



## T2s must recognise Septoria's evolution

*It is almost a decade since the last high pressure Septoria season, and much has changed in that time. Hutchinsons head of integrated crop management, **David Howard**, examines how this might influence the crucial T2 spray this spring.*

**Aside from 2019, when Septoria hit some wheats late in the season, we must go back to 2014 for the last time there was widespread high Septoria pressure. In recent seasons, yellow rust has often grabbed more headlines.**

It is easy to forget what can happen when conditions conspire against us, and just how quickly Septoria can race through crops that are not adequately protected. This was clearly illustrated three years ago, when pressure appeared low through spring, only to ramp up significantly once rain arrived in June.

Who knows what the weather will do over coming weeks, but if conditions favour high Septoria pressure, control could be far more challenging than in 2014. The pathogen is evolving and adapting

to environmental conditions continuously, with new, more vigorous isolates able to spread and infect crops far quicker.

Indeed, one recent University study found Septoria's biology and transmission is changing, with yeast-like blastospores now able to pass through the crop more quickly than before. It's one study, but if true, may well explain what happened in 2019.

We know rust can rapidly spread from a low base, and Septoria is the same. If inoculum is present, pressure can build exceptionally quickly in warm and wet conditions during April and May. So, if disease is present on lower leaves, do not assume it will go away - cold often slows disease, but only prolonged periods of low temperatures will reduce inoculum significantly.



*David Howard (Hutchinsons Head of ICM)*

### Managing risks

Septoria is the focus of T2 flag leaf fungicides, although yellow rust, and later-developing brown rust, should also be factored into programmes.

The T2 protects the main two light-collecting leaves, responsible for 65-70% of total yield. A good product and robust dose is needed to protect crops through the back end of the season, when the bulk of yield building occurs.





*Septoria on lower leaves*

Curative action is needed too. Because the T1 is applied to leaf 3, it is unlikely to cover much of leaf 2 (unless applied very late), so leaf 2 could have been exposed to disease for some time. If disease pressure is high, with plenty of inoculum in crops, good curative action is essential - either from highly potent products, or higher doses of less potent products.

Generally, the strongest curative options are fluxapyroxad + mefentrifluconazole (Revysol), or fenpicoxamid + prothioconazole (Univoq), so these will be the go-to choices in anything other than a low-risk situation. Both offer similar Septoria control, so deciding between the two may come down to other factors - e.g., mefentrifluconazole is slightly better on brown rust, while fenpicoxamid has an edge against yellow rust.

Including the multisite folpet can be worthwhile for extending Septoria protection in high pressure situations, and for resistance management. Both aforementioned products are

potentially at risk from resistance developing if not used responsibly - Revysol is an azole / SDHI formulation, while fenpicoxamid is a new mode of action, but works in a similar way to strobilurins.

Of the older chemistry, AHDB fungicide performance work shows a notable drop in the efficacy of some SDHIs that were once the mainstay of T2 programmes. Growers need to be aware of the changes when choosing products, especially if curativity is needed.

There is still a place for products based on actives such as bixafen, fluopyram + prothioconazole, or other bixafen, fluopyram mixtures, which have shown higher activity than other SDHIs in Hutchinsons trials. But if Septoria pressure becomes significant, higher rates will be required.

If rust is the focus, rather than curative Septoria control, many products, such as benzovindiflupyr + prothioconazole, offer good efficacy and may deliver some Septoria protection too.

### Time it right

Ideally the T2 should be applied at GS 39, once flag leaves on main tillers are fully emerged. However, there can be big practical challenges to this, especially when treating large areas, and/or when disease pressure is high.

Varieties can also differ significantly in the time taken for flag leaves to emerge. BASF trials show the time between the first and last flag leaf emerging within a plot of an individual variety can vary from typically 10-14 days in some varieties, up to 25 days in others. For anyone growing the latter, waiting that long for 100% of flag leaves to emerge could present real problems in a high disease pressure situation, raising difficult questions about optimum spray timing.

