

myKWS MAIZE

NEWSLETTER | ISSUE 15 | SPRING 2023



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SEEDING
THE FUTURE
SINCE 1856



Welcome...

...to issue 15 of the KWS newsletter. As sowing time approaches, Howard Nason of Crop Advisors takes an in-depth look at how to prepare for a successful maize crop.

Meanwhile, Essex grower James Faulkner highlights how two KWS varieties - KWS Anastasio and Keops – fit into his rotation. He grows forage maize to supply a local AD plant as well as grain maize, which goes to a livestock feed manufacturer.



Andrew Cook

Seasonal Review

ANDREW COOK, KWS

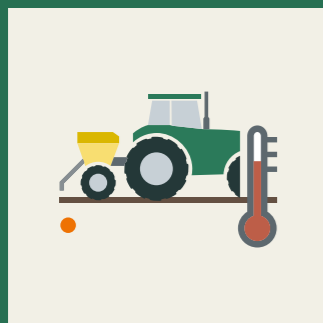
This past winter has seen a very mixed weather pattern, with the wettest November for decades and the average rainfall for February showing unusually low figures. Who knows what might be in store for the season ahead but as Howard Nason of Crop Advisors points out later in this issue, the old adage ‘well sown is half grown’ never changes.

Choosing the correct time to start drilling is crucial, and we hope you will make use of our free, online **KWS Maize Soil Temperature Tool** to help you with decision-making. The combination of warm soils and adequate soil moisture will go a long way towards getting your maize off to a great start. If the spring weather in most regions is comparable with 2022 and drilling has to be delayed, seed should be placed a little deeper to find that vital moisture, which can also be conserved through the use of a Cambridge roller, where appropriate.

Deciding whether to apply a pre-emergence herbicide is always a dilemma and more so since the escalation of input prices. However the general thinking is that it should be applied as an insurance policy, given that young maize plants do not respond well to competition. In terms of fertiliser, prices have pulled back slightly and there are reports that recent nitrogen purchases are £100/tonne cheaper compared with previous months. Nevertheless, fertiliser is a significant expense and therefore it has never been more important to fully utilise the value of organic applications.

As always, attention to detail is key to maximising results at harvest time. Here's hoping for a favourable season ahead.

KWS Maize Soil Temperature Tool – How does it work?



Enter your postcode to find the soil temperature at 10cms depth on your farm

Sowing maize seed at the correct soil temperature is critical for producing good results at harvest and we have received a lot of positive feedback from producers who use the KWS Maize Soil Temperature Tool.

The online service is free to all maize growers regardless of variety branding and very user-friendly. The data is updated daily.

To find the Soil Temperature Tool visit www.kws-uk.com and click on myKWS in the top corner of the page.



MAIZE SEED HANDLING TIPS

ANDREW COOK, KWS

The majority of KWS seed is treated with our bespoke bird deterrent and nutrient treatment, **InitioBirdPROTECT**. It contains the active ingredient, **ziram** and therefore it is important to observe the correct safety procedures when dealing with seed from the point of handling bags, right through to disposal.

- Store seed in a cool, dry environment
- Ziram is harmful if inhaled – use eye protection, gloves and a respirator
- Take care to avoid seed being left on the surface, where it may harm wildlife



Maize Seed Service

(50% re-sowing discount)

InitioBirdPROTECT

Worried about potential bird damage to newly-sown maize seed? Or concerned about poor emergence due to frost or flooding?

KWS is offering growers a 50% discount towards the cost of re-sowing any of our seed that has been treated with our flagship product; **InitioBirdPROTECT**, which also contains nutrients to get crops off to a great start. The offer applies to maize which has been written off due to **bird predation, frost or flooding**.

InitioBirdPROTECT is highly effective as a bird deterrent, as well as containing a mix of zinc, manganese and humic acids. It also includes a phosphate mobiliser, which makes the nutrient available once the soil temperature reaches 3°C. These nutrients promote development and boost root formation. The treatment comes as standard with the majority of KWS varieties.

Eligible fields must be registered no later than 14 days post-sowing, and proof of purchase will also be required to claim any compensation.

