

Evolving strategy helps maintain maize performance

Maize is integral to mixed forage cropping at one farm in north Wales. Adapting to change has helped to ensure the crop continues to maximise its potential.

Anglesey dairy farmer Trevor Lloyd has grown maize for over 20 years, viewing it as a valuable source of starch for his 430 milking cows and an important alternative forage. He is intent on keeping maize in the ration, despite a range of challenges, and has been prepared to adapt over the years to maximise the crop's potential.

Maize is now one of three forages, alongside grass silage and wholecrop wheat. The cereal creates opportunities for more rotational cropping that he sees as important in order to maintain and improve soil health.

"Grass silage is our dominant forage, making up around two-thirds of the ration. But having maize and now wholecrop spreads the risk and provides the diversity that helps to increase overall intakes," he says.

"We want to maintain this mix of forages, so it is about finding the optimum balance that keeps the ration right for the cows while improving the cropping rotation."

Trevor currently farms 360 acres at Ty Mawr, renting a further 170 acres and another 240 acres where heifers are contract reared. Cows are calving all year round and the fully housed herd is heavily reliant on conserved forage to maintain a lactation average of close to 11,000 litres on twice daily milking.

Growing under plastic

Maize is typically grown on between 130 and 170 acres, depending on the rotation. The crop was grown conventionally for 12 years before the farm began growing maize under film, in order to increase overall yields and achieve higher starch levels.

"When we first started growing maize there were more herbicides available, allowing easier weed control, and we were often



Trevor Lloyd sees maize silage as integral to his mixed forage ration and is evolving his system to maintain crop performance. Having maize and now wholecrop spreads the risk and provides the diversity that helps to increase overall intakes, he says.

drilling into ground that had not had maize on it before. But the performance began to stagnate. By adopting the Samco maize system we achieved an immediate uplift of around two tonnes per acre freshweight and with four or five percent more starch.

"We were successful with the system for six or seven seasons, typically achieving 18 to 20 tonnes/acre of 30 to 34% dry matter maize, with starch in the 30 to 35% bracket. There was an additional cost but with the performance we've achieved this was fully justified."

For the past two years, the farm has returned to growing maize in the open. This is as part of an evolution that has also seen more wholecrop coming into the ration and more rotation in the cropping. A notable reason for the change was that weed control was becoming more and more of a challenge—

with the options being more limited when growing under film.

ProCam agronomist Merfyn Parry has worked with Trevor throughout the period when maize was grown under film and through the current transition.

"The yields Trevor was achieving from the Samco system were exceptional, particularly for Anglesey, but weed pressure had certainly become a problem, particularly on the ground that had been growing maize continuously," says Mr Parry. "We have used film splitters to allow earlier access with post-emergence herbicides, but we needed to look at an alternative solution."

"There has been a lot of progress in maize breeding in recent years, with earlier maturing high yielding varieties that we felt could perform at Ty Mawr when grown in the open—so we returned to a conventional approach in 2018 and 2019.

"This last season the early maturing Pioneer variety P7326 and KWS's Autens and Arvid have performed well grown in the open, delivering on yield and starch but also a high ME, which is what the farm needs to maintain its performance from forage."

Agrochemical options

Mr Parry reports that weed control in 2019 was good at Ty Mawr, despite the loss of key agrochemicals. But there is little room for complacency as the armoury of control options at maize growers' disposal continues to diminish.

"There's no doubt that decisions around seed treatments and sprays are becoming more critical, as more and more active ingredients come under scrutiny and are withdrawn," says Mr Parry.

"It's important to understand what the challenges are, and to have a good knowledge of the



Choosing tried and trusted varieties that are proven to perform in consecutive years of trials is becoming more and more important, says ProCam's Merfyn Parry, not least because of the challenges created by reduced agrochemical control options available.

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"At Ty Mawr, for example, where some maize is going into ground that was previously in grassland, we're aware of the wireworm threat and, therefore, need a seed treatment that will protect against it. It's important to recognise that wireworm persists for a number of years and it can often be in the second year after grassland when the biggest problems arise."

Bird damage

The industry is also losing mesurol in 2020, which has been widely used as a bird repellent on maize seed for many years. According to Merfyn Parry, farmers will need an alternative strategy to what has been an effective tool in minimising bird damage.

"Many maize growers will have become so used to drilling seed with mesurol that they will have forgotten about the damage that birds can do after drilling. At ProCam, alongside our sister company Field Options, we've worked hard to find alternative solutions—and Korit-treated seed will be available. But the message to all maize growers will be to ensure the best drilling conditions—with seedbed and soil temperatures at

their optimum—in order to give seed the best chance of getting up and away.

Variety choice

"With diminishing agrochemical control options, variety selection becomes more and more important. Through our maize trials programme, we look at all new varieties over a number of years and will only recommend those that are proven to perform consistently and are right for the local conditions and the farm's individual requirements."

At Ty Mawr, Trevor Lloyd will continue to work with his agronomist to maximise the potential of the maize that is integral to his production system. A more rotational approach will be part of his strategy, with Italian or even perennial ryegrass leys being used on what has been perpetual maize ground to allow time for soils to recover.

A return to growing maize under film in the future is not being ruled out. This could again become the preferred solution if there is further development in varieties or land values increase and put a greater premium on the additional yield possible.