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Maize

Maximising maize

Arable growers looking to diversify rotations through introducing maize can further bolster the crop’s income by taking advantage of SFI options. *CPM* weighs up the benefits for first timers.

By Janine Adamson

With the Sustainable Farming Incentive (SFI) offering growers greater flexibility, there’s now the potential to make more of maize in a rotation to help maximise the crop’s value. That’s the message from KWS’ Tom Turner, who believes more arable growers are becoming first time maize producers.

“We’re seeing a move towards maize because of the undeniable benefits, which have come into their own this season when many spring crops couldn’t be planted. Generally, maize is sown from mid-April onwards which means in some scenarios, it was the last conventional crop available to plant,” he explains.

And despite being faced with a challenging spring as just experienced, Tom says many growers would rather drill a traditional crop such as maize if possible, rather than go down a straight stewardship route.

However, the two do work well together, he points out. “Maize is already a great break crop within an arable rotation because it diversifies cash flow into different income streams, whether that’s for anaerobic digestion, as feed or as grain. Being a spring planted crop, it can also help to aid blackgrass suppression.”

Profitable break crops

“But there’s no denying that oilseed rape is the most profitable option and remains highly appealing where growers can see through establishment challenges such as cabbage stem flea beetle pressure. So it’s asking the question of how we can maximise the value of a maize crop to become more competitive, and SFI offers just that,” says Tom.

The most simple step for arable growers, he believes, is to undersow maize to qualify for IPM3/CIPM3 (companion cropping), which provides £55/ha. This should be done when the maize is at 4-6 leaf stage to avoid damaging the primary crop.

Then, post-harvest in instances where there isn’t a plan for a winter crop or harvest has been late, stitching in two other species alongside the undersowing can qualify for SAM2/CSAM2 (multi-species winter cover) at £129/ha. New entrants will apply using updated codes CIPM3/CSAM2 under the expanded SFI offer for 2024.

“Alternatively, maize growers who have no plans for a following winter-sown crop such as forage specialists, may wish to apply for SOH4 (winter cover following maize crops). This can be accomplished either by maintaining undersowing or by establishing a fast growing winter cover post-harvest. This action pays £203/ha and will be available for application in July although can’t be stacked with either CSAM2 or CIPM3 thus reducing flexibility from an arable perspective.

“However, these are all strong options which bolster the income from maize yet are simple to manage at a farm level. There are also other actions from 2024’s expanded offer which we’re starting to learn the detail of, such as PRF1 (variable rate application of nutrients) which pays £27/ha and PRF2 (camera or remote sensor guided herbicide spraying) at £43/ha,” explains Tom.

“These two actions can be stacked with a wide range of SFI options, the most profitable combination for maize growers being SOH4+PRF1+PRF2 to yield £273/ha in income.”

Furthermore, he says compared with Countryside Stewardship, SFI seems to be more flexible and therefore accessible for growers hoping to dip their toe in and start to engage. But for those looking at Countryside Stewardship, Tom explains SW5 (enhanced management of maize crops) is most applicable and pays £203/ha, however is more difficult to apply for than SFI.

To rewind a step, with more growers being attracted to maize due to such benefits, some of which will be first time producers of the crop, Tom warns of the importance of conducting adequate research.

“Site selection is the most limiting factor for maize and this should define variety choice, as well as end market of course. For some this will mean only selecting earlier maturing maize varieties which can be successfully harvested before autumn sets

in and it's time to establish a winter cereal.

"Depending on the purpose of the maize, there's also infrastructural requirements such as clamps which many arable farmers won't have," he explains.

"Therefore, it's likely that growing maize as an anaerobic digester feedstock will be the most simplistic entry point for a first-time grower — contracts are available which remove such barriers and make it very easy, although profit margins may be tighter as a result."

Tom also highlights the potential of grain maize, which can be compatible with existing systems on both livestock and arable farms due to it being easy to store after drying or crimping and has the benefit of a ready-made market.

Augustus KWS was chosen by Martin Hays due to it being an early maturing maize variety.

Contractor Martin Hays farms around 160ha near Chesterfield in Derbyshire. He usually sticks with a classic cereal rotation of winter wheat, winter barley, oilseed rape and spring barley, but weather conditions this season meant it was time to devise a plan B.

Liaising with his agronomist Alison Hardesty of ProCam, the decision was made to grow maize for the first time, drilling around 14ha in the second week of May

Plan B

"It became apparent that by the time the ground would dry up, it'd be too late to drill spring barley and achieve a decent crop at the end. We also had around 25ha of failed OSR to replace, so we decided to split the land between millet and maize.