For full terms and conditions and a video on registration, go to: kws.com/gb/en/mykws



KWS ANASTASIO and KEOPS

JAMES FAULKNER, BRICKHOUSE FARM, COLCHESTER, ESSEX

Maize is an ideal fit for the large arable rotation managed by James Faulkner. It provides a useful break from cereals, while also generating income through forage sales to a nearby AD plant, as well as the production of grain maize, which is dried and marketed to a livestock feed manufacturer. The 1,350-hectare arable farm grows maize alongside continuous wheat, marrowfat peas and rye.

The KWS varieties, **KWS ANASTASIO** and **KEOPS**, have been the main features at Brickhouse for the past couple of years and some 350-hectares are dedicated to the crop. As it is used for both forage and grain maize, flexibility is one of the priorities. The grain maize was introduced in 2020; a bumper year when forage supplies to the AD plant had been fulfilled.



"I selected **KWS ANASTASIO** for the first time in 2021 because of its high yield potential," says James. "It has more than met my expectations and demonstrated the flexibility I was hoping for, producing good crops of both forage and grain. In 2021 it yielded 11 tonnes/hectare of dry grain, when I would usually anticipate 8.5-10 tonnes from a variety, and 53 freshweight tonnes of forage per hectare were recorded in the same year.

"Last year's drought severely affected results across the board and the KWS Anastasio produced 30-32 tonnes/hectare freshweight. It was also combined as a trial and gave 6 tonnes/hectare of dry grain. It has proved to be a true multi-purpose variety, with tremendous yields and an early harvest date which allows time to plant the following wheat."



KWS varieties have always performed well on this farm and produce tremendous yields.

Meanwhile, **KEOPS** seed has been a regular purchase since 2019.

"Keops is grown for the AD contract and production is very similar to KWS Anastasio, although freshweight yields are slightly higher at an average 54-55 freshweight tonnes/hectare. It has been combined for grain in the past and did very well, but I will stick with planting it for forage as it is possibly slightly later to harvest than KWS Anastasio. I am very much into trying new varieties and techniques, but Keops has given top performance year-on-year and reliability is a very important factor. Some of the maize varieties I have tried have shown brackling due to fusarium infection, but I have not seen the disease in either KWS Anastasio or Keops. The KWS Anastasio looked green in the stem for the maize grain trial, but the cobs were matured well and I was pleased with the overall result."

Like other producers, the significant rise in input costs is having a negative effect on the bottom line.

"In 2021 it cost the business £30/tonne to dry maize grain and the price went up to £45/tonne the following year, although in fact the cobs were very low in moisture that season and there was less need for drying," he comments.

The farm is equipped to cover all maize harvesting and the forager is fitted with an NIR (near infrared spectroscopy) system, a yield sensor and moisture testing.

"A quality analysis is not required by my main maize buyer and therefore I am not paid on starch content, for example. I think that in future the buyers may introduce a minimum specification, and possibly even a bonus payment, for maize quality. However at present my focus is on maximising yields."

The low average rainfall of just 500mm in the region permits maize to be grown successfully on soils that might be considered too heavy in other parts of the country, he states. The farm land runs down to the sea and the majority is a very heavy London clay. The remainder is hanslope, which has a calcareous, chalky texture.

"I tried growing maize on the lighter land and rye on the heavier soils, but in fact performance was improved when the reverse policy was introduced. I feel that the deep-rooting effect of maize has improved the soil profile. Maize land is generally sub-



soiled because I have taken on board the message from the KWS team that the plant is a lazy rooter."

The standard policy is to sow maize from 15 April to 10 May and to harvest the crop in early September, although the cutting date was early August in the 2022 drought conditions. One of the main considerations with seedbed preparation is the conservation of soil moisture.

"I am planning to experiment with strip-tilling," he says. "The Vaderstad TopDown is a useful, multi-purpose cultivator for minimal soil disturbance, although the maize ground has been ploughed for this year. I have recently bought a Landwrx drill and the idea is to sow a vetch between the rows when the maize reaches the six-leaf stage, to fix nitrogen in the soil.

"The new Amazone sprayer has band-spraying capability and will be used to apply nitrogen every 75cms along the rows. In theory, this could reduce nitrogen input by 30-40% because there is a wide gap between maize rows and the technique should place nutrient closer to the roots.

