Beneficial fungicide ‘side effects’ could be root to better crop health

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Wheat growers have a new opportunity to boost crop health from germination onwards by making use of ‘beneficial side effects’ of latest fungicide technology, research suggests.

According to Mark Bullen, seeds and seedcare manager for Syngenta, latest generation SDHI fungicides are first and foremost for controlling disease.

But increasingly research is uncovering a range of other beneficial “side effects” over and above disease control, he points out.

“In the case of the new SDHI-based seed treatment Vibrance Duo, available for the first time this autumn, its prime role is to protect emerging seedlings against diseases that jeopardise crop establishment,” explains Mr Bullen.

“However, there is growing evidence that its SDHI active ingredient, sedaxane, also provides added crop health benefits – particularly during dry conditions.
“Results released previously on sedaxane have shown it led to increased root growth, even in non-diseased seed. Deeper roots provide improved scavenging for soil moisture and nutrients.

“But further research at the University of Nottingham has also now shown sedaxane to produce a benefit to photosynthesis in wheat seedlings grown in drought conditions.”

Normally, Mr Bullen says drought-stressed plants become less efficient at photosynthesis, which converts carbon dioxide into the sugars that provide fuel for crop growth. But carbon dioxide conversion in drought-stressed wheat treated with sedaxane was found to be just as efficient as in unstressed wheat, he notes. “Sedaxane was found to turn up the activity of certain beneficial genes,” he points out.

“In our own trials, we have seen that Vibrance Duo has given better crop establishment during colder weather. Now, these drought findings could prove valuable when establishment conditions are dry.

“With unpredictable weather patterns, growers need to think about utilising these types of wider benefits.

“They could have contributed to some of the substantial yield increases seen with Vibrance Duo in trials.

“As well as boosting yield by more than 0.5 t/ha compared with untreated seed, Vibrance Duo has also given an average yield increase of nearly 0.15 t/ha compared with an alternative seed treatment in trials in Northern Europe.”

Vibrance Duo is approved for use in winter wheat, winter triticale, winter rye and spring oats, says Mr Bullen. Using it does not impact on the number of foliar SDHI sprays that can be applied in the same crop, he adds.

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