"Rather than go for the AD market, some of my contracting customers are dairy farmers who struggle to source quality forage maize early enough in the autumn. By teaming up, I've been able to grow maize but without the storage conundrum, because they'll load it straight into their own clamps," explains Martin.

He says so far, maize is ticking a lot of boxes making him question why he hasn't grown the crop before. "Not only has it given us another break option, but I've had the opportunity to improve drainage and undertake other field maintenance tasks during the down-time.

Martin Hays decided to become a first-time maize grower after poor weather hampered plans to drill spring barley.

"Importantly, we selected an early maturing variety (Augustus KWS) to hopefully minimise the impact on our following rotation which in this case is wheat. Having recently purchased a Mzuri direct drill, the last ▸

▸ thing I want is to have to repair damaged land due to difficult, late maize harvesting."

Potential SFI payments have also piqued Martin's interest which he says once stacked, should help to make maize competitive against his usual OSR yields. "The no insecticide action is an obvious one, but I'm also looking at undersowing for next year.

"Not only is this rewarded through SFI, but we're also in the catchment area for the Severn Trent Environmental Protection Scheme (STEPS) meaning we can apply for further grants too. They're not big bites of the cherry, but they soon add up."

Although the crop is already looking promising, Martin says the proof will be in the pudding. "I'll wait and see what happens come harvest. I'm not expecting huge yields given our location and chosen variety, but if it goes well, I can see myself increasing the hectarage and integrating maize into our long-term rotation," he adds.

Varietal selection

Tom further stresses the importance of variety choice and that growers shouldn't be afraid to ask breeders and agronomists for additional insight. "Maize is a crop whose reputation is improving, but many arable growers and in some respect, livestock growers, aren't overly familiar with it.

"The biggest mistake we see is growers unintentionally selecting varieties which mature too late for the site they're on. Myself and colleagues take calls on a daily basis regarding maize varieties and we're happy to do this for anyone considering the crop or requiring guidance whether that's a KWS variety or not."

He adds that KWS offers a range of options to cater for different growing windows and scenarios, from short season crops such as KWS Temprano (FAO 150), through to maincrop types such as Papageno (FAO 190).

"For the most favourable sites with the longest growing season, KWS Granturismo (FAO 220) would be a great selection. Together, these varieties offer choice and I'm looking forward to seeing growers give them a chance during the coming seasons," concludes Tom. ■

Undersowing success

For the past few years, Plumpton College in East Sussex has been realising the potential of undersowing its maize crops for both environmental and financial benefits.

The college manages around 40-60ha of forage maize in this way, planting a quick-to-establish Westerwolds variety when the maize is at 4-6 leaf stage, and following a broadleaf herbicide spray.

The Westerwolds is then rolled in the following spring to aid the breakdown of the previous maize stalks which can be brittle after the winter. Around 50kgN/ha is applied early March to kick-start grass growth and encourage bulk with a cut being taken in late April once its reached its best feed value potential. The fields are subsequently put back into maize and the cycle starts again.

Velcourt farm manager Rodney Phair oversees the site and says the initial incentive was the environmental benefits linked with the financial reward for inter-row maize cropping, however, it soon became apparent that it was possible to take a viable cut of silage too.

"The grass grows well and doesn't affect the maize yield which means we can achieve more forage from the same area of land. Furthermore, we can assign other crops to the fields which we would have had to set aside for grass production," he explains.

Rodney states the farm tends to achieve 42t/ha maize yields and the grass doesn't impact its potential. And whereas a cover crop might be sprayed off, the grass ley remains over winter to minimise soil erosion and prevent nutrient leaching.

According to Rodney Phair, the farm at Plumpton College tends to achieve 42t/ha maize yields and undersowing with Westerwolds doesn't impact the crop's potential.

"We're maximising land use while achieving environmental gains — there's a double benefit. The grass also appears to improve the seedbed overall, which helps ahead of maize planting. Because of these benefits, the approach is becoming common practice across many Velcourt-managed farms."

Having this additional forage buffer is valuable for the farm which has 240 Holstein cattle, 50 pedigree Sussex cattle, 100 breeding sows and 250 commercial ewes to feed, says Rodney."There is the risk of contaminating the silage with maize stalks but this can be minimised with pre-rolling and grouping from the mowers. Otherwise, the only other potential downside is a minimal amount of damage to the maize when drilling the grass, but again, this is negligeable.

"On balance, there are few disadvantages and it works very well for us. We'll be continuing to undersow our maize as we progress through this coming season," he concludes.