Iblon to bring broad-spectrum disease control

Fusarium

Disease control

A new broad spectrum fungicide is about to appear on the scene which should deal with a range of crop diseases that were prevalent in the last growing season due to the favourable weather conditions last spring and autumn.

By Rob Jones

For most growers, the spring of 2023 will be remembered as one where fungicides showed their worth, after several seasons where foliar diseases proved to be unreliable adversaries. But it was not just the usual foes of yellow rust and Septoria tritici that challenged growers, stem-based diseases too threatened to cap a difficult year.

That disease presented such a widespread challenge should not come as a surprise. Conditions were near perfect. Across England and Scotland, the average temperatures recorded during the spring months were either broadly in line with the 30-year average (1991-2020) — itself an increase on the 1981-2010 average — or above it.

Weather extremes

For rainfall, it was a case of extremes. In both England and Scotland, April and May were unseasonably dry while March was a deluge. Scotland recorded 130mm of rain in March, equivalent to 104% of the 30-year average. In contrast, England had the wettest March since 1981 with 119mm of rain, equivalent to 204% of the 1991-2020 average. July too was unseasonably wet with 150% and 181% of the 30-year average for Scotland and England, respectively.

While the favourable weather of spring enabled disease to spread quickly, it was the above average temperatures of last autumn that gave it the platform from which to build once conditions allowed. Autumn temperatures in Scotland and England were significantly above the 1991-2020 average at +1.3°C and +1.4°C respectively, according to Met Office data.

“That disease presented such a widespread challenge should not come as a surprise. Conditions were near perfect.”

These conditions were especially favourable to the complex of stem-based diseases, notably eyespot (Oculimacula species) and Fusarium (Fusarium and microdochium).

Couple the mild autumn with the early drilling performed by most growers and the risk of disease was always going to be high, believes Jonathan Blake, technical director of crop production for ADAS.

“The risk models of yesteryear returned a higher risk of eyespot if sowing before 7 October. I would speculate that the mild autumn of 2022 was akin to bringing sowing forward by seven to ten days.

“In addition to the autumn conditions ▸

FMC

ISOFLEX™ active

NEW THINKING
NEW PERFORMANCE

HERBICIDE

- New herbicide coming soon
- New mode of action in cereals
- Control of grassweeds and broadleaved weeds
- For more information on Isoflex™ active, please visit www.isoflexactive.co.uk

Isoflex™ active is not registered for sale or use. No offer for sale or use of this product is permitted prior to issuance of authorisation by HSE.

Use plant protection products safely. Always read the label and product information before use. Unless otherwise indicated, trademarks with ® or ™ are trademarks of FMC.

@FMCAgroUK

"Importantly, it has demonstrated strong persistent protection and curative activity as a result of being active against these pathogens at all stages of their lifecycle," adds Rosalind.

▸ that influence eyespot, rainfall in March, April and May is also significant and March was the wettest in both Scotland and England since 1988," says Jonathan.

Although conditions of last autumn and this spring were near perfect for inoculum spread, it was not beyond fungicides to deliver reasonable control.

"Fungicides at T0 and T1 would have been able contain stem-based diseases, but it is worth noting that they will not provide full protection. A typical azole-based fungicide would provide at best 50% of control," says Jonathan.

The mere presence of eyespot, however, doesn't mean there will be a yield response to treatment. The disease needs to be sufficiently severe that the flow of nutrients up the stem are restricted. This is not always the case.

Risk increased

"What we can say with greater certainty, however, is that the movement away from inversion tillage regimes means the risk of stem-based diseases has increased significantly, especially Fusarium. If the previous crop was a host to eyespot, the chances of this developing will increase too," says Jonathan.

There are many reasons why some growers are moving towards non-inversion or even zero tillage forms of establishment, but better control of stem-based diseases is not one of them.

"It is quite plausible that the Mycorrhizal fungi that many seek to promote may be beneficial in reducing the incidence of stem-based diseases, but I am yet to see any evidence that supports this hypothesis. In fact, the evidence supports the opposite. By leaving the pathogen closer to the growing plant, it dramatically increases the chances that infection will occur," says Jonathan.

Research has shown that in severe cases, eyespot can inflict yield losses of up to 30% even without lodging. Despite this undeniable threat, stem-based diseases in general have received far less research funding compared with

"Iblon is excellent on both yellow and brown rust and very good on Septoria," says Jonathan Blake.

the dominant foliar diseases.

"Yellow rust and Septoria are far more reliable and the capacity of these diseases to inflict significant losses means they tend to dominate fungicide programmes — and research priorities. As an industry, we don't have the same depth of insight into stem-based conditions that we do with foliar diseases," says Jonathan.

The difficulty in generating good data on eyespot is perhaps exacerbated by it being visually difficult to distinguish from sharp eyespot despite the two not being related. There are also two forms of the eyespot — the W and R types — though most infections are often a mixture of the two. ▸

What is Iblon and how good is it?

Iblon is the brand name for isoflucypram, a new class of SDHI fungicide from Bayer that offers unrivalled broad-spectrum disease control. It will be available with Proline (prothioconazole).

