



Spring cropping

Spring saviours?

With wet weather hammering autumn-sown crops and ground travel remaining limited, spring planting may seem more appealing than ever. CPM looks at different options.

By Janine Adamson and Rob Jones

The Met Office first started naming storms in 2014 in a bid to increase public awareness of how dangerous they can be. Babet, Ciarán and Debi have battered UK shores recently, the results of which are being felt acutely by growers nationwide.

But a friendly moniker certainly doesn't make dealing with the fall-out any easier — many autumn cereal crops have been saturated and flooding is commonplace.

For those with no choice but to write crops off and wait until the spring, Senova's Tom Yewbrey says oats could be a viable option for more than one reason. "Spring oats have been slowly gaining popularity and recent autumn difficulties could subsequently make for a positive year for the crop.

"Margin-wise, they're reasonably low input (100-130kgN/ha) because they're good at scavenging for nutrients. There's

also been an increase in end user demand due to the health benefits," he says.

Tom advises that planting is reasonably flexible and should take place from the end of February into March. "A watch-out is dry spring conditions during establishment, which we've struggled with in recent years. That's because oats prefer a moist seedbed, meaning they also don't perform particularly well in very light soils."

Spring oats

Bedfordshire farmer Matt Fuller supports integrating spring oats into the rotation. He's been growing the crop for three years as a means of spreading the risk at his 1000ha farm and is happy with the result. "We were growing around 300ha of oilseed rape as a break crop but found it very hit and miss, hence we had to find something different to add rotational variety.

"Also, wet autumn conditions have reduced the amount of winter wheat being grown which has a knock-on effect on the availability of spring wheat and spring barley seed. This meant we had to explore alternative options such as oats and peas," he explains.

Having grown the crop for several seasons, last year opting for WPB Isabel from KWS, Matt says he's noticed a beneficial legacy effect. "We've had very good first wheats after spring oats, I think that's due to improved rooting and soil health. Wheat seems to be energised after cropping oats."

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However, he warns that grassweeds such as brome can prove an issue. "Grassweed herbicide options are limited in spring crops and meadow brome, for ▶



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Matt Fuller has been growing spring oats for three years as a means of spreading the risk at his farm in Bedfordshire.

▶ example, can unfortunately germinate in the spring.”

Matt also says avoiding stress in spring oats is key, and that application of PGR ‘little and often’ rather than one large hit, helps to keep the crop standing ahead of harvest.

For those preferring to stick with a more conventional option, spring barley reigns supreme. Laura Beaty from McCreath Simpson & Prentice (MSP) says Firefoxx (Elsoms-Ackermann) in particular is gaining momentum across the North.

As a result, the company has been following the variety closely since it first

appeared in National List trials, now one year on from approval for malt distilling use. “Since gaining full distilling approval, Firefoxx is on an upward trajectory — we’ve seen demand for seed double during the past three seasons,” says Laura.

She explains that in terms of parentage, Firefoxx is a Chanson/Acorn cross and importantly, isn’t directly related to Laureate, therefore it offers a different genetic background and adds diversity into the spring barley market.

“During a very challenging 2023 growing season in Scotland, where a ▶

Spring barley farm trial insights

Huntingdonshire farmer David Felce of Midloe Grange Farm says he has no fixed view of how crops should be grown but is instead determined to use the land for what suits it best.

“I know which are my productive areas and those that’ll struggle eight years out of 10 to produce a respectable crop. Perhaps conveniently for me, the less productive areas tend to be better suited to wildlife measures,” says David.

Across the 97ha of clay loam soils (Hanslope series), he admits yields are respectable, but rarely exceptional. As a result, his intention is to maximise output while practicing tight cost control.

“I have clearly defined objectives — grow crops in an appropriate way to minimise risk and maximise output while preserving and promoting the wildlife habitats we have.”

As such, David has watched with interest as direct drilling has come back into vogue under the regenerative agriculture movement. He says like many others, he’s been around long enough to remember why it went out of fashion.

“There are many who seek to proselytise the benefits of regen ag but the data to support such claims is worryingly scarce. As a business reliant on contractors for most of my operations, the opportunity to cut costs and potentially improve my soils through a regen approach held great appeal, so I decided to take a closer look,” he explains.