"Cover cropping is another fairly new introduction; it is particularly helpful for late drilling. The online KWS Soil Temperature Tool helps me with decisions on sowing dates, because maize seed does not respond well to cold soils."

James, who has been growing maize since 2015, says that he is "still learning" about how to produce the best results from his crop.

"I have found people in the maize industry to be extremely helpful and willing to share their knowledge. KWS varieties have always performed well on this farm and past choices include Amaroc, which produced tremendous yields, as well as Kilomeris, which was ideal for the lighter land."



Successful Maize Establishment

HOWARD NASON, CROP ADVISORS (AICC MEMBER)

The old saying ‘well sown is half grown’ is particularly relevant to achieving a high yielding maize crop. There are several areas to concentrate on for a successful outcome.

SOIL TEMPERATURES

Soil temperatures of 10°C at 9 o'clock in the morning for 5 days pre-drilling are required for even, rapid establishment. Be mindful that heavier soils will require 12°C to achieve the desired effect. Drilling can commence from 8°C on lighter soils, but only if the trend is showing rising temperatures post drilling.

Maize does not like sitting in cold, wet soils, where it can be easily attacked by fungal pathogens. In bad years, slugs can be a particular problem in these conditions and an early attack can take out slow-to-emerge crops; or at the very least severely hamper plant development.

COMPACTION

Maize is the one crop that will show up any form of soil compaction, so any tramlines or heavy traffic areas of the field need to be dealt with pre-drilling. Dig a hole to find the compaction depth and set the sub-soiler point 1" below the compacted soil. This will give optimum lifting of the soil whilst not burning excessive diesel. Where moisture is not limiting, seedbeds can be left unrolled to help with water infiltration through the soil profile and avoid the risk of capping. As the season progresses, if there is a concern about soil moisture then it would be advisable to Cambridge-roll the ground. The seed bed needs to be good enough to allow any planned pre-emergence weed control to be effective, whilst not being over worked.



Howard Nason

FERTILISER

Soil indices and pH should be tested every 4 years. Try to ensure that the tests are taken at the same point in the rotation and 6 months apart from any applications of FYM or P&K.

Yield responses to starter fertiliser can be variable. However it will increase the speed of establishment, resulting in earlier tasselling by about 4 days and consequently earlier maturity.

Less favourable, heavier soils will show the largest responses to starter fertiliser. Maize roots need to find phosphate within 2mm of the root; hence the need for placement fertiliser in certain situations. Phosphate can also get locked up by high levels of calcium. Acid-developing fertilisers such as MAP or DAP help to create acidity surrounding the fertiliser particle, thus lowering the pH increasing the uptake of phosphate on chalk soils.

Maize needs sufficient nitrogen throughout its growth stages, with peak demand from drilling to 4 leaf and 50-70% of the plant's total requirement during tasselling. FYM can help to feed the crop at this later timing, as mineralisation increases with rising soil temperatures.

Foliar-applied polymer ureas can be useful, particularly on fields within NVZs, as 7kgN/ha of applied nitrogen plant food will have an equivalent effect of 40kgN/ha plant food from solid soil-applied nitrogen. The nutrient is released slowly over a 6-week period, so could also be helpful for fields that may run short of nitrogen by tasselling. Uptake is only via the leaf, so a good-sized canopy is required for best results.

DRILLING DEPTH

A minimum depth of 7cm is important to reduce the risk of bird pull. After the loss of Mesuroil and the likelihood of further product revocations, seed dressings are a less reliable deterrent against bird damage. Cultural methods of control, such as time of drilling, seed depth and seedbed quality, help the plant to achieve a rapid early start to growth and must all be employed to improve the crop's chances against bird attack.

Drilling into moisture (particularly for later-drilled crops) will ensure even germination. Deeper drilling will also help to improve the plants' drought tolerance and standing power. A more vigorous variety would also help in this scenario.

SEED RATE

Even spacing and depth of seed is as important as seed rate. Therefore forward drilling speeds must not be too excessive. Even seed placement allows for optimum light interception; uneven plant heights will lead to intercrop competition and can result in yield losses of 30% in severe cases.

