



# techtalk

## Broadleaf weed control

We're experiencing an unprecedented spring this year in terms of weather and cropping. Nufarm are sponsoring Tech Talk to help provide farmers and agronomists with a series of spring cereals agronomy solutions.



# Battling the broadleaves

It may have been a washout this winter, but spring is set to be one of the busiest in memory with broadleaf weeds still to tackle in just about all cereal crops. *CPM* looks at some options which will help broaden the herbicide armoury.

By Lucy de la Pasture

**Spring weed control is often a pretty straightforward and predictable affair. This year there's been a wide range of autumn drilling dates and comparatively few residual herbicide applications. Consequently broadleaf weeds are equally as varied, with some larger, over-wintered weeds present in some fields which will require early removal to limit competition with the crop.**

Later-planted autumn cereals have a wide spectrum of smaller weeds, with spring-germinators still likely to emerge in these more backward crops. With a much larger acreage than normal of spring cereals on the cards, there's going to be a lot to prioritise and get sprayed in the coming weeks.

NIAB-TAG agronomist, Chris Page, and Nufarm agronomy

manager, Dan Macdonald, talk through some of the options for broadleaf weed control.

### What is the current situation?

Autumn 2019 has been one of the biggest planting challenges for many years, with very little achieved before Christmas in some areas. In general the North fared better than many other regions, getting most of the planned winter wheat in the ground before the wet weather stopped play at the end of Sept.

For many, a tricky harvest had already set back planting and for those who delayed drilling to manage blackgrass, any wheat that did go in was later than intended. Residual herbicide application was disrupted badly and not all received pre-emergence herbicides.

Those that did, didn't receive the follow-up sprays that make up the normal autumn stack.

As a result the spectrum of weeds in autumn-planted fields this spring is different to usual, with weeds normally controlled by residuals making the most of the lack of chemistry in the soil. So rather than an easy tidy-up of broadleaf weeds, it's going to be a case of matching chemistry to fill any gaps in their spectrum when tackling a diverse weed population of both traditional arable weeds — such as cranesbill, cleavers, poppy, pansy and volunteer oilseed rape — and new weeds, such as volunteer Clearfield (ALS-resistant) OSR.

### How has cropping changed?

AHDB has recently (14 Feb) updated its Early Bird Survey (EBS) figures to reflect the continued

difficulties experienced after planting estimates were initially released at the end of last year. These show the wheat area planted/still intended to plant at this time was 1,504,000ha (down 17% on 2019) and winter barley was 347,000ha (down 23%).



*Daniel Macdonald says it's going to be a case of matching chemistry to fill any gaps in their spectrum when tackling a diverse weed population.*





“Phenoxies can provide reliable weed control without the price tag.”

been controlling for years are now being planted in seed mixtures.

## What are the challenges this spring?

The main legacy of the winter is that in some autumn crops, broadleaf weed control is likely to be more complex than normal. On the plus side, grassweeds will probably be less of a problem in later plantings and broadleaf weed control in spring crops is often cheaper than in winter crops.

Where there's a diversity of planting dates in the ground, it may mean more complex recommendations with herbicide programmes having to be tailored on a field-by-field basis. It's also going to be even busier than usual, with planting still to be done and a backlog of agronomy to catch up on. As a result some multiple tank-mixes may be required.

The increased spring workload will mean extra care will have to be taken with cut-off growth stages for some herbicides, as well as special requirements when sequencing with other products.

Nufarm has produced an Agronomy Solutions booklet for spring cereals which provides information on the available chemistry for different weed species, with crop growth stage cut-offs and buffer-zone restrictions 'at-a glance' to aid decision-making in the field.

### Broadleaf weed control: top tips

- **Utilise Nufarm's Spring Agronomy Solutions** – a quick guide to weed control in a range of spring crops. Ask your agronomist or visit [nufarm.com/uk](http://nufarm.com/uk)
- **Weed size at application is critical** – 2-4 leaves is the optimum weed growth stage.
- **Apply in good conditions when weeds are actively growing** – phenoxies take about 4-6 hours without rain to get into the plant, so always check weather prior to application.

With storms Ciara and Dennis effectively halting the prospects of drilling more winter wheat after mid-Feb in many areas, the actual area of wheat in the ground is more likely to be around 1,217,000ha.

That means growers will probably have to switch into spring cropping, with the EBS forecasting 200,000ha of spring wheat, 1,042,000ha of spring barley (up 47%) and other spring crops taking up the slack.

Even though 2019-2020 has had an exceptional start to the season, there are other changes to cropping patterns that are having an effect on the spectrum of weeds in arable crops. The increase in the use of cover crops is seeing a rise in weeds such as chickweed, rosebay willow herb, coltsfoot and some umbelliferous species. Many of the weeds we've

## What are the options?

The main two herbicide modes of action that form the backbone of most spring strategies are the ALS inhibitors, particularly sulfonylureas (Herbicide Resistance Action Committee group 2) and the synthetic auxins (HRAC group 4), which includes phenoxy herbicides and the newer Arylex chemistry containing halauxifen-methyl.

The phenoxies have been in use for many years and include MCPA, mecoprop-p (CMPP), dichloprop-p and 2,4-D. Other herbicides, such as dicamba and fluroxypyr, belong to different subgroups within this same synthetic auxin group of chemistry.

In combination with sulfonylurea chemistry, the older synthetic auxins provide a robust herbicide mixture. The newer generation of halauxifen-methyl products provide a wider application timing and flexibility, particularly under cooler conditions.

