

Crop disease detection with **SwiftDetect**

*Get actionable insight into the level of disease
in your crop within 1 business day**

**Wheat
& Barley**



SwiftDetect
by Microgenetics

> Crop disease: your biggest challenge

Crop disease can be devastating to UK farmers as well as the wider economy, through losses in yield and a reduction in quality of remaining crop.

Part of the challenge around crop disease is not just about treating it when it takes hold. It's the ability to **detect it early** enough to take action, and **quantify** the level of disease if it is present so an effective yet **efficient** treatment programme can be developed. Through this, growers can protect **yield**, whilst saving **money** and helping the **environment** with a better use of fungicides.

This is where SwiftDetect can help.





> Get a step ahead with **SwiftDetect**

SwiftDetect is a unique, highly sensitive rapid test, capable of detecting down to just a few viable pathogen cells in your crop. It is so sensitive that it can identify disease even in latent stages, allowing you to treat disease before visible signs emerge.

SwiftDetect is currently able to detect:

- Septoria in wheat
- Yellow Rust in wheat
- Brown Rust in wheat
- Mildew in wheat
- Ramularia in barley

All from a small sample of just 10 leaves, with results to you within 1 business day*.

*Results issued on day of receipt if sample received before 9am. Excludes weekends.

> Benefits of SwiftDetect



Rapid turnaround

Get actionable insight on the level of disease in your crop, guaranteed within 1 business day*.



Sensitive

SwiftDetect is highly sensitive, so can detect disease well before it becomes visible on the leaf. This allows you to make earlier interventions.



Hassle-free

All you need to do is book your test online, collect a leaf sample and post it to us in an envelope; we will handle the rest.



Better targeting

SwiftDetect allows you to match the fungicide and dose rate to the level of disease in your crop at T1 & T2.



Reduced environmental impact

By giving you clear insight on level of disease in your crop, you will be able to use fungicide more efficiently and effectively, helping the environment and reducing waste.



Cost-effective

SwiftDetect not only helps you make savings by spending less on fungicide for the same yield, but being a single cost test, SwiftDetect is cost-effective in itself!



Unique

SwiftDetect uses a patented method, so there are no other tests available quite as sensitive. You can therefore have confidence in the accuracy of your results.



Integrated Crop Management

As part of ICM, SwiftDetect is a decision support tool that allows early detection of disease levels in the crop and can support justification of using crop protection products.



Gain insight

SwiftDetect allows you to see in real time how disease is progressing in your crops, allowing you to track trends and giving you a deeper level of insight. In addition, we can determine the average level of disease in multiple leaves, providing you with a more representative result across your crop, than if a single leaf was tested.

**Results issued on day of receipt if sample received before 9am. Excludes weekends.*



> How it works

- 1 Order your test online**

You can choose to send your sample using your own envelope, or we can send you a pre-paid one. If you use your own envelope, make sure it is paper and windowless to prevent your sample from sweating. In your order confirmation you will be assigned a Test ID. Make a note of this for later. If you order a pre-paid envelope, your Test ID will be printed on for you. Make a note of this for later.
- 2 Collect your sample**

To ensure your samples are as representative as possible, walk in a 'W' pattern across your field and collect 10 leaves for testing. Keep the leaves dry, using kitchen towel if possible. Note your test ID on your envelope if you are sending your own. If you are using a pre-paid envelope, your Test ID will be printed on the back of it. Make a note of which samples correspond with each Test ID for when you get your results.
- 3 Wait 1 business day for your results***

Our team will test your sample in our state-of-the-art laboratory and your results will be emailed to you.

*Results issued on day of receipt if sample received before 9am. Excludes weekends.



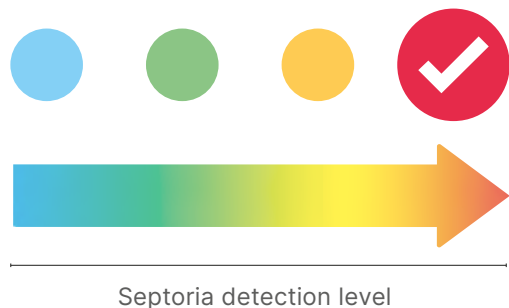
> Understanding your results

Your results email will contain:

- Your Test ID, so you know which sample your results correspond to
- Date of your test
- Traffic lights
- SwiftDetect Score

Traffic lights

Our traffic light system categorises the level of disease in your crops, from undetectable (**blue**), through to low (**green**), medium (**amber**) and high (**red**). This provides you with an at-a-glance snapshot into the level of disease in your sample.



SwiftDetect Score

Whilst our traffic light system provides insight into the level of disease in your crop, the real detail is in your SwiftDetect Score.

Your SwiftDetect Score quantifies your crop disease level by representing the number of pathogen cells in your sample. This extra detail, alongside your traffic lights, will help you to determine the type and dosage of your fungicide.

> If you would like more detail on the science behind a SwiftDetect Score, scan the QR code!





> We're here for you

Being a small, independent business, we pride ourselves on our excellent customer service. Whether you want to speak to a member of our team about your SwiftDetect results, or would like to provide some feedback, we're always happy to help.

