Take steps to mitigate **maize-growing risks**

Selecting the optimum maize variety for your unit can help to reduce the risk when growing and harvesting the crop, as well as increase the supply of quality forage, and boost the return on investment.

TEXT PHIL EADES

Tim Richmond:

“There is little need to gamble on later maturing maize options”

Maize continues to be the crop of choice for high starch forages across much of the UK. And LG Seeds’ Tim Richmond believes that producers can get still more from maize by focussing on the real objectives of the crop and reducing the risk of it failing to deliver to its potential.

He suggests a successful maize crop is defined by meeting three objectives. The first is providing the target kilogrammes of dry matter per cow per day for the winter with a high energy content. The second is ensuring that maize can be incorporated into the diet, properly fermented as early in the winter feeding period as possible. And the third objective is to ensure that it is harvested in time to allow a following crop to be drilled in the autumn.

“By understanding these objectives, management can be focussed on delivering a more successful crop, increasing the contribution of maize in the diet and potentially reducing purchased feed costs,” says Mr Richmond.

“It also allows you to identify the risks that can stop you hitting the objectives and reducing your return on investment.”

Variety selection

Mr Richmond identifies a number of key risk factors including: poor crop establishment, inferior feed quality, and delayed harvest. And he adds that all can be moderated by paying close attention to variety selection and field choice.

Feed choice needs to consider its suitability both at the start and end of the season. And it’s also important to consider soil type and aspect when deciding which field to drill. Producers also need to factor in the likelihood that a crop will be harvested in a difficult season.

“To maximise the chance of producing the yield and quality required, avoid late fields and those at risk of water-logging in the autumn,” says Mr Richmond.

“Choose fields that will warm up quickly in the spring, work down well, and allow good access at harvest.”

He adds that the biggest decision that will affect the potential success of the crop is variety choice, because this will directly influence all the objectives.

“Variety choice will determine how well the crop gets away in the spring, how quickly it matures, and if it is fit for harvest. And, ultimately, the potential quality of the forage produced and developments in plant breeding mean that it is possible to select a variety to deliver in most circumstances.”

He stresses that the majority of producers should be looking at early maturing varieties. These require fewer Ontario Heat Units (OHUs) to reach maturity, increasing the prospects that they will be harvested sooner in better conditions. And this also means that maize silage can be incorporated into rations sooner.

“OHUs are the internationally recognised system to show if maize can be grown successfully in a particular location and are calculated for the maize growing season from mid-April to mid-October.

“If there are too few OHUs, crops will struggle to mature and this can lead to a number of problems, particularly with increased environment concerns regarding maize stubbles,” explains Mr Richmond.

“Our unique OHU map, available on our website, shows the average heat units for every postcode. We recommend looking for varieties that can be grown comfortably within tehe average OHU. It is better to err on the side of caution than to stretch the point.

He adds that there is a 26-day spread between the earliest and latest maturing varieties on the BSPB/NIAB Descriptive List, which can be the difference between harvesting in optimum conditions, producing a high-quality feed and struggling to get a crop in.

“Choosing a late maturing variety just increases the risk that the crop will be late going into the diet and that a successor crop will not be established.”

It’s also important to select a variety with good early vigour to make sure that crop ‘gets away’ quickly. Once the crop is drilled into suitably warm soil, the quicker it germinates and reaches the two leaf stage, the better the plant will establish. New biological seed dressings can also help with early growth.

Root development

One seed treatment, called Starcover, uses a combination of a plant extract, which accelerates root development and increases root number and length, in conjunction with plant growth promoting bacteria, which help to improve nutrient uptake and plant growth.

“In trials, treated crops have had 18% more roots than untreated plants. Two weeks after drilling, treated plants were on average 5.1% higher and 15.4% higher five weeks after drilling, meaning they were capturing solar energy more efficiently and sooner,” says Mr Richmond.

“Some producers have steered away from early varieties, believing that they produced less silage of poorer quality. Modern breeding techniques have effectively eliminated the traditional yield penalty seen with early varieties and feed quality is typically excellent, so there is little need to gamble on later maturing options.

“Widely grown varieties, like Glory and Pinnacle, are both maturity class 10 or FAO 190 and are high yielding with excellent starch and ME content.”

Prospect is one of several new varieties on the list that has the early maturity for a reliable harvest and produces exceptional feed value. The combination of high yield and exceptional ME content – the result of high starch and outstanding cell wall digestibility – means that it produces enough energy, on average, to produce 2,500 litres per hectare more than the average variety. This has the potential to generate an additional return on investment of £700 per hectare.