Iblon has strong activity against the principal foliar threats meaning growers can achieve comprehensive protection without having to compromise on one or more disease.

Against Septoria, Iblon has demonstrated strong protectant and curative activity, delivering significantly better protection than the benchmark standard, Ascra Xpro (bixafen + fluopyram + prothioconazole).

In fungicide trials managed by Scotland's Rural College (SRUC), Iblon performed impressively to deliver protection that was comparable with that of mixtures containing either mefentrifluconazole (Revysol) or fenpicoxamid (Inatreq).

"In our trials, Iblon sits in the top rank of Septoria products which is good news for growers as it brings another means of control, but it's important to consider other diseases too," says Fiona Burnett, professor of applied plant pathology at SRUC.

"Iblon, with its broad-spectrum control, is a powerful product to have. Its strong activity against yellow rust provides the foundation for a programme that will carry through to early Septoria protection. In combination with prothioconazole its spectrum of activity is extended to include stem-based diseases such as eyespot and Fusarium and a useful contribution to mildew control," adds Fiona.

In protecting against disease, fungicides serve to promote crop health which in turn enables extended green leaf retention. Research has shown that for everyday after flowering that the green leaf area is maintained at 37% or above, yield increases by 0.15t/ha. Bayer trials found Iblon extended green leaf retention by eight days over the untreated and by three days over that of Ascra Xpro.

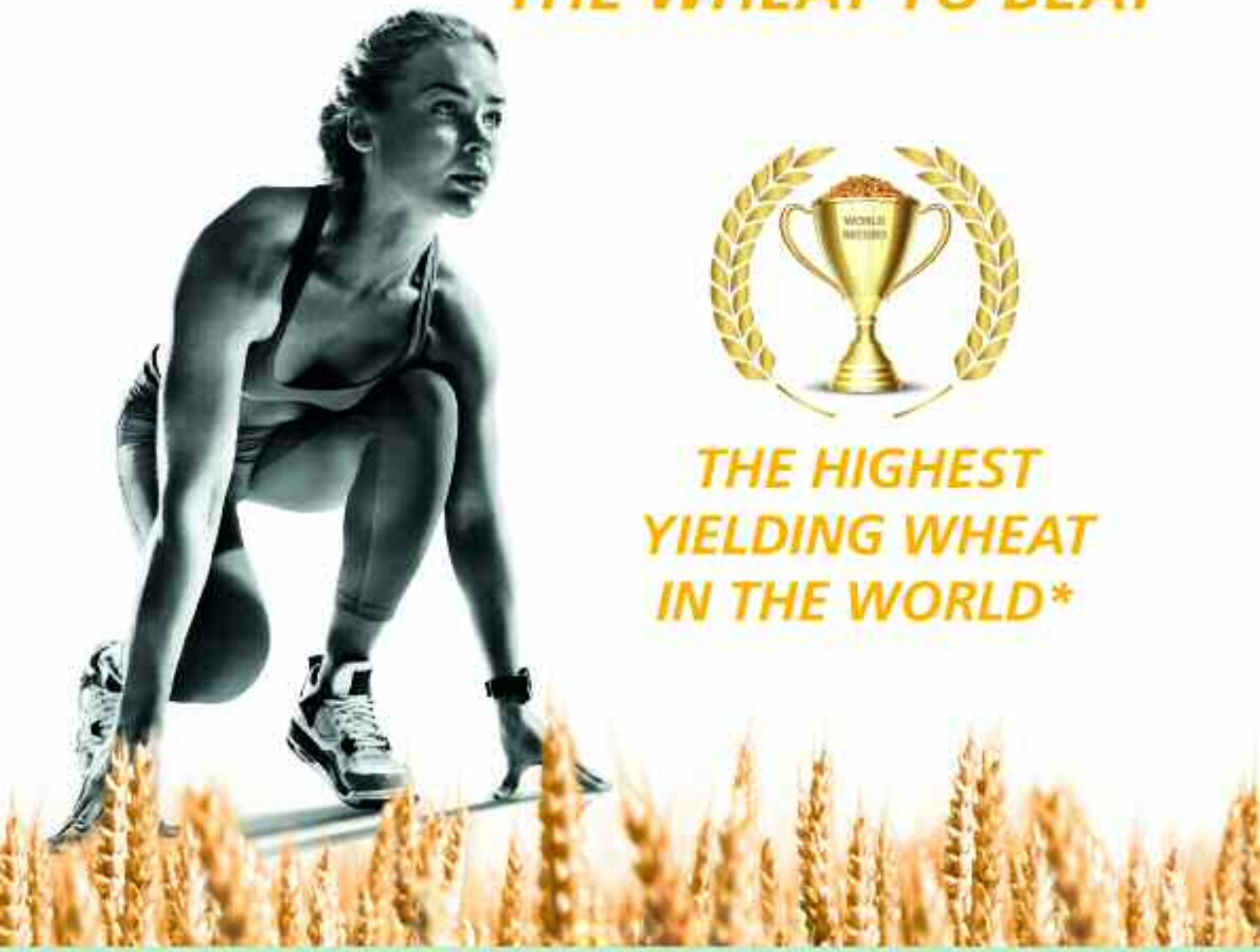
"The ability of SDHI fungicides to extend green leaf area was especially valuable in spring 2023 given the weather through this period. We have seen that Iblon has performed impressively in retaining green leaf area and this benefit was reflected in the yield," says Fiona.