Crop stress, drilling date, nutrition, crop evenness, and other factors also affect flag leaf emergence, so all you can do is go for the majority, at a time when you can get around everything. Some may have to start spraying slightly earlier, say GS 37, but generally that is better than being too late, letting disease take hold, and struggling to get curative control.

With summer weather becoming more unpredictable, disease pressure towards the back end of the season is often much greater than expected, so doing a good job at T2 can reduce the pressure at T3 and protect yield potential this harvest.

**If you need advice on fungicide product choice and timing on your farm, email us: [information@hlhlt.co.uk](mailto:information@hlhlt.co.uk)**





# Nitrogen faces the wind of change

*Tim Kerr (Hutchinsons Nutrition Manager) considers the ongoing changes in Nitrogen fertiliser use and the implications of moving towards urea-based or foliar products.*

**In the last 18 months we have experienced fundamental changes to the domestic fertiliser supply chain – because of which, Nitrogen fertiliser usage in the UK will change irreversibly.**

Inevitably there will be more urea-based fertiliser used – whether in solid form or liquid (UAN) form. Urea will be new to many this year – as will the additional complication of whether to use treated or untreated urea.

Here we are in April and at the time of writing there was still some confusion about the formal implementation of rules regarding the use of unprotected urea.

## Do we need legislation?

Human beings can be fickle creatures – it will seem odd to many of us that it took legislation on seatbelts to ensure that they are used. According to statistics, the use of seatbelts saves up to 300 lives per week in the UK. It now seems barely imaginable that a law was required to achieve this...

No one has to wait to be told to use treated urea – following the guidelines of adding an inhibitor after 1st April will effectively reduce the risk of Nitrogen losses.

Although there must be a specific date when it becomes a requirement

to use a urease inhibitor with urea-based fertilisers, farming by dates is never ideal. If conditions are likely to encourage ammonia volatilisation, then it makes sense to protect the urea.

What is absolutely clear is that there is an inherent risk of ammonia losses from urea – a risk that increases as soil and air temperature increase. There are other factors too – like soil pH and wind.

As the shift from AN to urea has already started, it is reassuring to see that many buyers are opting for protected urea to mitigate the risk of Nitrogen loss when applying urea. After all, whether it is £400 or £800 a tonne, cheap it is not, so it is only sensible to make the most of the Nitrogen and reduce potential losses.

The truism that any Nitrogen fertiliser is 100% efficient when it is in a bag waiting to be spread is a helpful reminder that the efficiency of the fertiliser should not be left to chance – whether that is calibrating the spreader at a basic level, protecting urea, or variably applying Nitrogen to meet crop needs at a more precise level.

## Weather effects

Another factor in the efficacy of Nitrogen fertilisers is that favourite of topics – the weather.

We have seen a number of extended dry periods in recent springs, which have made it questionable as to the benefits of applying further fertiliser to dry soil. Nitrogen uptake through the roots relies on movement of water up through the plant, and in dry conditions we have seen Nitrogen becoming a limiting factor, despite theoretically having applied sufficient fertiliser.

## Benefits of Foliar N

More people have adopted the practice of applying foliar N – and one major benefit from this approach is the fact that you are not reliant on the weather. Foliar N when applied as the crop-safe form of methylene urea, provides directly available Nitrogen to the plant in an efficient and timely manner – whether it is dry, wet, hot or cold...

No doubt this is why Foliar N is proving so popular, especially to replace late applications of fertiliser that are at greater risk of not being taken up in good time or being subject to losses through volatilisation of ammonia. Regular Foliar urea can also be subject to significant volatilisation losses, as well as carrying a risk of scorch. The foliar N products with a high percentage of methylene urea are very different – in providing phased release N without any significant risk of scorch.



**Tim Kerr** (Hutchinsons Nutrition Manager)

borne of the Haber-Bosch process of industrially fixing Nitrogen, without affecting productivity?

The possibilities of biological fixation of Nitrogen in non-leguminous crops are already being exploited – and offer a credible science-based approach to reducing reliance on fertiliser.