“Variety selection is increasingly being seen as a way to reduce the risks of growing maize and increasing the prospects of quality forage to improve margins. So choose your variety with care,” adds Mr Richmond. |

Speed up germination to thwart hungry birds

A renewed focus on getting maize crops 'in and up' quickly, to help prevent bird damage, will be more important that ever this spring. A ban on a key bird-repelling seed treatment has limited its availability this seasons, so we look at the other treatment and cultural options available to producers.

TEXT RACHAEL PORTER

Repelling birds will require more focus this year, since a key seed treatment – Mesurol – is no longer available. Bird problems will vary across the UK, with fields close to woodland often hardest hit.

So, with the ban on Mesurol (its licence is up for review and the manufacturer felt it wasn't cost effective to renew it), what can producers do to 'insure' their investment in maize crops against corvid damage?

The good news is that cultural management, to prevent and limit damage – typically caused by crows and rooks – is also conducive to good sowing and early crop management.

"Many producers will already be taking steps to prevent bird damage – by getting the crop off to a quick start. And that's the best defence," says Limagrain's Richard Camplin. He says that there will still be a little Mesurol-treated seed available this year – but not much.

"So it's important to keep that in mind this year, in the run up to drilling, particularly if rooks and crows are problematic on your unit."

These birds are intelligent and will dig up seed – even following the row of the drill – for feed. Mesurol made the seed unpalatable and quickly deterred birds if they did take an interest in the crop. "We're not suggesting anything new – just that producers make sure they do what they should do when growing maize. In other words, selecting a variety with good early vigour and sowing it at the ideal depth and soil temperature, in a well-prepared seed bed, to ensure quick and strong germination and establishment."

"Once the seed has germinated and established at the three-leaf stage, it's safe from bird damage. The birds are only really interested in the seed and, at this point, the young maize plant also has a sizeable root to anchor it."

To get to this stage, as quickly as possible, producers must first select a good growing site: "A field that warms up quickly in the spring – a south facing slope, ideally, and lighter soil."

Simon Draper:
"Drill seed deeper to keep it out of 'beak' reach"

Seed-to-soil contact

Seed-bed preparation is also key, to maximise seed-to-soil contact and aid germination. "Create a fine tilth – not a 'cloddy' seed bed. And soil temperature, at the depth of drilling and not the surface, should be between 8ºC and 10ºC for seven days, or more, prior to sowing.

"With seed beds likely to be wet and cold this spring, extra attention to temperature at sowing depth will be needed if we are to avoid plant losses. On some units, this may mean drilling a little later – particularly if seed is being sown deeper. Drilling at a shallower depth puts the seed at risk of being stolen by birds and if the soil is too cold it will just be sitting there anyway."

Mr Camplin says that producers typically drill in early May, with some sowing from mid-April. "This is fine if the soil temperature will support germination. But later, say mid-May, is OK if it means that the seed will be up and away quickly. Speedy establishment is the key here."

"Germination within a couple of weeks will keep the crop safe from bird damage."

Richard Camplin:

“Once the seed has germinated and established at the three-leaf stage, it’s safe from bird damage ”

Maize Growers’ Association agronomist Simon Draper agrees that there are cultural steps that producers can use to mitigate the absence of seed treatment options when it comes to deterring rooks and crows.

“Sowing depth is key and where rooks are a problem then this needs to be below 5cm – the typical depth to which they will dig with their beaks to dig out the seed.”

Mr Draper adds that rook damage tends to be devastating as they move in flocks and can quickly decimate a field.

“So sow deeper, but not too deep. Soil temperature and seed bed preparation are key here, to ensure that the maize will still germinate – and quickly establish – even when sown at a greater depth.

“And remember that some kit will struggle to drill maize more than 5cm deep – between 6cm and 7cm should keep it out of ‘beak’ reach. So, again, make sure the soil has a good tilth to aid drilling.”

He adds that it’s important to make sure that any seed spillages or surplus isn’t left lying in the field. “This just encourages the birds. It signals that the seed is there in the first place.”

Mr Draper says that it may sound obvious, but it’s still something he sees on farm. “These birds are pretty intelligent. So try to hide what you’re doing – leaving seed above ground is asking for trouble.”

Cultural practices

Another seed treatment that repels birds, Korit, is still available this year, according to Mr Draper. “But its licence expires in 2021 and isn’t expected to be renewed.

“There is quite a lot of Korit-treated seed about this year so that’s some good news for producers who have a problem with rooks and crows,” he says. “But this year offers an opportunity to review cultural practices with a view to having no treated seed next season.”

He’s not a huge fan of Korit either, adding that it requires careful handling because it’s less safe for the operator to use.

Force is another seed treatment that can deter birds and it also helps to protect the seed against nematodes, leather jackets and other pests. “The downside is that this costs more than the regular bird repelling dressings. So it’s not for everyone.”

“It’s about tipping odds in your favour – away from the birds,” adds Mr Camplin. “And there are plenty of steps producers can take to protect their investment.” |