

# myKWS MAIZE

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SEEDING  
THE FUTURE  
SINCE 1856



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# Welcome...

...to the fourth issue of 'myKWS MAIZE' KWS' quarterly newsletter. Our series will keep you posted on topical issues which can help you to maximise the results from your maize crop during the growing season, as well as offering advice on varietal selection and other related subjects.

## MESSAGE TO OUR CUSTOMERS

We wish all our readers and our customers the best at this difficult time and we're looking forward to a successful 2020 maize harvest.

From the team at KWS Maize UK

# MAIZE BREEDING FOR NORTHERN EUROPE

**MATTHIAS LANDBECK, KWS**

**Great strides have been made by KWS in breeding maize varieties that can cope with the challenging UK conditions and crops are now being grown as far north as Southern Scotland. Given sufficient demand, genetic boundaries could be pushed still further to produce varieties that will flourish in mid-Scotland, expanding the national acreage sown both for forage and for biogas.**

## BREEDING PROGRESS

Over the past decade, KWS has achieved genetic advancement in several traits and this success is due in part to the fact that 15% of the turnover of parent company, KWS Group, is invested in research and development each year.

The focus has been on improving yield and starch content and producing varieties to suit a wide range of climatic conditions. Historically, ultra early hybrids have incurred a yield penalty but our recent portfolios contain varieties with the potential to exceed production levels of some later types. Our goal is to breed varieties to suit all climatic conditions without the aid of plastic due to the environmental concerns.

A short maturity window will suit many livestock farmers, who will benefit from an early harvest and the reduced risk of soil damage in a wet autumn. However, growers who supply maize for biogas may want varieties with a range of harvest dates, to spread workload. KWS has been breeding maize for biogas for more than 15 years and the portfolio also features a number which are dual-purpose.

## DISEASE RESISTANCE

Another major area of our progress is in breeding varieties with improved disease resistance. But it is always a challenge to maintain good crop health, especially for continuous maize, and the crop is more likely to achieve its potential when slotted into a rotation. Maize diseases do not usually penalise yield severely, but the majority limit growth in early season and can reduce ear numbers.

MAIZE SEASON UPDATE

# FUNGICIDE & FOLIAR APPLICATIONS

JOHN BURGESS, KWS



**It's time to start thinking about the application of a fungicide or foliar nutrient treatment for maize; or maybe one of each? Sadly, the two chemicals require different timings, so there's no opportunity to save time and money by using a tank mix.**

Foliar feeds should be used between the 'collar of fourth leaf visible' and 'collar of sixth leaf visible' stages. Fungicides are best applied as late as possible, as they're most effective in the first four weeks after spraying. That's usually between the V8 and V10 stages; just before tassel emergence.

FOLIAR FEEDS

Liquid phosphate is the most popular as phosphate is a key nutrient for maize, but it's fairly immobile in the soil (that's why I always advise using DAP next to the seed). Depending on site and soil type, it may be a good idea to add zinc, manganese and boron. They'll correct any soil nutrient deficiencies as the season progresses and in most situations will give a small return on investment. Applications can lift

yields by a few per cent, by boosting nutrition just at the time when inputs have the biggest influence on yield (they help to raise grain density).

FUNGICIDES

The maize acreage is up by about 10% this year, increasing the risk of fungal disease. In warm weather, treat crops early am or late pm and don't let the water volume for the tank mix go below 200 litres/ha.

Two main fungal infections threaten maize yields in early summer:

**Northern corn leaf blight (NCLB)** – more widespread in warm, humid conditions

**Eyespot** – favours cool, wet weather

MAIZE FUNGICIDES

Update from Ian Ford of BASF

Two maize fungicides are currently available, but one is due for withdrawal in 2022, says Ian Ford of BASF. *Opera* contains epoxiconazole (+pyraclostrobin) and can be sold until 31 October 2020, with 31 October 2021 the last date for disposal, storage and use. Sales of *Comet 200* are still permitted and it is the most popular option.

