



In the first of our new monthly series of sponsored articles focusing on maize production, we look at drilling techniques and early season herbicide applications.

Drilling and weed control decisions

Less is more when it comes to maize seedbed preparation, according to John Burgess of plant breeders, KWS. Overworking the seedbed is not only expensive, in terms of fuel and time, but there is also a risk of losing precious moisture from the soil.

Heavier land may have to be ploughed in the autumn, but growers on sandier soils may have the opportunity to keep passes to a minimum by using a reduced tillage system; a flat lift followed by light discing, for example. On KWS trial plots, the sandy loam soils were ploughed in the autumn and power harrowed the day before drilling. The overall aim should be to achieve a cloddy, rough seedbed.

Plough

"The use of a plough will undoubtedly create the best seedbed, but it carries with it the risk of significant moisture losses, which can be a serious problem if we experience a prolonged period of dry weather, like we did last year," says Mr Burgess.

“The use of a plough will undoubtedly create the best seedbed, but it carries with it the risk of significant moisture losses

JOHN BURGESS

"A cloddy seedbed will warm up more quickly and retain the heat, whereas lighter soils and overworked land will reflect warmth away from the ground and will cool down more rapidly. Whichever technique is used, it is vital to achieve good aeration in the top 5-10cms, to encourage the roots to establish quickly."

Drill timing and depth are also crucial, he warns.

"In 2011, we had a warm spring, followed by a cool summer, so the natural reac-

tion is to drill earlier this year.

"Early drilling has also become more popular to force early maturity, so harvest can be carried out leaving a long window to prepare the land for the next crop. This can be a successful approach, but everything depends on soil temperature and the ability of the soil to retain moisture; do not be fooled into thinking the soils have warmed up sufficiently, just because the air temperature is showing a high reading.

Drilling depth

"Drilling depth is another major consideration. It could be viewed as even more important than drilling date, especially in dry conditions. Decisions should be based on achieving good seed to soil contact. As around 80 per cent of the UK maize crop is drilled by contractors, they need to work with growers, to assess soil conditions on the day."

Average drilling depth for maize can range between 4-7.5cms, with light soils drilled deeper than heavier soils, he adds. While varietal choice will make little difference to early



Average drilling depth for maize can range between 4-7.5cms depending on soil type, says John Burgess.

management, maize seed sown after grass should be treated with either Poncho or Cruiser, to control wireworm.

Young maize plants are particularly susceptible to weed competition and will benefit from a pre-emergence herbicide spray, says Mr Burgess. However he admits many growers will concentrate their efforts on post-emergence herbicide programmes, in an attempt to reduce costs. An exception might apply to grain maize, due to its higher value.

"The traditional advice has been to achieve blanket coverage up to the 3-4 leaf stage. But as drilling dates have gradually moved forward by at least 10

days over the past decade, the general recommendation is to gain blanket coverage at 2-3 leaves.

"Another reason for earlier applications is modern varieties are usually more vigorous and the canopy size is larger, which can make it difficult to achieve an optimum spray pattern."

Weed control

Scientific progress on chemical weed control for maize crops has advanced rapidly and there is a good selection of effective products on the market, says Mr Burgess. One example is Wing-P from BASF, which has recently gained approval. Applied either pre-emergence or early post-

emergence, it contains a new active ingredient, dimethenamid-P, also known as DMTA-P. In general, product choice should be based on residual attributes of the chemical, which should continue to deter weeds until the canopy can overcome them with its shading effect.

"As in 2011, I believe post-emergence maize spray programmes will win the war against weeds," says Mr Burgess. "While pre-emergence applications can suit very early-drilled crops, post-emergence sprays lost some of their effectiveness last year. This was mainly because of the lack of rain, and this year the picture is looking very similar."

EXPERT IN PROFILE

JOHN Burgess joined KWS four years ago, after leaving the Royal Agricultural College at Cirencester.

He is now maize product manager, reviewing the company's current portfolio and assessing newer varieties, often for as long as three years before they are launched in the marketplace.

Suitability

"I am always asked why there are so many maize varieties," he says. "I usually point out it is not a question of numbers, but of how the varieties will perform in different situations, as well as their suitability for the three main uses; silage, grain and biogas.

"My job involves a lot of pressure, because I am dedicated to keeping the performance of our varieties within the top 5 per cent of



all the products on the market. I anticipate an increase in the UK maize acreage in the long-term; there has been a slight dip due to

the loss of some of our milking herds, but there is a lot of potential for expansion in the grain and biogas markets."



As drilling dates have moved forward over the last decade, the general recommendation has changed from applying post-emergence herbicide at the 3-4 leaf stage to blanket coverage at the 2-3 leaf stage.

For more advice and features, follow Maize Matters online at www.farmersguardian.com/maizematters