It may be that expensive fertilisers have accelerated the development of these products, but that is no bad thing. Once we have learned how much Nitrogen can consistently be drawn directly from air by these products, we will see a permanent reduction in the amount of Nitrogen that we need to use.

It might not be such a seismic change as the one we saw when Nitrogen fertiliser was first mass produced a century ago, but we might just look back and recall the beginning of the biological N era and wonder why it took so long...

**If you have questions about crop nutrition this spring, contact us: [information@hlhlt.co.uk](mailto:information@hlhlt.co.uk)**

▶ An additional benefit is that the foliar N can be included in tank mixes to avoid an extra pass – in itself a useful saving of time and money. Increasing efficiency of Nitrogen reduces the amount that needs to be

applied to achieve optimum yield. This in turn contributes significantly to the quest to reduce the carbon footprint of crops.

How far can we go with this process of reducing the use of Nitrogen

# Harvesting the benefits from data



*Harry Middleditch*

**Harry Middleditch** of Hole Farm, Sudbury believes precision farming has to be more than creating pretty pictures and maps – it's the data behind these and utilising that data that drives more informed decision making, improving crop performance.

"We look at every decision on the farm in terms of return on investment, so the more information we have to make those decisions, the better our results are," he says.

With this in mind, Mr Middleditch moved over to the Omnia digital farming platform a year ago, and believes he is already reaping the benefits of adopting the system.

"We have been interested in Omnia for a while as we are impressed by the depth of information that we can extrapolate to help us farm more efficiently whilst still pushing for yield.

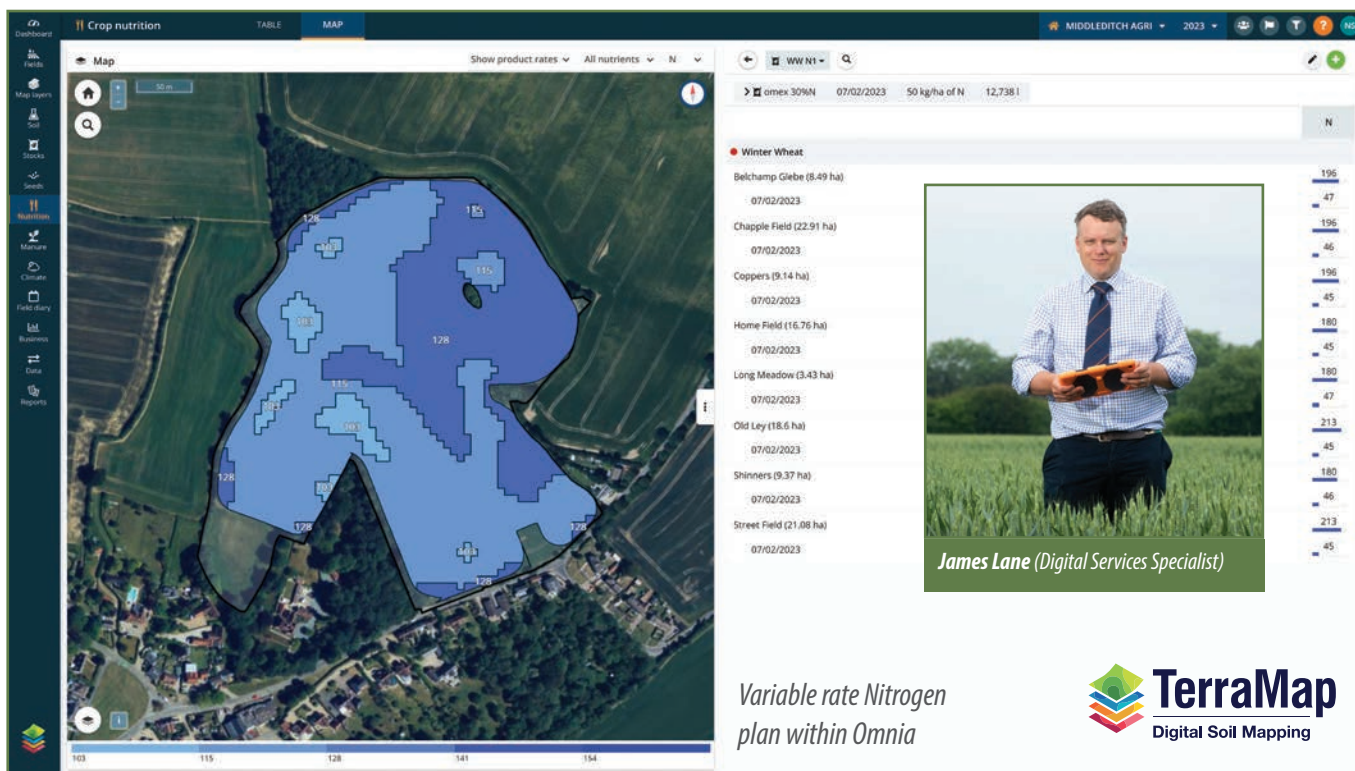
"Omnia also allows us to have ownership and control of our own data; so for example after field-walking we may need to tweak something that is already set up

