

“Single purpose seed dressings are one of the cheapest insurance policies you can buy in terms of protecting crops.”

Technical Cereal establishment survey

With many factors during crop establishment working against growers, what can they do to ensure every single plant is given the best start to life? *CPM* explores the current solutions and looks at how using a single purpose seed dressing this autumn could protect against yield-robbing diseases.

By Charlotte Cunningham

Many factors that contribute to overall crop performance — like temperature and rainfall — are out of growers' hands. But one area they do have reasonable control over is how well — or poorly — a crop is established. Soil structure, mechanical operations and robust varieties all feature as aspects to consider to get the best from a cereal crop.

Even so, they are still often faced with the threat of disease during the critical establishment stage.

Using farm-saved seed in a bid to cut costs may increase the risk further from potentially unknown disease levels, warn

Start with the seed

experts. To combat this, the industry has seen new seed treatments come onto the market which promise a number of benefits — from increased root mass to protection against a range of seed-borne diseases — but are growers making best use of them?

With this in mind, a recent survey carried out by *CPM* and Syngenta explored exactly what farmers' buying habits are when it comes to deciding on the type of seed to use. Interestingly, the survey revealed a fairly even split between those in favour of using farm-saved seed and those who prefer the safety of certified seed, at 43% and 57% respectively.

Key drivers

So what exactly are the key drivers behind this split? According to the results, 56% of growers opt for certified seed for both quality and safety reasons, whereas those using farm-saved seed do so on the grounds of reduced costs and ease. “There are pluses and minuses for using both types of seed,” explains Jonathan Ronsley, field technical manager at Syngenta. “From my point of view, the best option in terms of ensuring quality and managing risk is to buy certified seed. By doing so you're more likely to guarantee the cleanest source of seed, and it's tested for good establishment.”

An advantage of farm-saved seed is that it's often deemed as 'free'. Grown by the farmer, there is no physical, fixed expenditure as with purchased seed,

apart from the royalty. However, to give a fair comparison of which is the most economically viable option, it's important to consider the associated costs of farm-saved seed.

“When you buy seed from a merchant, there is a very clear, set figure for that seed, which is not always seen when using home-grown produce,” explains Jonathan. “To make it a fair comparison, it's a good idea to consider the real cost. For example, if you're taking tonnes of seed out of the barn to drill, you're losing the value of what the grain is worth.

“There is then also the additional cost of testing and treating farm-saved seed — and a farm saved seed payment — so it all ▶



Jonathan Ronsley reckons the best option in terms of ensuring quality and managing risk is to buy certified seed.



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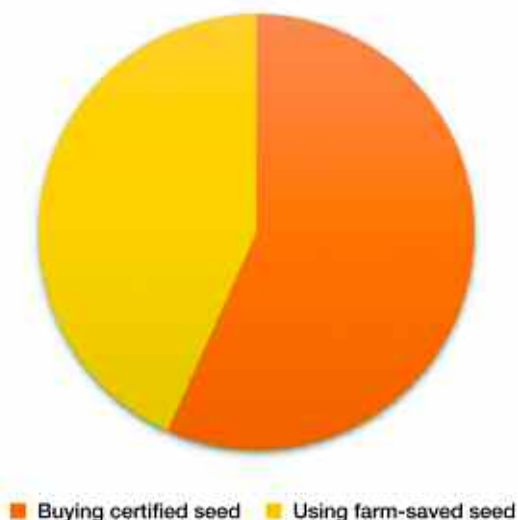
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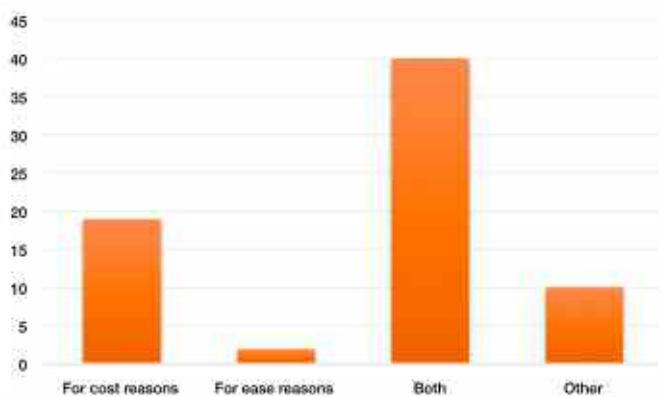
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Cereal establishment survey

Will you be planting/advising farm-saved seed or certified seed this autumn (2019)?



What is your reason for using/advising farm-saved seed?



► needs to be taken into consideration.”
For those growers who do

prefer the ease and cost-saving benefits of using farm-saved seed, testing the seed before

Vibrance Duo – everything you need to know

Registered for use on winter wheat, winter triticale, winter rye and spring oats, Vibrance Duo from Syngenta is the UK's first seed treatment to use brand new SDHI fungicide, sedaxane. Combined with fludioxonil, the dressing controls a wide range of key diseases like fusarium, microdochium, seedling blights including microdochium, *Septoria nodorum* smut and bunt. The dressing aids speed of emergence and with the added benefit of improved root development leads to stronger, healthier better-established crops, according to Syngenta.

