



# A challenging year

## Grassweed control

There's no disguising the fact that grassweed control isn't as good as it should be in some fields this summer. *CPM* attends a BASF briefing to hear why it's been a difficult season and the lessons that can be drawn from it.

**By Mike Abram**

**As ears wave in the June sunshine, driving around the country it's evident that grassweed control wasn't as successful as some growers might have hoped.**

Variability in control has been the key feature of the season, notes NIAB weed biology and management specialist, John Cussans. "All of the key elements that drive variability of success for grassweed control have been at play."

He explains that some of the elements which lead to variable control are baked into most growers' situations: herbicide resistance, particularly of contact-acting grassweed herbicides, which means a lot of in-season activity has been lost and the weed burden in seedbanks is high.

"Classically, we haven't thought about how higher population levels are harder to control than lower populations because we had contact-acting herbicides," notes John.

But reliance is now much more on controlling weeds using autumn-applied

residual chemistry, when any survivors from a weed seedling population will be higher when the seedbank population is big, he adds.

"Large weed seeding populations aren't reducing efficacy, but they do compromise successful control from herbicides in terms of seed return."

Pre-emergence efficacy drops in autumn-sown crops when conditions are dry, or where there's high sunlight intensity and high degradation of the herbicide. One of the drivers of the success of later drilling is an environment where pre-em's work better, explains John

Another reality of weed management is that timing herbicide applications in the field is not always easy to achieve, while higher loadings of residual herbicides can impact on crop safety, reducing the competitive nature of the crop.

Crop suppression during the season is another factor that can drive variability in successful control. "It's something we take for granted to some extent. One of the things we're seeing this year is, that even where we've had relatively good success in the autumn, a lack of canopy suppression has meant that weed control hasn't translated to head control because the crop isn't helping to finish the job," he explains.

A perfect storm has meant all of those factors occurred at some point during the season. In September there was a prolonged period of low or no rainfall before drilling, so there was a poor chit of freshly shed weed seeds, leading to an inability to make a stale seedbed approach work effectively.

The dry conditions also hampered

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seedbed preparation and there were problems drilling seeds to the required depth to minimise crop safety issues when following with a pre-em. Dry soils are also not optimal for residual herbicide performance.

When the weather broke in late September or October, there was immediately a flush of grassweeds, which for some would have come in the crop post-drilling. For others the break in the weather meant conditions made drilling ▶



*A lack of canopy suppression has meant that vegetative weed control hasn't translated to seed head control.*

# Grassweed control

► tricky, and difficulties with herbicide affecting crops vigour, or even thinning crops in places, explains John.

"We had virtually every possible combination of situation from relatively low populations and good herbicide efficacy to apocalyptic levels of blackgrass and poor herbicide control. Some growers actually saw levels of control go backwards during the season."

Weather again played a part in that, he says. "In late January and particularly February, it was dry, which meant just as you wanted the crop canopy to take off and smother weeds, it didn't.

"If each surviving plant is producing 30 or 40 tillers, the maths is against you as much as the biology."

The final nail in the coffin was the wet March and April, making it hard to find an application window for spring applied herbicides. "That might be why we're seeing an uptick in brome and *Vulpia* (fescues) levels."

So what does that mean for the coming season? First, with variability in success at both farm and field level, there should be a big focus on risk management, he suggests. "Map out where the higher-pressure areas are and think about field history to tailor weed management, such as drilling dates

and herbicide packages.

"If you haven't used inversion tillage in a field for a while and you've had an outbreak year, for example with brome, think about using the plough as a reset. Stop saving the planet and save yourself – this is the tool you've been keeping in reserve for when the weed pressure is greatest on farm."

But if you do plough, make sure it's in conditions where you get good soil inversion to maximise effectiveness, he stresses.

John highlights that good risk management will also tailor sowing dates and herbicide programmes to weed pressure and recognise that some fields aren't suitable for winter cropping this autumn.

Secondly, John suggests there should be a bigger focus on how to make crop canopies more suppressive, especially during rapid growth in the spring. "There's an increasing frequency of springs where crops are subject to stress when they should be rapidly growing to help finish the work of pre-em herbicides."

Low disturbance establishment on wider row spacings, although a net positive for weed control through the rotation, might be exacerbating the problem for crops stressed in the spring by creating a more open canopy, he says. "They bring slightly

different challenges around getting a suppressive crop canopy and also making sure there's good, even coverage of drilled seeds, even where drills have individually articulated coulters which are slightly more vulnerable to lack of seed depth."