**? DID YOU KNOW?**

The 6-leaf stage is critical for young maize plants:

- They are vulnerable to phosphorus deficiency, especially if the root system is badly-developed or in challenging environmental conditions (cold soil, excessive water)
- The density of the final population and the number of grain sites are fixed.
- Wide temperature fluctuations up to 6 leaves can cause 'double cobbing,' which can be exacerbated by premature drilling

# MAIZE PROGRESS

## JON MYHILL, FUTURE BIOGAS

KWS varieties in the ground this year: Avitus KWS; Edgard KWS; Perez KWS; Keops; Amaroc



**Jon Myhill of Future Biogas oversees the growing of several thousand acres of maize. The company has 10 AD plants, spread across Norfolk, South Yorkshire, Nottinghamshire**

**and Lincolnshire, with maize making up 50% of the feedstock.**

"We got off to an early start this season and drilling began on 15 April; early sowing is important with such a large acreage to sow", says Mr Myhill. "The seedbeds set off very well, but in some cases we were unable to get on due to a lack of moisture.

"That meant having to return to some of the fields, so the drilling programme had to be manipulated to an extent. Our response to the dry seedbeds was to sow at a depth of up to 3.5 inches, which is not a normal procedure.

"Nevertheless, crops were forward for the time of year as mid-May arrived, although we will have to wait and see how they fare, because there were some light frost pockets on the more low-lying ground."

Special attention was paid to drill set-up this year, with the machine re-calibrated to suit individual varieties, he explains.

"It is essential to consistently achieve the correct seed rate, as we cannot afford to have fields that are over or under-populated. Another task was to ensure that drills were serviced pre-sowing, and that our contractors carried a set of spare parts. They were pleased to comply, because improving drill output is good for both parties."

Mr Myhill adds that considerable savings have been made, by maximising the use of digestate.

"It has allowed us to reduce the money that is spent

on DAP fertiliser. The new policy includes carrying out detailed soil profiles, so that phosphate is only applied where it is lacking."

## KEITH BENNETT, MANOR FARM, MARKET DRAYTON

KWS varieties in the ground this year: KWS Calvini; Autens KWS



**Keith Bennett has 70 acres of maize in the ground this year, with a neighbouring farmer growing a further 30 acres for him. This is sufficient for the inclusion of maize**

