

CITO IS MY INSURANCE POLICY

Andrew Sutton, Cottage Farm, Hurley, Warwickshire

Maize silage is a key ration ingredient for Andrew Sutton's noted ‘Hurcott ‘ Holstein herd and Cito is being grown for a second season. Some 45 acres were sown at Cottage Farm this year along with Rodriguez KWS, which also features in the 100-acre total maize acreage. A TMR is fed at a rate of 60kgs/head, with maize silage included at a rate of 25kgs for the 195-cow herd.

Maize has been grown on the farm since 1991.

“The maize really has to perform in order to justify growing it and Cito does the job,” says Mr Sutton. “It has to provide tonnage because the acreage is tight, and it yielded well last year at an average 17-18 tonnes/acre. The analysis showed 34% DM, with 32.9% starch and an ME of 11.2 MG/KG.

“Cito requires only a short season to reach maturity. The maize is sown after two or three-year grass leys or a Westerwolds ryegrass catch crop, with one cut of grass silage taken before it is planted. The maize is then ready to harvest in time to sow a following grass crop or a cereal.

“I regard an early maize harvest as an insurance policy; last year it was taken off in mid-September. This allowed the new-season silage to be fed out in mid-October; just as the previous year's supply was running short.”

The soil at Cottage Farm is predominantly a sandy-silt loam, with some red clay in places, and Cito will cope well no matter where it is sown, comments Mr Sutton. The maize silage is a key ration ingredient for the award-winning herd, which is milked three times a day and averages just under 12,000kgs. The rolling average for butterfat is 4.1%, with protein at 3.2%.

“The current milk yield figures would not be achievable without maize silage in the ration. Maize is an extremely valuable crop on my unit, not just for the tonnage it provides but also for the benefits it offers for the cows,” says Mr Sutton.

Daniel Knight of Agrovista gives advice on maize-growing at Cottage Farm and he describes Hurcott Holsteins as: “an exceptional herd of cows and an absolute pleasure to deal with.” He felt that an ultra-early variety would suit the system and the land, which sits at 400 feet above sea-level.

Mr Knight explains why Cito was his first choice.

(continues on page 6)



Andrew Sutton



Daniel Knight

“Cito was brought in for a number of reasons, but most of the decisions were based around risk management. Consideration was given to making an application for Mid Tier Countryside Stewardship. Growing Cito would have allowed the SW5 (enhanced management of maize crops) option to be incorporated, due to Cito’s early harvest traits.

“In the end, the Mid Tier application was not made because it was felt that the farm would be better suited to the Sustainable Farming Incentive. Despite this decision, Cito has found a place in the rotation, as it allows short-term grass leys to be established in good time and in favourable conditions in September, rather than October.

“In seasons where the harvest of short-term grass leys is delayed due to the weather, there will be a knock-on effect on maize planting. That situation occurred this year and the Cito was not sown until the end of May, but we were confident that the Cito would reach 30+% DM, thereby maintaining silage quality and cow performance.

“Cito’s earlier harvest potential also minimises the risk of soil damage through compaction and erosion, because it can be cut before the weather turns. Early cutting also improves the establishment rates of the following crop.

“Out of all the ultra-early varieties, Cito provides unrivalled early maturity, often surprising people in relation to how much earlier it is compared with a Group 9 or 10 variety, for example. The need for

forage quality is critical for this farm because of the exceptionally high yield targets, whilst also having to maintain high standards of cow health and fertility.

“Cito will produce an energy dense silage, with exceptionally high cell wall digestibility for an ultra-early, as well as high starch levels. My customers often comment on the size of the cobs and the grain density. Cito performed well on Cottage Farm after its introduction last year and it is looking equally as good this season.”

Mr Knight has some tips for anyone who is planning to sow Cito.

“I will often come across Cito maize silage at 12-12.1 ME. However in my experience, careful management at harvest is needed, to get the best out of the variety. Once September hits, the crop must be closely monitored to ensure a timely harvest. This is particularly applicable to farmers who have not grown the variety before. If it is treated the same as a maincrop variety it can end up over-ripe and difficult to clamp.

“As a general comment about all ultra earlies (including Cito), I would also suggest using a break crop, rather than growing continuous maize. This will maximise performance by reducing the risk of the accumulation of high levels of the fusarium inoculum. Contaminated silage can depress D values and reduce the ME from its potential of 12 to a more average value of 11.7.”



