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| **Do high-resistant varieties need fungicides?** | 00/00/00 |

* Even in low-pressure years on high-resistance varieties, fungicides preserve green leaf area and yields
* Reduce selection pressure on varietal resistance and fungicides by using the two in synergy
* New modes of action and genetic resistance in varieties take a long time to discover, develop and bring to market, yet diseases adapt quickly

Industry experts are united in a call to preserve genetic resistance and chemistry through the use of robust fungicide programmes on high-scoring resistant varieties, even in low-pressure years.

Delving deep into the science, Bill Angus of F1 Seeds Ltd and Dr Julie Smith, ADAS Senior Plant Pathologist, joined members of BASF’s fungicide team, for a fascinating discussion into the interactions between genetics and chemistry at the company’s Real Results Virtual Farm.

The data-packed webinar explored how changing variety profiles, pathogen evolution, a new metric for canopy health and molecular leaf analysis, are all pointing to one thing: even in low disease pressure years, high-resistant varieties need fungicides for disease control and resistance management of both resources.

With over 40 years of wheat breeding experience, Mr Angus was the first to present.

“This is the one year when growers really needed to get out to see trials; we’re seeing some dramatic changes in varietal resistance,” he said.

Using the example of Cougar and Septoria, he explained how quickly pathogens can adapt. “Just 2 years after Cougar’s introduction to the UK market in 2013, AHDB were aware of isolates of *Septoria tritici* that could overcome the variety’s genetic resistance.”

“Breeders have used Cougar as a parent to enhance Septoria resistance in new varieties but that resistance is likely to be short-lived. With 9 of the 17 new candidates in Recommended List Trials being Cougar derivatives, there’s real concern,” he said.

It was the first of his take-home messages but another was check the parentage of any variety you’re thinking of growing. Among his many other recommendations were his choice of varieties for the coming season.

Bill concluded with the importance of using the strongest genetics and the strongest Septoria fungicides in synergy. “Genetics protect the chemistry, and chemistry protects the genetics.”

The speed with which genetic and chemistry can break down was emphasised by Dr Julie Smith too.

“These resources aren’t infinite and behind the scenes companies are working flat out to maintain the status quo and ensure we have a supply of effective varietal resistance and fungicides,” she said.

She went on to discuss the negative impact of disease on yield in a recent Hereford based trial,introducing ‘Healthy Area Duration’ (HAD) - a unit that describes both the size and the duration of a healthy canopy.

“Where DMI adapted strains were introduced, older triazole-based chemistry such as prothioconazole really struggled, offering little advantage over the untreated plots. New chemistry, Revysol®, on the other hand, protected yield against these insensitive strains nearly as well as it did for the natural infestations,” she notes.

“You need a fully integrated approach to protect both the resources – genetics and chemistry – as well as yield and profits,” she concluded.

Finally, Dr Jon Helliwell, BASF’s Business Development Manager for Cereal Fungicides, presented the results work from a technique known as CuraCrop. By testing leaf samples for Septoria DNA that have been previously assessed by eye, BASF were able to demonstrate the prevalence of the disease despite crops seemingly clean appearance.

“2019 UK visual assessments came back suggesting that there was little to no active Septoria in crops just before T2s. We sent samples from those fields to Germany for molecular analysis.”

“Surprisingly, 45% of the apparently clean upper leaves contained Septoria DNA. In the lower leaves 84% contained Septoria DNA and 72% showed advanced infection.”

Similar results were gathered across BASF’s network of 50 farmers, known as the Real Results 50. “It’s becoming evident there’s not only a benefit to applying a robust fungicide on weaker varieties, but with more resistant varieties too, even in a preceived low-pressure year,” he said.

See the blog post [here](https://www.agricentre.basf.co.uk/en/News-Events/BASF-Ag-Solutions-News/Do-high-resistant-varieties-need-fungicides-28224.html)

Catch up with the webinar [here](https://basfrealresultsfarm.com/en_GB/zones/a5142569-8224-4b40-938e-c8d899fa2163/features/webinar-archive?page=7)

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