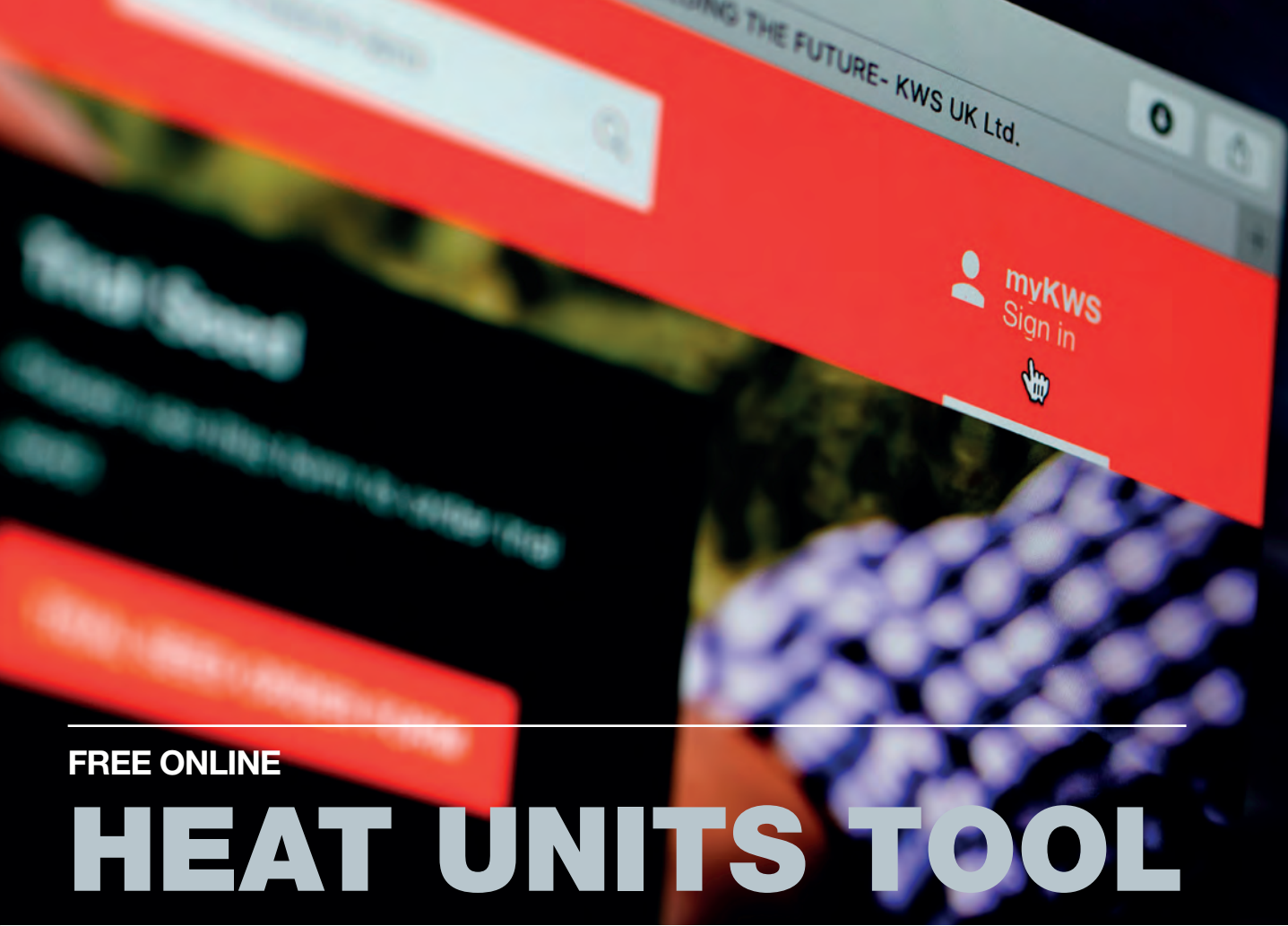
**silage all-year-round for his 230-strong crossbred herd yielding roughly 8,000kg. It is also fed to his home-bred beef cattle at a rate of 10kgs head from 14 months onward.**

Drilled on light land, his maize was sown about a week earlier than usual and lack of early season moisture was a problem, although emergence followed a fairly normal pattern. A DAP fertiliser was applied 'down the spout.'

"It seems incredible that we had such a wet winter and then experienced drought around sowing time," he comments. "However the land worked down well and hopefully we will get a good crop this autumn."







FREE ONLINE

# HEAT UNITS TOOL

## What's it all about?

**Check your predicted harvest date, based on the FAO (maturity rating) of your chosen hybrids**

**Online calculation made for your farm based on the previous 5-year temperature average**

Growers have been taking advantage of our free, online heat units tool for several years. This season we are back with a new and improved version, which has been updated for greater accuracy. You will need to enter your postcode and sowing date for the personalised system; access is available to all.

The service does require a brief registration process on our website at [www.kws.com](http://www.kws.com), but there is no need to sign up for regular communications or to have sown our own varieties. We simply want to make sure that UK maize is given every chance to reach its potential. You will also find an option on our site to sign up to receive this newsletter.

- Heat units are updated weekly, between April to October
- Approximately 120 heat units are needed for a maize plant to fully emerge
- Approximately 45 heat units are needed to form a new true leaf

Early varieties (FAO 150 – 160) require around 2,100 heat units by the middle of September to reach maturity. Later varieties (FAO 180 – 210) need around 2,400 heat units.

