Supporting a strong start in spring

A unique bacillus-based seed treatment promises to help improve the establishment and early development of spring cereals. *CPM* investigates the benefits of new innovation, Surge.

By Janine Adamson

While autumn cereal plantings have been on the whole more positive this season, the rotational benefits of spring cropping remain, whether that's for weed control, to access specific markets, or to enable the integration of cover crops.

However, it's widely acknowledged that one of the main stumbling blocks of spring cropping can be establishment during inclement conditions, meaning germination and getting crops up and away as quickly as possible are paramount.

According to Fielder's director, Robert Hawkin, there are wide-ranging challenges associated with the early stages of plant growth during the spring season. "For one, spring crops often face cooler soil temperatures and slower nutrient mineralisation rates. Depending on the weather conditions over winter, soils may also exhibit nutrient imbalances due to leaching, nutrient immobilisation, or uneven distribution."

He adds that young spring plantings can be more vulnerable to environmental stressors such as cold temperatures and nutrient deficiencies during the early stages of growth. "With all of these factors in mind, adequate nutrient supply from a seed treatment can help plants to overcome these stressors, promoting resilience while providing a direct supply of essential nutrients to the germinating seed and emerging seedling.

"This supports the development of a strong and healthy root system, allowing the plant to efficiently absorb water and nutrients from the soil, be healthy, and potentially lead to improved crop yields," he explains.

Launched earlier this year by Fielder, Surge is a seed treatment that combines bacillus with manganese, and is aimed at boosting crop establishment and early plant development. Robert says this makes for an ideal combination when it comes to aiding spring crops.

Perhaps critically, how the seed treatment works is, bacillus are spore-forming bacteria that colonise the root surface on germination and form a symbiotic relationship with the plant. This supports crop development in the following ways: by promoting early root development for better access to water and nutrients; enhancing nutrient availability, particularly phosphorus, through solubilisation processes; and supporting plant resilience to stress conditions by improving root-soil interaction and stimulating natural defence pathways.

Robert points out that a key differentiator is that the bacillus in Surge has been evaluated for both physical and chemical compatibility with common seed treatments including fungicides and micronutrient coatings.

"Being especially robust, our bacillus remains viable on the seed for longer periods to ensure it's effective at the point of planting, which can sometimes be a weakness in other biological formulations," he suggests. "Shelf-life is around 12-months with no pre-mixing involved prior to it going through a seed dresser."

It's these benefits specifically that caught the eye of Evans and Pearce's Rob White. He says having tried a market-leading competitor product, also based on bacillus, he'd found it difficult to use in a practical sense.

"That seed treatment specifically doesn't come pre-mixed and once prepared, has a limited shelf-life meaning if it wasn't all being used immediately, there was an element of waste involved. From a business

Dual action product

Fielder's director, Robert Hawkin, says the bacillus and manganese in Surge makes an ideal combination when it comes to aiding spring crops.

A farmer's perspective

Surge trials underway at Midloe Grange Farm near Huntingdon

As well as supporting spring crop establishment, Surge can also add value to winter plantings, and it's this that David Felce is investigating at his farm near Huntingdon.

Like many growers this year, David says money is even tighter than usual, meaning he's being especially mindful regarding where he does invest.

"Once the fundamentals have been addressed such as drainage and pH, my next essential basic tends to be seed treatments. This is because I believe in protecting the seed from the off, and seed treatments are a proven way to achieve that."

David adds that equally, with technology advancing apace, he acknowledges the importance of considering new product innovation. "While we can't afford to adopt everything at once, I'm steadily introducing products that complement the 'basics', especially those with robust evidence behind them."

Already sold on the value of manganese due to working with high pH, high calcium soils, he said Surge appealed due to it being a low-risk way to explore bacillus. This has led him to run a simple on-farm trial this season, comparing SPD-treated winter wheat with and without Surge.

"While it'd be good to compare other variables, such as the effect of the manganese alone, I'd require a bigger farm to include all the options," he laughs.

First-hand experience

David Felce is running a simple on-farm trial this season, comparing SPD-treated winter wheat with and without Surge.

"But, I'm hoping this should answer the question of what value Surge can add to our specific situation. You can look at the scientific facts and research behind something, but with so many moving parts in soil, it may or may not work on your land.

"It's about finding the sweet spot for ourselves, with the added benefit that because Surge is at a good price point, it's not cost a lot to do a 'look-see'."

The trial involves 4t of Surge-treated wheat planted at a seed rate of 220kg/ha across two sites. "We drill late here due to blackgrass pressure, so I'll be especially interested to see how the crop does once it wakes back up again in the spring, hopefully supported by increased rooting from Surge," concludes David.

perspective, that isn't particularly efficient.

"So when I was approached to try Surge – with its improved formulation and longer shelf-life – being fully on board with the benefits of bacillus, I jumped at the opportunity," he explains.

Rob adds that he could easily see the advantages of having bacillus and manganese together in one seed treatment. "I liked the product and it was at a good price point, in fact, we easily sold around 200T for planting autumn 2025 with little effort."

Being in the business of mobile seed dressing, Rob points out that his goal is to find products that are quick and easy to use. "We have to be able to decant and apply seamlessly, and it seems Surge really suits our business model. Having dressed seed this autumn with it, I've received no negative feedback from the team – it's applied well with no settling in the drums."

On the road

Being in the business of mobile seed dressing, Evans and Pearce's Rob White points out that his goal is to find products that are quick and easy to use.

Robert highlights that it's indeed the combination of bacillus with manganese which makes Surge unique. "Together, they deliver a symbiotic result – trials from the past season (2024/25) indicate a 5% yield uplift across winter and spring cereals, compared with a control.

"In fact, one farmer in Yorkshire achieved a 29% uplift in 2025-planted spring barley across a 1ha large-scale plot."

In addition, work by the University of Nottingham has been undertaken to evaluate Surge's potential in helping crops to overcome disease pressure, namely fusarium and yellow rust. Similar trials are also due to take place using Agrii's new glasshouse.

"We want to further investigate how Surge can elicit a plant's natural defence mechanism to help ward off potential disease threats. This could be yet another benefit for the farmer resulting in a knock-on yield advantage, further adding to the many benefits of Surge," concludes Robert.

Plant nutrition specialists

Fielder is an independent, innovative plant nutrition specialist and trusted guide to what's become a complex and ever-changing landscape, particularly in UK agriculture.

Fielder aims to drive innovation and take a leading role in changing the way science enhances agriculture and farming, developing products and techniques that make a tangible difference for growers.

In particular, Surge is a next generation biological seed treatment that gives crops both a biological and nutritional edge from the earliest stages of development. It can be used across a range of crops including cereals, legumes, oilseed rape, maize and grass.

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