in the system, but it's easy enough to do this.

"The benefit of this is we know that our decisions are being based on the most accurate and timely data."







Variable rate Nitrogen  
plan within Omnia



## ▶ Creating variable rate nitrogen plans

Working closely with James Lane, Omnia digital services specialist, Mr Middleditch found the transfer over from his previous precision farming provider to Omnia straightforward, which meant he could use it straight away to create variable rate nitrogen plans for this season's cropping.

"We had all of the farm TerraMapped, which confirmed much of what we knew about our soils but with more detail behind it - clay content proved to be around 35%, P & K levels were strong at the 2-3 mark, and pH levels were good. OM levels ranged from 3-4.5% so we were happy with that, but will continue to work to build these up.

*"Everything we do now is based around the soil - how we look after and manage it starts with understanding what is in it and this approach is very much reflected through the tools offered in Omnia, such as TerraMap."*

TerraMap is Hutchinsons revolutionary soil scanning service that provides greater definition and more accurate soil maps than any other system. It does this by providing high-definition mapping

of all common nutrient properties, pH, soil texture, organic matter and CEC, as well as elevation and plant available water.

The results from TerraMap are used to create application maps within Omnia.

Along with the data from TerraMap, yield maps and NDVI imagery was used to create variable rate nitrogen application plans for Hole Farm cropping.

"It's all about improving the efficiency of use, and not necessarily reducing the amount we put on," he points out. "Knowing that the variable rate maps are produced from the most accurate and up to date information means we take out the 'human emotion' element of decision making - we don't need to ask ourselves if we should be topping up that area or pulling back elsewhere - we can rely on what the data is telling us.

"In the past we have applied all liquid nitrogen across four splits, but this year we are trialing foliar nitrogen and will spread this across five splits.

"We have let Omnia calculate the rates for the first nitrogen application, without any tweaking from us, as we believe this is the best way to create the most even biomass," says Mr Middleditch.

"On some fields we were putting on a range of between 30kg -75kgN, all via NDVI, and we are happy that the crops look even and consistent across the fields.

"For the second split we will aim to tweak the maps based on how the crops actually look in the field, allowing us to push those areas which are higher performing, and vice versa-effectively feeding to potential.

"Yield is still king, our five-year average for feed wheats is 9.6t/ha and we are always looking to push this higher, but margin is the ultimate driver, so this has to be balanced with a sensible and justifiable level of inputs."