“Farmers are always keen to see

a return on investment quoted in pounds, but sometimes there are additional benefits that can't always be quantified, and that's the case with Vibrance Duo,” says Chris. “The seed treatment goes above and beyond the work of an SPD and aids deep rooting and the speed of establishment — particularly in stressful situations.

“Through both Syngenta's work and our own farmers' trials, it has proven to do exactly what it says. When this is translated into yield figures, it does show a comfortable return on investment.”

drilling is important, he adds. “Make sure you get it tested to see if it's a sensible option for drilling and use a fungicidal seed dressing to minimise future complications.”

While testing offers an insight into disease risk from pathogens that can be isolated, previous disease incidence and severity can also provide useful information for decision making, explains Rumiana Ray, University of Nottingham. “A good starting point is to know what the previous problems were with last year's crop. Look at the cost of testing for disease in comparison with the cost of seed treatment. If an issue is likely it may be more cost-effective for small seed lots to be treated anyway.”

Key diseases

Some of the key diseases to be concerned about are fusarium and microdochium seedling blight which can significantly impact on establishment and ultimately yield, Jonathan explains. “Ear diseases like smut and bunt don't appear until ear emergence and can have severe consequences.”

Identifying fusarium and microdochium seedling blights can be difficult, so it comes as no surprise that 59% of growers noted that they wouldn't be confident identifying them in a crop of wheat. “The symptoms are reduced emergence, wilting and seedling death leading to establishment loss, but unless there's a heavy incidence of



If we go back to the old days, pre-neonics, farmers were using seed treatments as the first line of defence, says Chris.

disease, it can be quite difficult to diagnose — particularly if other pathogens are present,” explains Rumiana. “Therefore, we need to look at other factors if we decide not to test to help with our decision making.

“The risk of infection is more likely if you had a previous cereal crop with high fusarium head blight disease severity, and the weather can also have a significant impact. This year, there has been a lot of rainfall close to flowering, but it has also been relatively cool so we could end up with fusarium head blight caused by *Microdochium* spp. Out of the two *Microdochium* spp., *M. nivale* is most aggressive in causing seedling blight or affecting seed viability.”

If this is the case this year and growers see a lot of fusarium head blight symptoms — and are planning on using

Sussing out smut

Although a bad case of loose smut could be disastrous, and literature suggests could very likely wipe out a crop of barley, the survey revealed that 16% of growers had seen it themselves over the past two years. So should we be concerned about this yield-robbing disease? “Loose smut has actually been getting worse,” explains Jonathan.

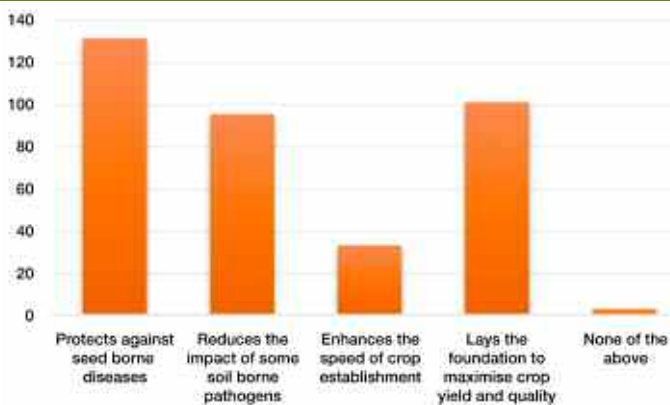
“Syngenta has been sampling for resistance and has found a sensitivity shift towards triazole-based seed treatments. We are continuing to monitor this for now, but in the meantime they remain the most effective option so it's vital that farmers make use of the products available to them to reduce the further spread of smut.”

Are you planning to apply/advise a single purpose fungicide seed dressing (SPD) to your cereals this autumn?



■ Yes ■ No ■ Don't know

What do you think a single purpose fungicide seed dressing does?



farm-saved seed next year — Rumiana recommends testing, cleaning and treating the seed to minimise issues with quality and disease.

Seed dressings and treatments certainly appear to be popular, with the vast majority of growers (82%) planning to use a single-purpose fungicide seed dressing (SPD) this autumn — but what effect will this have?

When asked about the purpose of an SPD, 75% of growers use it to protect against seed-borne diseases, while 58% believe it lays the foundations to maximise crop yield and quality. Just over half (55%) link the use of an SPD to reducing the impact of some soil-borne pathogens and a further 19% believe it can enhance the speed of crop

establishment.

“It’s clear that growers are aware of what SPDs do and all the factors listed really are the key benefits,” explains Chris Guest, head of seed at ADM Agriculture. “They can make a real difference in terms of protecting the seed, particularly at the key establishment stage. If we go back to the old days, pre-neonics, farmers were using seed treatments as the first line of defence.”

