

# techtalk

## Spring weed control

Robust weed control is essential when growing a profitable cereal crop. Corteva Agriscience has a range of innovative chemistry designed to fulfil the needs of UK and Irish growers and is grateful for the opportunity to sponsor this CPM Tech Talk.



# Flexibility is key

Broadleaf weeds often warrant a mix and match approach with herbicides in spring. CPM talks through some of the considerations for this season.

By Lucy de la Pasture



As weeds wake from their winter slumber, windows begin to open for their control in winter cereals. Every farm has different priorities but for the most competitive over-wintered broadleaf weed species, such as cleavers and poppy, early removal in spring is key.

But as with many agronomy decisions, there's often a compromise to be made. Spring germinating weeds, such as polygonums, may add to the spectrum and unpredictable spring weather can cause issues with herbicide efficacy, crop safety and the ability to travel.

CPM discusses considerations for broadleaf weed control this spring with Corteva Agriscience's Alister McRobbie and Andrew Gilchrist of Scottish Agronomy.

## What's different this year?

The area of winter-sown cereals has returned to more normal levels this season after the enforced switch to spring cropping in 2020. Many winter wheat crops went in a little earlier than usual as growers didn't want to be left in the same position as 2019, when wet weather stopped drilling before it had barely started.

The prioritisation of drilling over ground preparation may have compromised the quality of some seedbeds, which could have a knock-on effect on weeds. Some crops have received a pre-emergence herbicide, but many didn't as ground conditions turned wet in late autumn, which may add to the broadleaf weed challenge after the winter. In Scotland, winter cereals are generally more up to date with residual herbicide applications.

Many areas of the UK had snow on the ground in mid-Feb and in the regions that escaped the snowfall, the ground was frozen solid during the two-week mini-Beast from the East. Prior to the cold weather, Jan was another wet month and soils had been

sitting at field capacity for some time. So very early spring is likely to see wet soils and a backlog of field work — if the unsettled conditions continue into March.

## What are the broadleaf weed priorities?

Where seedbeds were poor, the result will be protracted weed germination which can make herbicide decisions in the spring more tricky. In winter crops the main broadleaf yield robbers include cleavers and cranesbill, which are likely to be coming on strongly after the winter.

Other weed species to target early include difficult-to-control poppy and chickweed, groundsel, brassicas and umbellifer species. It's also likely that the cold weather the UK has experienced this winter will promote germination of

polygonum species as

winter frosts will

have disrupted

the residual

herbicide

layer, where a pre-em was applied.

After sugar

beet and

potatoes there

has been little or

no autumn weed

control, with generally

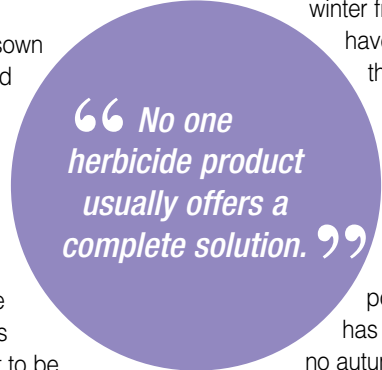
better-quality seedbeds produced

after beet. The key broadleaf weed

targets will be similar but can also

include spring germinators, such

as fat hen, orache, black



The prioritisation of drilling over ground preparation may have compromised the quality of some seedbeds which will have a knock-on effect on weeds, says Alister McRobbie.

bindweed and black nightshade.

Spring crops may receive low rates of residual herbicides, and this has become standard practice in Scotland, where around 50% of spring barley is treated this way — a practice which takes the pressure off early spring follow ups. The national average for the whole of the UK is lower at 30%, with flufenacet typically applied to target annual meadowgrass.

## How does this affect approach?

Where blackgrass is the number one priority, the failure to stack autumn residuals could potentially see an increased use of contact graminicides or other post-em treatments, which will impact the timing of any broadleaf weed follow-up and may put constraints on SU usage due to label restrictions on sequences and the number of ALS herbicides that can be applied.

