Crops have competitive edge

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Weed control

As a relatively dry and kind winter morphs into spring, *CPM* asks agronomists from across the UK how weed control is likely to differ this season.

By Phil Garnham

The challenges of the past two miserable autumns meant that the battle against weeds was almost lost before it had begun.

The biblical rainfall caused many to drill late, some weren't able to get any autumn herbicides on and all too soon blackgrass was visible as far as the eye could see.

This year has been very different. A mild autumn presented an opportunity to create a decent seedbed, get drilling done early, put on pre-emergence sprays and drill before January.

So does this mean we won't have so much to worry about this year? When it comes to agronomy, nothing is ever straightforward, says Dick Neale, technical manager of Hutchinsons.

"This year is a completely different situation and farmers should be prepared for a very different scenario compared with recent years. Expect to see more crop competition. There's much better crop establishment and we're seeing hedge-to-hedge cropping compared with last year, when crop cover was quite sporadic."

That said, Dick believes it'll be important to keep an eye on the headlands this year, where the density of the plant population could well be an issue, giving weeds the space to grow.

Blackgrass stragglers

"In some situations, the top 5-10cm is being over-worked due to the min-till systems that many are using. This can create waterlogging and give weeds an opportunity to gain a foothold. It would be so easy to walk straight into the middle of the field and think everything is fine and miss a potential problem," he says.

When asked about the old foe, blackgrass, Dick says when looking at the tail-end stragglers of blackgrass in the crop, it's tempting to think enough money has already been spent on residual herbicide usage this year.

"Most growers have applied at least two applications of residual herbicide in the autumn, with some considering another application in the spring," he says.

"With the wheat price at £200/t, it's a good opportunity to get on top of blackgrass, especially as this hasn't always been possible for the past couple of years. This season the crop will help finance it," he suggests.

Thanks to an absence of delayed drilling and a very robust crop with good ground cover, Dick believes we're unlikely to see the late February/early March ▸

The thick crop will blank out the sunlight, stopping it from reaching the soil surface, which is what triggers the germination of blackgrass and other weeds, says Dick Neale.

Conditions last autumn were about perfect for blackgrass control.

▸ emergence of blackgrass seen in recent years.

"The thick crop will blank out the sunlight, stopping it from reaching the soil surface, which is what triggers the germination of blackgrass and other weeds," he explains.

Nitrogen effects

Fertiliser application is another point to consider, says Dick. "The other thing that triggers weed germination is the early application of the large amounts of nitrogen. Due to the price of it and because of the way crops look at the moment, I think growers will perhaps be reluctant to spend too much money on early nitrogen and that will temper the amount of weed seed germination. Cleavers, in particular, may be notable for their reduced numbers."

Luke Wheeler, agronomist with Indigro and a director of the AICC is, like many, just grateful for a more normal year.

"The seedbeds we've achieved this autumn have been pretty good and, nine times out of ten, we've gone back with pre-em sprays and residual herbicides, so in most cases everything is up to date."

Luke's message is one of caution, however, suggesting it'd be prudent not to feel too relaxed about weed control. "At this time of year, it's still probably a little too early to tell what impact pre-em residual herbicides have had. The fact it's been so mild means the residual chemistry will have broken down quite quickly, but it probably hasn't fully broken down yet.

"So we're now at the point where we'll start to see weed growth push through. Where there were high blackgrass numbers last year, expect to see emergence now, especially with the sometime mild winter weather we've had."

Luke agrees crops look pretty good on the whole, but he always says to clients that, from a blackgrass point of view, it doesn't mean anything yet.

"I'm sure this mild weather will affect the residual products and we'll get a flush of growth where residual chemistry has broken down."

Despite his concerns over the kind autumn/winter, the pros most definitely outweigh the cons, he believes. "Overall, there's a lot to be said for having a decent seedbed and managing to get on with spraying in reasonable weather conditions, using good water volumes. It's great just getting the basics done because for the past two years, we haven't been able to even do that."

Luke highlights last year, where it wasn't possible to get back to top up the pre-em programme, as a warning. "Even after the bad autumn it looked like we'd achieved good control, but later in the season it showed up where we hadn't been back and topped up residual chemistry due to how wet it was. The blackgrass

reared its head from February/March onwards.

Aside from blackgrass, Luke suggests keeping an eye out for bromes and ryegrass as well and suggests treating them with a contact herbicide, like Atlantis (iodosulfuron+ mesosulfuron), as soon as the temperature starts to rise and the weeds start to grow.

He admits that while there's a degree of cynicism about the efficacy of contact herbicides because of resistance in blackgrass, he believes we forget just how much they have been doing for us when it comes to controlling other problem grass weeds, such as ryegrass and brome.

"The likes of Atlantis and Monolith (mesosulfuron+ propoxycarbazone) will take out some of your broadleaf weeds and do a bit of a tidy up, making the management of that crop easier later in the season."

Overall, his feeling is one of quiet hope. "Crop competition will be a big plus this year. We know that weeds love a thin crop and this year we don't have many thin ones," says Luke.