A feature likely to be appreciated by growers is the Leafshield formulation also used with Bayer's Xpro range of fungicides that ensures high-level efficacy without compromising crop or equipment safety.

"Leafshield is a formulation that growers know well; they know it is reliable and delivers a consistent performance. This will reassure growers that they shouldn't be concerned about any crop-safety or sprayer issues," says Fiona.

WORLD CHAMPION

THE WHEAT TO BEAT



THE HIGHEST YIELDING WHEAT IN THE WORLD*

DSV CHAMPION GROUP 4 – HARD

The ultimate barn filler with **list topping** yields
Orange blossom midge resistance
Robust resistance genetics against yellow rust
Impressive scores for Septoria tritici

DSV

Innovation for your growth

dsv-uk.co.uk

* The highest wheat yield is 17.95 tonnes/ha (39572.97 lbs/ha) and was harvested from 8.2920 ha (20.49 acres) by Tim Lamyman (UK) in Louth, Lincolnshire, UK, on 10 August 2022. Data from Guinness World Records.

The movement away from inversion tillage regimes means the risk of stem-based diseases has increased significantly, especially Fusarium," says Jonathan Blake.

▸ Several breeders have claimed the presence of the Pch1 Rendezvous gene, which is believed to confer better resistance to eyespot, but there is a lack of understanding as to whether this is specific to both types or one and not the other. Of the varieties on the 2023-24 Recommended List, five claim to carry the gene, but as is evidenced by Skyfall with its eyespot score of 5, it doesn't mean strong resistance.

"What we can say with confidence is that prothioconazole does have a positive impact against eyespot. Whether it is used at T0 or T1, it is likely to reduce eyespot development. We have seen this enough times to say it has a clear affect," says Jonathan.

Against septoria Iblon demonstrated strong persistent protection and curative activity.

For many growers, control of stem-based diseases is often achieved through the incidental protection delivered by fungicides applied for yellow rust and Septoria. However, these vary considerably in their efficacy against eyespot.

Iblon – new broad-spectrum fungicide

In spring 2024 Bayer intends to offer its new broad-spectrum fungicide Iblon to growers. For those who have seen it in trials over the past four years, it has delivered impressive control.

Isoflucypram the active substance available under the brand name Iblon is the first fungicide active to be approved by the Chemicals Regulation Division post-Brexit. This makes Britain's growers the first in Europe to have access to this new fungicide and only the second worldwide after New Zealand.

"Iblon is excellent on both yellow and brown rust and very good on Septoria," says Jonathan. "It is a more active SDHI on Septoria than existing standards, and the flexibility it will add to programmes will make it a valuable addition at either the T1 or T2 timing," he adds.

Bayer claims Iblon is a "groundbreaking new active that delivers unrivalled broad-spectrum control" and has presented data that supports the assessment of Jonathan Blake.

"In a trial by the University of Nottingham using Skyfall, Iblon delivered better preventative and curative activity on yellow rust than products containing Solatenol (benzovindiflupyr), such as Elatus Plus," says Rosalind O'Hare, Bayer campaign manager for combinable fungicides.

"Against Septoria, Iblon was far better than Solatenol and on a par with both Revystar XE (fluxapyroxad + mefentrifluconazole) and Univoq (fenpicoxamid + prothioconazole). Importantly, it has demonstrated strong persistent protection and curative activity as a result of being active against these pathogens at all stages of their lifecycle," adds Rosalind.

The advantages of improved disease control are perhaps most evident in a high-pressure season, but the physiological benefits of fungicides often exist regardless of the disease pressure. This is widely accepted, but the extent to which these benefits result in extended green leaf retention varies between products. Bayer investigated the ability of Iblon to extend green leaf area retention in comparison with Ascra Xpro (bixafen + fluopyram + prothioconazole) in trials performed in 2019. At 36-days after application, the green leaf area of Iblon-treated crops was about 35% more than Ascra Xpro (when applied at the T1 timing) and about 50% more than the untreated.

In a trial by the University of Nottingham Iblon delivered better preventative and curative activity on yellow rust.

This was seen in AICC trials performed in 2020. The disease incidence in untreated crops was assessed as being less than 5%, yet Iblon-treated crops yielded 0.5t/ha more [than the untreated].

"The greater green leaf retention seen in Iblon-treated crops has been shown to result in better yields, even in the absence of disease. This supports the value proposition of Iblon irrespective of disease pressure," says Rosalind.

Although new to Great Britain, Iblon comes with proven performance. It has been used in New Zealand since 2019 and has been successfully applied to more than 50% of the wheat area. During the 2023 season, Iblon was made available to members of the Bayer Forward Farmers network across Britain for assessment and comparison. As part of this programme, Iblon was applied using 40 different farm sprayers without issue. ■