Protection against seed-borne diseases and soil-borne pathogens are arguably two of the biggest benefits of using an SPD, with proven control of a wide variety of issues including Fusarium seedling blight, Microdochium seedling blight, loose smut and bunt. ▶



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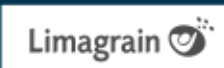
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If growers can find a seed treatment that will cover them against key pathogens that will hamper establishment then it's a good idea to invest, says Rumiana.

► Of the growers not planning to use an SPD this autumn, 37% were testing grain instead. "If growers are using clean seed, then they might not be thinking about using an SPD. It's good to do a seed test, but you can't 100% rely on it, so seed dressings offer another level of protection," says Jonathan.

"Accurate test results heavily rely on good, representative sampling and all diseases are not necessarily tested for. As well as this, even if the seed is clean, there is still a risk of issues from soil-borne

diseases if the soil is infected."

Of course, seed dressing comes at a cost, so it's no surprise that 10% of growers who weren't planning on using an SPD this autumn said they couldn't justify the return on investment. "Looking at the economics, an SPD is actually one of the cheapest insurance policies you can buy in terms of protecting crops," warns Jonathan.

Value for money

"Seed dressings are good value for money and provide excellent control levels. While you won't suffer from disease every year, it can lead to devastating yield losses when you do. For those who aren't already planning on using some kind of protective product, I can't stress enough how critical it is to control soil- and seed-borne diseases."

Deter was a long-standing tool in the armoury for arable producers, but since its loss it seems some growers are unsure about a suitable alternative. The survey revealed that 37% of growers who don't plan on or are unsure about using an SPD this autumn are unsure of the best choice. "Deter has become such a standard part of crop protection that many growers have forgotten there was a single-purpose element in it," explains Chris.

While there's no insecticidal seed treatment alternative for issues like BYDV, other seed dressings will still provide many benefits. "Products like Vibrance Duo (fludioxonil + sedaxane) from Syngenta are a premium [price] over an SPD but the establishment and rooting benefits are so phenomenal that it makes sense to use it as a single purpose dressing," he adds. "I'd advise it [Vibrance Duo] as a standard application — much in the same way as Deter was previously advised."

Rumiana adds: "If growers can find a seed treatment that will cover them against key pathogens that will hamper establishment — as well as protection against diseases like, smuts, bunts and Septoria seedling blight — then I think it's a very good idea to invest.

"Particularly in situations with frequent cereal rotations or minimum cultivations where the risk of soil borne disease is also greater, seed treatments are very useful."

As with everything in crop production, timing is key, so we asked growers if they plan on using a fungicide SPD at all drilling times. More than half of growers (65%) said yes, while 6% suggested they'd only be doing so when delaying drilling against 8% who will only use it when not in a

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Vibrance Duo can have a major impact on rooting depth as shown here (right) on a Skyfall certified seed plant, compared with an application of SPD Redigo Pro (left)

delayed drilling situation. So what is the best approach? “I recommend using an SPD at all times,” says Jonathan. “Seed-borne infections are an issue regardless of drill timing.”

While the prophylactic use of crop protection products is not deemed as favourable and is particularly high on the EU’s agenda, it’s the best approach when it comes to using SPDs, explains Chris. “We have to give the seed the best possible start in life. Yes, using seed treatments is prophylactic, but we can’t go backwards. If we

find we’ve got a problem post-drilling then there’s nothing we can do about it, so making sure you’re protected against any potential issues is critical.”

Increased risk

While infections can occur at any point, with many growers heading towards delayed drilling for grassweed control and aphid avoidance, there is potentially an increased risk of disease. According to the survey, 33% of growers believe that crop establishment risk from diseases like microdochium and fusarium is higher in a delayed drilling situation, while 44% believe it’s lower.

“I think there is a slight lack of understanding as to whether disease risk is higher when you’re drilling later,” explains Jonathan. “If you’re delaying drilling, crops are likely to take longer to establish. Diseases such as microdochium are more favoured by the cool weather which delays crop development, so it’s important to keep that in mind and use a strong, reliable seed treatment to ensure this doesn’t affect establishment.”

Rumiana agrees: “If you have cool, delayed drilling conditions then you are more likely to experience slow emergence that favours Microdochium seedling blight in turn affecting crop growth.” ■

Winner announcement

Congratulations to our five lucky winners A J Butler, Dorset; Iain Robertson, Dorset; Ian Lutely, Cambs; Helen Parkin, Devon and John Fenton, East Yorks, who responded to the *CPM/Syngenta* survey on cereal establishment and have each won the fabulous prize of a £50 Amazon voucher.

All winners responded to the survey and completed the tie-breaker question, explaining in less than 20 words the key benefits of fungicide seed treatments. Answers were varied, but all five

winners impressed the judges with their knowledge of how treatments can aid disease control, protect against establishment issues and help to maximise yield.

The aim of the survey was to look at cereal establishment issues and explore how the use of fungicide seed treatments can help growers tackle difficulties. To take part in the next survey, make sure we have your correct details by emailing angus@cpm-magazine.co.uk



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