Get in touch using our contact details below! Telephone lines are open Monday to Friday, 8:30am until 5:00pm

01225 985850
swiftdetect.co.uk

> What we saw in 2021

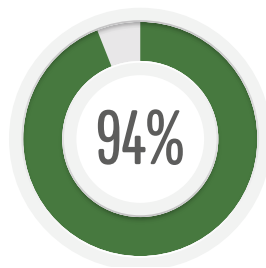
March 2021 marked the first season where SwiftDetect was commercially available, and we are proud to say the technology has been **tried, tested and loved** by our customers.



customers surveyed agreed that results came in a timely manner



customers surveyed said they were satisfied with the outcome of their test



customers surveyed agreed that they would use SwiftDetect again

“ It is definitely a good tool to help with the management decisions.”

Farmer, East of England





SwiftDetect and the weather

Like all crop disease, Septoria is heavily influenced by the weather. SwiftDetect is so accurate that when looking at average SwiftDetect scores across all tested wheat samples in 2021, the trend reflects weather patterns.

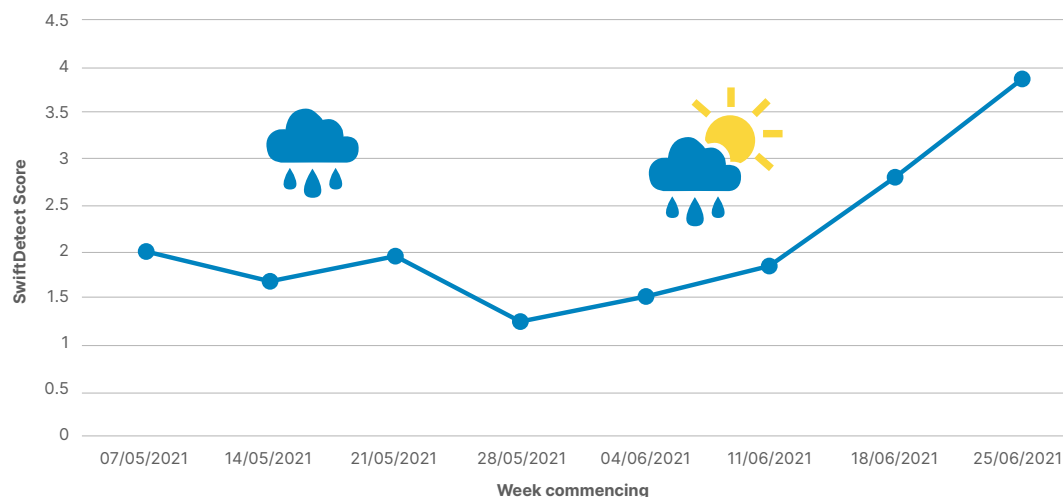
We had a wet, cool May, with average rainfall of 119.5mm and a temperature of 9.2 degrees. Under these conditions, the spread of Septoria is limited, hence the lower SwiftDetect score. This was followed by an increasingly hot and humid period, with an average rainfall of 43.2mm and temperature of 14.2 degrees as we went into June. These conditions meant Septoria sprung out of the latent period and spread, resulting in the increase shown on the graph below.

Resistant varieties

Whilst resistant wheat varieties on the recommended list did generally show lower levels of Septoria compared to susceptible varieties, their ability to truly resist Septoria has been called into question.

Although at the start of the season many resistant varieties had an undetectable level of disease, this soon turned when the weather warmed up. SwiftDetect was able to identify low to medium levels of disease in resistant varieties; this was even the case for some varieties such as Extase, that with a recommended list score of 8, should have displayed almost complete resistance. This is despite the outer surface of the leaf showing no signs of disease... which leads nicely onto our next finding!

Average Septoria scores across all samples



Septoria is sneaky

On more than one occasion, our customers have been surprised with the **sensitivity** of SwiftDetect. Medium to high levels of Septoria have been picked up for some samples, despite no evidence on the leaf of disease. Luckily, through using SwiftDetect, these growers were able to take action.

> Future development

We are working on adapting the SwiftDetect test, so it can detect even more diseases in different crops such as light leaf spot in oilseed rape. SwiftDetect is also being developed to identify disease in livestock, such as Bovine TB.

> Scan the QR code and register for our newsletter to receive updates on SwiftDetect development.



> Ready to get **actionable insight** into the level of disease in your crops?

If so, visit our website at [swiftdetect.co.uk](https://www.swiftdetect.co.uk) or give us a call on **01225 985850** to place your order!

Alternatively, if you have some more questions, we'd love to hear from you! Use the details above to get in touch.

Please note, your results are for guidance only and can be influenced by external factors such as weather, variety and drilling date. Always take advice from a **BASIS qualified Agronomist**. Although we try to ensure results are as representative as possible by requesting 10 leaves in your sample, the levels of Septoria across your field may vary. Therefore, this result applies to the leaves in your sample and may not reflect overall levels in your field.



“ A way of attaching some **science** and **real data** to something that is usually empirical. ”

Agronomist, South West

Call for more information
or order your test online

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