TESTS TO DETERMINE HARVEST READINESS

JOHN MORGAN, KWS

Moisture Content Test

Cut the plant above the first node (normally about 15cms from the ground surface)

Twist the stem, assess moisture content

If liquid can be expressed, the crop is not ready (unless it is heavily septoria-infected)

Thumbnail Test

Peel back the sheath

If the crop is mature:

The kernels at the cob top should have the consistency of soft cheese

The bottom grains should be comparable with hard cheese

Maize Grain Milk Line Test

Break open the cob about half way down and remove a kernel

The milk line occurs where the solid starch ends and the liquid begins

Aim for 75-100% of the kernel to be yellow in colour, with no liquid excreted when pressed

Patience is always key at harvest time; it’s really important to wait until the crop has fully ripened. Otherwise, the silage will never achieve its full potential in terms of quality and quantity. Premature cutting can also lead to high levels of silage acidity, with a negative effect on palatability and, therefore, dry matter intakes. It is even more crucial to choose the right date for later-maturing varieties, because early cutting will reduce starch levels.

Nevertheless, over-maturity also comes with its downsides, leading to problems with consolidation and poor clamp stability. If harvest has to be

delayed, a shorter chop length of about 15mm and the use of an additive is advisable.

Cutting Height

An increase in cutting height will boost DM and starch levels

Cutting too close to the ground can contaminate silage and is the most common cause of high ash levels

Chop Length

Depends on end use - maize silage for livestock - longer chop length, compared with biogas crops

Dairy cows recommended 20-25mm (boosts scratch factor)

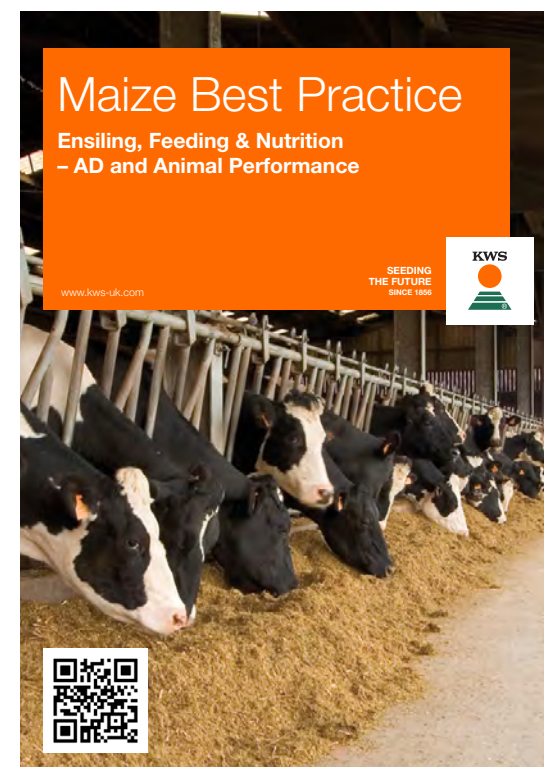
High DM required – shorter chop length to encourage good compaction

Wet harvest conditions – increase chop length to achieve target DM %

Corn Cracker Settings

Ensure cob kernels are well broken down before clamping, to maximise available starch.

Grain maturity		Description	Cob DM (%)	Whole plant DM (%)
Milk		Grain immature Avoid premature harvesting	10-15	< 20
Soft dough		Grains become firmer. Husks remain green	20-28	20-27
Hard dough		Silage maturity reached at 'hard dough' stage. Reduced risk of clamp effluent	30-45	28-32
Hard ripe		Grain at 'hard ripe' stage. Crop ready for late cut silage or CCM	48-50	33-35
Fully ripe		Grain fully matured Husks died back Ready for crimped maize or late cut CCM	65-70	36-45



Download a copy or request a postal copy by emailing maize@kws-uk.com

MAIZE 360 VIRTUAL TOUR

Maize 360 gives an online virtual experience of our KWS Maize Demonstration Site at Lydney. View the crops, walk the trial field, find out more and listen to our experts as they take you through all of our commercial hybrids and breeding demonstration.



Visit our website
maize360.com
or scan the QR code to experience
Maize 360



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