Drawing on skills honed in his role as regional technical adviser for Agrii, David devised a multi-year trial using spring barley. It involved comparing the yield following establishment after autumn ploughing with that of spring strip-tillage following an autumn-sown cover crop mix. Soil samples were taken from the crop after ploughing and the cover crop for analysis.

“Depending on the objective, the trial was either an overwhelming endorsement of reduced tillage practices or proof that nothing beats the

plough. This is because yield, and therefore the financial margin over establishment costs, was significantly better where the crop was sown after ploughing.

“If the difference between the systems was modest in year one, it was a chasm in year two, with a 2.7t/ha difference. No matter the savings in metal and diesel, yield is king, inexorably so, if you want to maximise your financial return,” says David.

Conversely, in support of direct drilling, David says he understands the message that by staying the course, yields will improve once the soil is ‘healthy’. “To be fair, the soil following the cover crop had shown improvement.

“The ploughed land was in good condition with a respectable score of 76 out of 100, but the soil under the cover crop showed an improvement on every aspect, yet this only moved the overall score to 79.

“Perhaps most impressive was the improvement in water infiltration rates from 21.8mm/hr after ploughing to 55.1mm/hr after two years of a cover crop, but what value should we ascribe to this?” questions David.

Having satisfied himself that in this scenario, deep cultivations offer the best means of maximising yields, David’s attention turned to variety selection, looking particularly at those with the prospect of securing a market premium (see table).

“Crusoe, KWS Extase and KWS Palladium all



Depending on the objective, the trial was either an overwhelming endorsement of reduced tillage practices or proof that nothing beats the plough, says David Felce.

impressed but the standout was Skyway, a spring barley with full approval for brewing. It comfortably met grain nitrogen requirements and at 8.9t/ha, delivered an excellent return for a modest spend.

“Successful cultivation also means no residual herbicide is used, improving gross margin and reducing pesticide loading. It’s less susceptible to brackling than Explorer and offers a useful opportunity to keep on top of grassweeds ahead of sowing; I’ll be growing it again in 2024,” concludes David.

Midloe Grange Farm: Harvest 2023 performance

Variety	Yield (t/ha)	Grain protein/nitrogen (%)	Specific weight (kg/hl)
Crusoe	9.0	13	82
KWS Extase	10.0	12	78
KWS Palladium	9.75	12.5	78
Skyway	8.9	1.54	70

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Since gaining full distilling approval, Firefoxx is on an upward trajectory, says Laura Beaty.

► significant percentage of spring barley was drilled a month later than it should, on-farm reports show that Firefoxx has proven its resilience with specific weights, yields and grain quality all holding up well.

"Many growers have confirmed that it was harvested up to seven days earlier than competitor varieties, enabling them to spread their harvest window," comments Laura. "For malt distillers, its grain quality, low screening levels and observed key trait of being less prone to skinning are among its benefits."

Grain quality

Furthermore, Sarah Lugget of Simpsons Malt says the logistical benefits of an early maturing variety such as Firefoxx are significant. "However, the grain quality has to be there for the end user as well, and there's little doubt this variety is appealing to distillers.

"It's clearly gaining traction among growers so the only argument would be that, as a single-use variety, it may lack the scope of a dual-purpose competitor. That said, it's a new variety on the Malting Barley Committee (MBC) list, so it would be wrong to dismiss its long-term

potential based on that single criterion," says Sarah.

The recent inclement weather may seem like déjà vu for Alan Steven of Hillhead Farm near St Andrews in Fife. Last year his rotation included spring and winter barley, winter wheat and niche crops such as parsnips and brussels sprouts.

Drilled on a variety of light and heavy soils between 5-10 April Alan says Firefoxx started well. "The crop showed good early vigour and competed well against our main weed burden of annual meadowgrass, chickweed and speedwell. It remained clean through late spring and summer, overcoming both an extended dry spell and then a serious amount of heavy rain, even for this part of the world," he says.

"We harvested between 25 August and 4 September, achieving average yields of 6.8t/ha with bushel weights of 69kg/hl and low screenings at 2.2%. Importantly, all

Tips for spring barley selection

With a wide range of different varieties to choose from, offering attractive yields, lower growing costs and a premium potential, spring barley selection could prove daunting.