## How do you get cost-effective control?

Utilising phenoxies in the herbicide programmes can provide reliable weed control without the price tag. But as well as the economics of the herbicide strategy, phenoxies are becoming an increasingly important part of resistance management. They provide control of ALS-resistant weed species, such as poppy and chickweed. To obtain control of these weeds it's important to select the right phenoxy — MCPA for poppy and mecoprop-p for chickweed, which is particularly problematic in Scotland where spring cropping



Chicory used in cover crop mixes is becoming a weed in some arable rotations.



A well-timed application of mecoprop-p can help provide control of cleavers and volunteer beans without having to resort to more costly options.

has led to high usage of sulfonylureas.

Phenoxies can also provide a useful boost to the control provided by partner products on some weeds. For example, a well-timed application of mecoprop-p can help provide ►



Multiple tank-mixes may be necessary to help cope with the work load this spring so herbicide compatibility and safety will be a high priority.



*One often overlooked use for MCPA is late season poppy control, where it can be used up to GS39 of the crop.*

► control of cleavers and volunteer beans without having to resort to more costly options.

To get the best results, phenoxies are best used when plants are actively growing so that the herbicide is better able to move to the growing points of weeds more easily. Air temperatures of 8°C are required, though 10°C is favoured for best uptake. If ground conditions become dry, or if temperatures become too warm, then crop damage can occur.

One often overlooked use for MCPA is late season poppy control, where it can be used up to GS39 of the crop.

## How do phenoxies work?

Phenoxy herbicides are absorbed into the weed leaves within 4-6 hours of application and work by mimicking indol-3-acetic acid (IAA), or auxin — a naturally occurring hormone in plants. The synthetic auxin is translocated around the plant and concentrates in the actively growing regions, the meristematic tissue of root tips and stems. They work by over-stimulating plant cells, causing abnormal plant growth and interfere with plant metabolism, protein synthesis, cell division and transportation of nutrients within the plant, ultimately causing the weed to die.

Symptoms are evident on new growth first — these include pigment loss (yellow or white), stoppage of growth, and distorted

## Sponsor message

At Nufarm we're bringing a variety of useful tools and helpful advice about our Agronomy Solutions to agronomists and growers. This advice is tailored to the changing demands of the season's agronomic challenges. Further Agronomy Solutions for other crops are available on our website at [nufarm.com/uk](http://nufarm.com/uk) or contact your local agronomist.

We're also investing in bringing further expertise with our Nufarm Spraywise program, which provides useful content and best-use advice for our extensive portfolio. Keep an

eye out for videos and various content with BASIS and NRoSO points available.

Nufarm developed the concept of Agronomy Solutions as we believe that supporting our customers with timely information is an important part of our cost effective and efficient approach. Our UK business is supported by the fact we're one of the few producers of crop protection products with an award-winning, locally based, manufacturing facility.



new growth. Twisting & bending is noticeable after 1-3 days, along with leaf cupping and curling. Thickening and elongation of weed leaves takes around seven days, with associated chlorosis at the growing point at 7-10 days. Finally, wilting and death occurs at 21+

days after herbicide application.

Because phenoxies work by causing the over-expression of naturally occurring hormone in the plant, resistance is at a low risk of occurring — as demonstrated by the longevity of this group of herbicides. ■

## Plenty of challenges ahead

NIAB-TAG agronomist Chris Page is in a very similar position to many agronomists in the high rainfall areas with heavy ground on his Northamptonshire patch this spring. Only 35%-45% of his growers' planned winter cropping has gone into the ground, so the switch into spring cropping will potentially be a large one.

"Where winter cereals have gone in, there are all kinds of variations — some fields are completely untreated, while others had a herbicide application in autumn. When spring eventually does arrive, soils warm up quickly and there's likely to be more weed seeds that will germinate."

Chris is using the wet weeks to gear up as best he can to cover his spring workload, which he's expecting to be chaotic. "It will be a very challenging spring with so much ground still to work and crops to get in. Multiple tank-mixes will be at the forefront, which means there'll have to be careful consideration of crop safety and getting timings right as well as the weed control."

Spring oats are planned to replace some of the undrilled crop area, along

with spring wheat, spring barley and pulses. "While trying to maintain rotational balance, many growers are concerned about being able to market spring barley because so much is expected to be drilled this spring. There are local end-markets for spring oats in this area, so more than double the usual acreage is planned, and spring wheat is also likely to increase significantly.

With the prospects of heavy land not drying out very early after an unprecedented amount of February rainfall, Chris says ideally spring cereals would be best drilled before the end of March as yield potential tends to be affected as drilling pushes into April — hence the expression 'cuckoo barley'.

One of the big considerations this spring will be herbicide labels. "Herbicides will probably need to cover a wide spectrum of weeds as well as have a label approval for use in spring crops, which not all spring herbicides do," he comments.

Last year Chris gained experience with Paramount Max (tribenuron-methyl + florasulam) in a

spring barley field trial near Towcester and he believes this will be a useful product in some crops this spring.

"The field had a huge problem with groundsel and a broad range of other weeds were present, including speedwell, fat hen, pansy, poppy, shepherd's purse, fool's parsley and coltsfoot. The spring barley followed a cover crop and because of this, chicory was a weed in the crop.

"Weeds were at the upper size limit when the herbicide was applied on 14 May and some were beginning to flower. The spring last year was very dry and the crop was stressed, which is why the herbicide application was delayed," he explains.

Chris was impressed with the results and feels Paramount Max may have a good fit, particularly in spring oats where groundsel is the main problem.

"The florasulam component in Paramount Max also brings good activity on cleavers and chickweed, making it a very broad-brush herbicide which is highly tank-mixable — another important factor to consider this spring," he concludes.



*Rosebay willow herb showing symptoms 14 days after treatment with Paramount Max.*



*Groundsel showing symptoms 14 days after treatment with Paramount Max.*