"In fact, the only thing that didn't go to plan (this year) was the unusually mild winter, so I'm hopeful but cautious. The unknown factor is just how much chemistry broke down over that mild period during Christmas and will that mean we see a big spring flush of grass weeds?"

Luke Wheeler says residual chemistry will have broken down quite quickly, but it probably hasn't fully broken down yet.

Will Hammond of Chemiculture looks after 5,200ha of cereals across the Midlands, and says it's evident that most growers went for the early drilling window to avoid being caught out by another wet autumn.

"The first thing you notice compared with the past two years is that there are some big canopies out there. We've not had any cold snaps and have had lots of mild nights, so the crops haven't slowed down as much."

Like everyone, blackgrass is the biggest grassweed problem faced by his customers, but ▸

Cleavers may be notable for their reduced numbers where crops are forward and early nitrogen has been sparing.

Stephen Moss explains that just because a weed has survived a herbicide application, it doesn't necessarily follow that resistance is the problem.

▸ with the right management, it's a fight he believes is being won. "The stack of pre-em herbicides used for blackgrass control means that most fields are still looking pretty clean. As we move into spring, it'll be back to using contact herbicides to take care of the broadleaf weeds," he comments.

Will suggests a difference in weed populations may occur that will likely correspond to the price growers paid for nitrogen. "If they paid around the £300-400 mark, they'll carry on with the current nitrogen programme, especially while the crops show so much potential. The issue is this will potentially feed any germinating weeds too.

"For those paying higher prices, then they may choose to reduce the volume they spread by a few kgN/ha, just to reduce costs. The positive from that is there'll be less nutrients for weeds to pick up but at high grain prices, it's likely that many farmers will be looking for higher yields over anything else," he comments.

According to Will Hammond, as crop growth accelerates going into the spring, it should really suppress any new weed establishment.

"Finally, one thing in stark contrast to the previous season as I walk fields now, is the rows are now starting to close over. As growth accelerates going into the spring, it should really suppress any new weed establishment." ■

Develop a strategy to deal with weed survivors

After a herbicide application, it's common for some target weeds to survive. It's all too easy to assume it's resistance, but that's not always the case, says weed specialist Dr Stephen Moss. As winter wheat herbicide programmes draw to a close, how do you distinguish between dangerous populations and those that are merely a nuisance?

Stephen advises considering all the possible reasons for a herbicide performing below expectations. "Residuals can be affected by soil organic matter, surface trash or rainfall. You might think that more weeds would survive residuals because of the way they work in the soil, but control is generally good. For post-emergence sprays, incorrect conditions for uptake, poor application technique and interception by the crop or other weeds are common problems."

In any instance of poor control, several of these factors may be operating at once but, critically, it doesn't automatically follow that weed survivors are resistant. Application and environmental factors should be ruled out first, he says, with the weeds species also having a bearing.

"There're no known cases of resistance in speedwell so, if it survived a herbicide that should have controlled it, you'd assume it's for some other reason. Weeds with known resistance problems, like ryegrass, blackgrass or poppies, should be investigated in more detail.

"If poor control happens repeatedly, and only one susceptible species survives while others are controlled effectively, resistance is a strong possibility," says Stephen.

"There's lots of scope for resistance testing surviving weeds. I think it concentrates the mind and reduces the amount of guesswork."

Bayer's Craig Simpson agrees that testing is needed as a long-term strategy to deal with survivors. "Resistance in weeds such as blackgrass and ryegrass, is an important consideration. If possible, it's worth finding out the resistance status of each field rather than assume everywhere is resistant so that herbicides can be targeted where they will deliver the most benefit."

In the short-term, Craig reiterates the importance of application conditions for post-em herbicides. "Last season, we saw how timing is absolutely critical for Pacifica Plus (mesosulfuron+ iodosulfuron+ amidosulfuron). Early applications to weeds with little active growth didn't work that well, but applications later, in better conditions, were more effective. We don't have a crystal ball so if there's an opportunity and a good weather window, then take it."

Cross-resistance is a complex topic but there are a couple of key points that can help when planning weed management strategies. Stephen points out that although cross-resistance does occur, the patterns aren't always predictable.

"Some years ago, we found cross-resistance to pendimethalin (HRAC Group 3) and chlortoluron (HRAC Group 5) which are from different mode of action groups, but not pendimethalin and trifluralin which are from the same group," he says.

Craig Simpson suggests testing grassweed survivors for resistance is a good strategy.

"It seems to be the case that if a weed has enhanced metabolism resistance (EMR) to one herbicide, it's likely to have EMR to some other herbicides, although the impact on herbicide efficacy varies considerably. There appear to be many mechanisms for EMR, and there's still a lot to learn about these."

On farms with difficult weed survivors this spring, resistance testing and aggressive patch management is a good starting point, adds Craig. "Patches tend to persist year-to-year so spraying with glyphosate in May/June is an effective way to keep problems in check."