**For more details about variable rate input plans, please contact your agronomist or Omnia representative, alternatively please visit the Omnia website: <https://omniadigital.co.uk>**

## Hole Farm

- Fourth generation family farm
- 384 hectares winter wheat, spring barley, winter barley, oats and beans
- Soil types: Hanslope series
- 40,000 free range broilers sold to Traditional Norfolk Poultry (TNP)
- Poultry manure is applied before second wheats and after oats in front of wheat. This is tested before application and goes onto the standing crop, not just into stubble
- Entered into CSF-just about to sign off on the SFI arable standard

# Sustainable Farming Incentive (SFI) – there's nothing to lose.



**Matt Powell** (Environmental Services Specialist)



**Andy Cumming**  
(Huggate Church Farm Properties)

**Matt Powell, Hutchinsons northern environmental services specialist, sets out how the SFI can help growers claw back some of the income shortfall through the loss of the Basic Payment Scheme.**

"For most growers it will require little change in practise, other than perhaps adding organic matter (OM) more frequently or soil sampling fields for OM. So there is nothing to lose by entering it."

"It is possible to pick and choose the standard and not all fields on the farm have to be incorporated, nor do they have to be the same standard across the farm."

He points out that unless you have a large percentage of late harvested crops like maize, fodder crops, or you over winter plough, you are generally safe. "It is possible to leave 30% of land in the agreement sitting bare overwinter - which is often a larger area than you think."

"There are many ways to get around this, i.e. undersowing maize with grass, leaving weedy stubbles and for an extra £18/ha across the holding, you can cover crop. SFI is less prescriptive than Countryside Stewardship, so it is possible to make your own mix and create your own cover."

## Grassland standard

"Temporary grassland can sit under either the arable or grassland standard - but the grassland standard pays more. The easy option if grass

is in a rotation is to claim the arable standard," explains Mr Powell.

"However it is worth looking ahead in your rotation and any ley destined to stay for the 3-year agreement can be claimed at £28-£58/ha, the latter requiring 15% herbal ley."

"There is a common misconception that grass over 5 years old becomes permanent pasture and cannot be returned to the rotation - it is actually 15 years without 'cultivation' so in most instances grassland will be eligible."

Mr Powell advises that unless you know you are applying for mid-tier it makes sense to apply now for Soils SFI, as it could be 6-12 months before any of the new standards are actually live to apply for, by which time you have lost out on revenue.

## Why SFI?

- Direct costs more than double
- BPS reduces by >35% in 2023
- Demand from growers to engage more in soil management
- Soils standard doesn't require land out of production
- SFI part of a risk management strategy

Signing up to the SFI arable introductory standard was an easy decision for Andy Cumming of Knaresborough-based, Huggate Church Farm Properties. "It did not mean much change to what we were already doing," explains Mr Cumming.

"We were on the fence whether to apply for mid tier, however it seemed logical to apply for the arable SFI and on the advice of the team at Hutchinsons we went ahead with it."

"Having had the farm TerraMapped, we already had accurate OM measurements which were held within Omnia. The nature of our rotation also lent itself to meeting the green cover requirement."

His agronomist, David Stead, says:

"Omnia manages and delivers the soil management plan or assessment and produces a report for SFI, so other than an annual declaration, it is self reporting. There are no additional government forms or templates required."

"It is then possible to use the field scout app to measure and record an in-field soil VESS test to feed into the report, so it is pretty straightforward without creating much more additional work."

Mr Cumming adds: "At the time we didn't apply for the grassland standard, as we were unsure if it would qualify, however we will look at this again once the improved grassland standard comes out later in the year."

**Questions about entering the SFI? Contact us: [information@hlhlt.co.uk](mailto:information@hlhlt.co.uk)**

For more information on any of our products or services, please contact your local Hutchinsons agronomist, or contact us at:

# HUTCHINSONS

## Crop Production Specialists

H L Hutchinson Limited • Weasenham Lane  
Wisbech • Cambridgeshire PE13 2RN

### Tel: 01945 461177

Email: [information@hlhlt.co.uk](mailto:information@hlhlt.co.uk)

@Hutchinsons\_Ag HLHutchinsons

## [www.hlhlt.co.uk](http://www.hlhlt.co.uk)

2022/23 CPD Points Allocation reference numbers:  
NRoSO NO471362f • BASIS CP/119476/2223/g