Plant maturity can be manipulated somewhat by seed rate. Reducing the rate by 10,000 seeds/ha (4,000 seeds/ac) to increase light interception will bring forward the maturity by 5-7 days, particularly with later maturing varieties. This will also have a positive effect on reducing lodging incidence.

STUBBLE MANAGEMENT / WEED CONTROL

The later spring drilling window for maize brings the opportunity for stubble hygiene out of the crop. Aim to get on top of pernicious weeds before cultivations start. The European corn borer is a pest that is increasing in severity. In continuous maize fields, topping the stubble after harvest will help in reducing this pest by allowing the rain and frost to penetrate the stubble and kill the immature larvae. Highest risk is in warmer climates in the south.

Removing competition from weeds is vital to enable the crop to get away. This starts with a pre-emergence treatment. As well as taking out an initial flush, it will also slow the growth of weeds that may have already emerged by the time of application.

There is always the temptation to try and control the weeds in one pass with a strong post-emergent option, particularly during dry conditions at drilling. This can be a risky approach if that spray timing gets delayed. Even in low rainfall years it is still evident what a pre-emergence herbicide can do when you can see spray misses in the field.

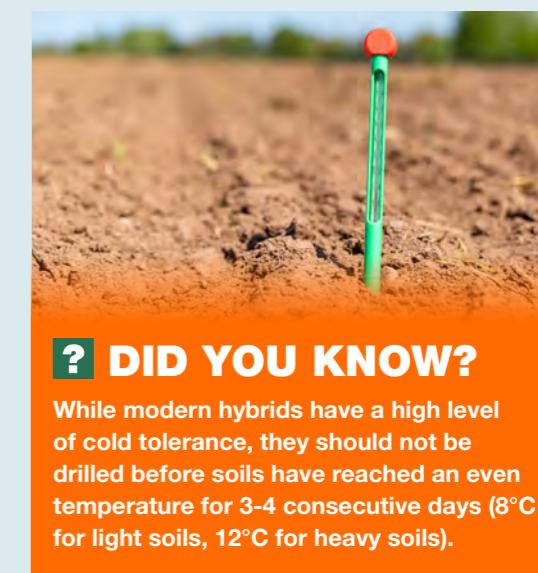
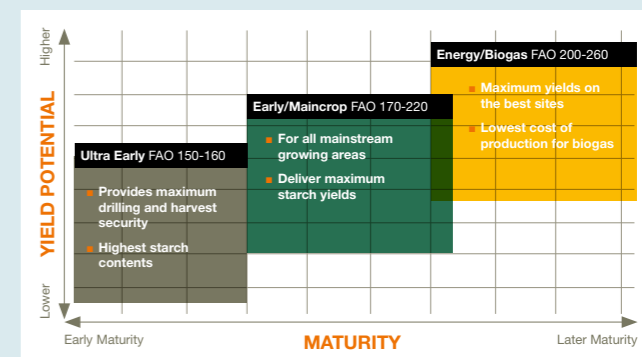
Be mindful that weeds can grow very quickly, most weeds need controlling before they reach 4 leaves. They may look small in size, but can be more advanced in growth stage than first thought.

VARIETY SELECTION TIPS

KWS offers full back up and support, with expert advice on helping you to select the right variety for your situation just an email or phone call away.

VARIETY CHOICE

- **Forage maize** – high dry matter; 30%-plus starch; FAO (maturity rating) maximum of 180-190; ultra-early hybrids, to bring harvest forward to early September – ideal for early feed-out.
- **Maize for AD** – use a range of FAO (maturity) ratings to spread workloads on large acreages; high freshweight yields; good disease resistance.
- **Maize for corn cob mix (CCM)** – compact or semi-compact hybrid; FAO (maturity rating) range 150-210; grain:stover ratio 50%-plus; good standing power.
- **Maize for crimping** – no ultra-earlies due to brackling risk; grain:stover ratio 50%-plus; good standing power.



? DID YOU KNOW?

While modern hybrids have a high level of cold tolerance, they should not be drilled before soils have reached an even temperature for 3-4 consecutive days (8°C for light soils, 12°C for heavy soils).

InitioBirdPROTECT

KWS SEED TECHNOLOGIES

The importance of a **good start**

InitioBirdPROTECT seed treatment offers maximum root health and crop safety in maize.



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