Lastly, John reminds growers that doing nothing straight after harvest is a valid option. "If it's very dry, the optimum to reduce the impact of freshly shed grassweed seeds is to do nothing. It requires a little more bravery to use the natural degradation of these seeds, especially if you're using a low disturbance system."

Most growers and experts believe that the more blackgrass seedlings that emerge before drilling, the less will emerge in the crop, says John. But he points to some old AHDB research that shows it's only true in wet conditions, when cultivation or management strategies to encourage germination may be effective. In drier conditions, the research showed where low numbers of blackgrass seedlings emerged before drilling, lower levels also emerged in the crop.

"In dry conditions, leaving seed on the surface degrades blackgrass seeds, so they lose viability. They're not designed to deal with those conditions," he concludes. ■

## Consistency sets Luximo apart



*Stuart Kevis believes the consistency of Luximo performance means it should be the building block of grassweed herbicide programmes.*

Analysis of 56 trials comparing Luxinum Plus (cinmethylin) plus pendimethalin plus diflufenican, with Liberator (flufenacet+ diflufenican) plus aclonifen over three years highlights the consistency of performance of Luximo-containing products, suggests BASF's Stuart Kevis.

"The trials have been across the UK in different soil types with different establishment techniques," he notes.

Across the trials, the Luximo-based treatment has given on average 84% control of blackgrass compared with 72% for Liberator plus aclonifen.

"What we've noticed is that the competitor programme is variable. There are a few places where it matches Luximo, but there are places where it underperforms, sometimes significantly.

"For example, in 29 out of the 56 trials, the Luximo treatment gave over 90% control, whereas only 17 trials for the Liberator-based treatment reached this level. It's the sort of consistency that reinforces Luximo should be the base building block of pre-em programmes," he believes.

Lincolnshire farmer Daniel King has been impressed by Luximo performance commercially on his farm this season. The farm has had a history of blackgrass for the past 25 years, exacerbated by a wheat, oilseed rape rotation for many years to remain profitable.

Cultural controls such as delayed drilling, spring cropping (to a smaller degree), high seed rates of up to 600 seeds/m<sup>2</sup> in wheat, and vigorous varieties that get going in both autumn and then spring, are all helping to get the grassweed back under control on the farm.

Pre-em herbicide stacks are another key tool Daniel uses. "Previously it would have been Crystal (flufenacet + pendimethalin) plus diflufenican and a granular application of Avadex (tri-alleate). This



*Blackgrass control has gone well at Daniel King's farm this season and he says that using Luximo is the only thing he's done differently.*

year the whole farm moved to Luximo with pendimethalin and diflufenican, and liquid Avadex.

"Until Luximo, we've been in status quo with the blackgrass by using the various cultural controls. We were at a level where it wasn't getting any worse, but also not any better. And driving around the local area this year, it's pretty bad for blackgrass, yet I think the farm's as clean as it's ever been. I can only put that down to Luximo as it's the only thing I've done differently," he concludes.

# GLYPHOSATE STEWARDSHIP

Applied correctly, glyphosate as a non-selective herbicide can deliver very high levels of weed control. However, experience around the world shows that glyphosate is not invincible, weeds can develop resistance to it. Fortunately, there are no known cases of glyphosate resistance in the UK but once weeds become resistant, there is no cure, so taking steps to reduce the risk is essential to retain this highly effective herbicide.

## KEY CONSIDERATIONS

### 1 RESISTANCE RISK

The possibility of glyphosate resistance developing is real and needs to be taken seriously. Factors increasing the risk range from high weed populations, reliance on few or only one method of control, insufficient application rate for the target weed, repeat applications to survivors, poor application timing and technique

### 2 FRAME WORK FOR SUCCESS

The framework developed by WRAG will help reduce the resistance pressure on glyphosate, the weed pressure in the crop and prevent excessive seed return

### 3 MAXIMISE PERFORMANCE

Use the appropriate dose rate for the target weed, target small weeds and optimise application practices. Partner products (and adjuvants) cannot substitute for an effective dose of glyphosate, do no cut rates

### 4 MONITORING

It is important to monitor the success of the overall herbicide programme and investigate reasons for poor levels of control

### 5 WRAG GUIDANCE

For further information on the latest revision of the WRAG guidance, visit <https://ahdb.org.uk/wrag>



Source: WRAG guidance for minimising the risk of glyphosate resistance v1.0 (2021)