But, whether the decision to grow the crop is planned or unplanned, Limagrains UK's Ron Granger says there are key considerations to bear in mind.

Market requirements

Start by fully understanding your grain buyer's requirements in terms of variety and grain quality, especially when looking to supply premium brewing or distilling markets, says Ron.

"In some instances, contract specifications dictate the variety that must be grown, and criteria such as grain nitrogen content will have an important impact on agronomic decisions and crop inputs throughout the season.

"This is particularly true for those dependent on hitting a certain grain nitrogen percentage to achieve the contract premium, notably distilling, which requires 1.65% N or lower, brewing 1.65-1.85%, and grain distilling at 1.85%+. Grain nitrogen is not a concern for animal feed," he explains.

Dual-use potential

Where variety choice isn't dictated by the end user, Ron says growers have more flexibility. With 13 malting and four feed varieties on the 2023/24 AHDB Recommended List, there's a good

selection available, but Ron recommends considering a dual-use variety such as LG Diablo.

"Dual-use varieties offer growers flexibility to grow for more than one market, whether that's distilling, brewing, or feed market sectors," he says.

Vigour and tillering capacity

According to Ron, newer varieties, such as LG Diablo, also offer spring vigour and high tillering capacity, which are valuable traits in the crop given the relatively short growing period.

"The best way to maximise spring barley yield potential is to ensure high final ear counts. The AHDB barley growth guide suggests the final target ear population should be around 775 ears/m², but even higher final ear counts may be required to drive yield.

"An 8-9 t/ha crop requires around 800 ears/m², which at a 350 seeds/m² rate, equates to around 2.5-3 tillers per plant at harvest," he explains.

Disease resistance

Strong disease resistance is an important characteristic to look for in any variety, and spring barley is no exception with mildew, rhynchosporium, and brown rust being the main considerations, says Ron.

"Early drilling can significantly increase disease risk, so it may be important to consider more disease resistant varieties for this situation. Spring barley doesn't have a



Although a wide range of options are available, Ron Granger recommends considering a dual-use variety.

main yield-building flag leaf, so all leaves, including leaves two and three, must be kept clean and green as long as possible."

Resistance to lodging/brackling

"Choosing a variety with good straw characteristics is key to protecting yield and grain quality at harvest, and potentially offers another output from the crop, be it for your own use, or for sale," explains Ron.

"However, while a variety's RL ratings for lodging and brackling provide a useful indication, it's also important to recognise the role of agronomic decisions, notably around seed rate, nutrition, and the use/timing of growth regulators," he concludes.



As a Chanson/Acorn cross, Firefoxx isn't directly related to Laureate and therefore adds diversity into the spring barley market.

of the Firefoxx crop met the distilling specification and given the adverse weather, we were obviously very pleased. Agronomically, it's an early variety, which helps to spread the risk at harvest and keep the combines moving."

But what about those planning to stick with winter cereals, which in theory, can

be drilled until January; is there hope? Timac Agro UK's Adam Bartowski warns that there'll always be the risk of reduced germination and plant populations.

Establishment rates

"If crops are drilled after November, the average establishment rates tend to fall below 50%. The AHDB wheat growth guide also indicates that between sowing and emergence, a total soil temperature of 150°C should be reached, which can take up to a month in late crops drilled into cold, wet soils," he explains.

Furthermore, Adam says that wet soils not only run the risk of hard freezing as temperatures drop, but they can also induce a stress response in plants. "This leads to elevated ethylene levels from poor ventilation, causing crops to mature too early or shut down entirely.

"If growers are still looking to capitalise on winter wheat, the best approach to encourage establishment is to combine increasing seed rates with applying a soil conditioner or starter fertiliser.

"An example being Physiostart — a microgranular starter fertiliser which can be added with the seed at drilling. It contains phosphorous and zinc to



Despite inclement weather conditions last season, Alan Steven says all of his Firefoxx crop met the specification for distilling.

stimulate germination, early root growth and nutrient uptake where there's been less natural microbial activity to provide soil nutrition."

For those without the specialist equipment required for this, Adam says another option is to apply a soil conditioner in preparing the seedbed just before drilling. ■

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