Later maturing energy maize hybrids, used exclusively for biogas (FAO 240 – 260) require between 2,500 – 2,800 heat units, depending on drilling date.

## myKWS

**myKWS is the new digital home for UK farmers! Recently launched, the myKWS service supports you with digital tools and relevant information about the crops you grow to support your decision making and crop management throughout the year.**

There's also an accompanying email service which informs you about relevant topics at the right time – so that you can get optimal returns at the end of the season.

We've only just launched and are still busy completing some exciting top tools and features - but sign up today to be one of the first to try your new digital home!

**Sign up now at: [www.kws.com](http://www.kws.com)**

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# CHILLING AND FROST DAMAGE

## WHEN AND WHY?

- Occurs when temperatures are less than 8°C for several days – chlorotic discolouring
- Early frosts – when temperatures are below -3°C the growing point dies
- Late frosts – when temperatures are below 0°C leaf necrosis occurs

## WHAT TO LOOK FOR

- Often to be found at field edges/depressions
- Seedling looks corkscrew-like



## YOUNG PLANTS

- Striated whorl, leaf colour fades and becomes pale
- Leaf tips become frozen and brown
- Twisted leaves and stem
- Vegetative growth stops, plant dies

## ADULT PLANTS

- Pale, dry leaves
- Usually affects the upper leaves

## COMMENTS

### Frost on young plants

- During the 4-5-leaves stage, when the new, recently grown leaves are green, the growing point is not affected, as it is still below the soil and insulated
- During 8-10 leaf stage, cold temperatures are more detrimental

### Frost on adult plants

- Harvest silage maize earlier to conserve quality
- Where frosts are strong, maize has to be ensiled within three days of the frost
- Use ensiling additives as sugars are lost due to frost

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# CCM (CORN COB MIX)

**CCM, or corn cob mix, goes back a long way in history but it is only recently that it has come back into fashion in the UK.**

The main market for the product is for chicken feed but it can also be fed to cattle and used for biogas production. If maize silage is rocket fuel, CCM is pure gold in terms of nutritional composition. CCM is so potent that livestock ration inclusion should be limited and it is usually only fed to high-yielding dairy cows and beef animals in the last one third of finishing. Rated highly by biogas plants.

We plan to cover CCM in full in a future issue, but here are a few random facts about it, to whet your appetite:

- 55% DM; Starch 55%; ME 13MJ/Kg; pH similar to maize silage
- Good option for farmers looking to reduce bought-in starch costs
- Harvested about 2 weeks after normal dry-down, but using an ultra-early variety like Cito will bring cutting forward to close to the normal date
- Relatively cheap to make – only one pass needed and can use a standard forage harvester
- Ideal for crops that fall below expectations
- Stover left behind can be mulched-in to lift soil organic matter levels
- Low effluent production
- Widely grown in the Netherlands and Denmark

## ? DID YOU KNOW?

The development of haploid lines has speeded up breeding progress. In the first year, the inbred line is produced within just two generations, instead of the usual seven. In year two, initial seed production and the launch of commercial seed is fast-tracked, along with registration and national listing.



# KWS DEMONSTRATION SITE



**Located at Lydney and St Briavels, our sites are unique in the UK, showcasing all aspects of maize breeding, as well as the full KWS maize portfolio.**

- Breeding demonstrations  
(one site at 600 feet above sea-level)
- Population wheel
- All current commercial hybrids
- Comparison of the UK's top 20 bestselling maize hybrids
- New KWS forage and energy hybrids pre-listing
- Sowing and row width drilling trials
- Tour of adjoining AD Plant – optional

**Trips can be arranged through your local merchant.**

**Everything is up in the air at the moment, of course.**

**We don't know when we might be able to open our Gloucestershire office and demonstration sites for visitors in the usual way.**

**But we do want to draw your attention to the fact that we normally host visiting parties; especially in the autumn.**

## Meet the Team...



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