That means the approach to broadleaf weed control will be a flexible one and Arylex active-based herbicides (halauxifen-methyl) herbicides can provide this. Where it's possible



*Fumitory is difficult to control with sulfonylureas and phenoxies but is one of the strengths of Arylex-based chemistry, says Andrew Gilchrist.*

to take advantage of early spray windows, one of the advantages of Arylex-based chemistry is that it is effective in marginal conditions, with very good activity being seen in the field when it would have been too cool to apply a herbicide prior to its arrival on the scene.

The Arylex mode of action (MoA) isn't significantly influenced by temperature, even though it is a synthetic auxin it belongs to a new class called the arylpicolinates. This ability to work on target weeds during cool or dry weather

conditions, when they're not actively growing, is a big point of difference to other spring herbicide MoAs.

## What are the weaknesses and strengths?

No one herbicide product usually offers a complete solution to the weed spectrum present, so tank-mixing Arylex herbicides with sulfonylureas (SUs) or phenoxy herbicides (also called hormones) is often necessary to fill the gaps.

In spring barley, an SU partner such as Harmony M (thifensulfuron-methyl+metsulfuron-methyl), broadens the weed spectrum to pick up on some of the weaknesses in the Arylex-based herbicides, including polygonums, umbellifers or brassicas — with activity depending on the weed size and Arylex co-form partner, with florasulam (in Zypar) more active on brassicas than fluroxypyr (in Pixxaro).

If the target weed is ALS-resistant poppy, then application of the residual herbicide pendimethalin (PDM) in the autumn is one of the most useful strategies to control it. But ▶



*Cleavers top the rankings for competitive broadleaf weeds.*

## Spring weed control: top tips

- **Match dose rate to weeds present** — aim to treat when weeds are small and actively growing. Some species won't be controlled at low rates.
- **Tailor to weed spectrum** — broad tank-mix compatibilities allow the addition of partner products to strengthen control of some weeds.
- **Early weed control removes competition** — though some weeds, such as cleavers and fumitory, can be controlled up until flowering.

## A tailored approach to broadleaf weeds

Worcestershire farmer and contractor Robert Beaumont is expecting his spring weed control programme to follow a well-trodden path in 2021 after winter crops were drilled in good autumn conditions, and pre-emergence herbicides went on in a timely fashion.

The AHDB Monitor Farmer from Suckley grows cereals on 110ha of owned and rented land, and he contracts a further 182ha as AEB Agriculture.

He keeps his rotation flexible — revolving predominantly around first wheats — in addition to spring beans and a silage crop for a local dairy farmer. With the all-too familiar pest and weather pressures on oilseed rape, he has, for now, removed it from the rotation.

"This year we have 65ha of winter wheat which is looking good so far," he says. "I'm growing Gleam, KWS Extase, Graham and LG Skyscraper as part of the AHDB Cereals & Oilseeds Monitor

Farm programme to see whether growing a blend of varieties could have benefits for my business' bottom line."

With autumn-sown crops showing potential, at the time of writing Robert was about to spray off his cover crops ahead of spring drilling and weed control. He says his focus on pre-em stacks has worked well to date, applying flufenacet, DFF and picolinafen to tackle both the grassweed and broadleaf burden.

Having done its job, he can now take a measured approach to spring weed control, identifying issues and selecting an appropriate course of action. "I'm not a huge fan of blanket herbicide strategies, I prefer to take each field in turn and see what it needs. We focus on pre-em, but I will do a top-up later in the year if necessary. Rotation and management are our driving force when it comes to weed control, particularly in how we control blackgrass."

For broadleaf weeds, Robert says his

farm "gets its fair share" of the typical competitors, including cleavers, cranesbill, mayweed, groundsel, poppy, fumitory, fat hen, charlock and chickweed. "There are a few broadleaf weeds visible that we will need to think about tidying up, but the autumn programme seems to have done a good job.

"We didn't put an autumn herbicide on some of the ground we've taken on afresh this year as it didn't have any weed issues so that will be entirely spring controlled."

Zypar has worked for Robert in the past, delivering reliable control to cranesbill and cleavers in particular, and the Arylex active-based product has been part of his programme since being recommended by his agronomist two years ago. "It's a good product that does exactly what we need it to do," he adds.

He acknowledges the chemistry's ability to perform in cold and fluctuating



*Robert Beaumont tailors spring herbicides, applying only where needed and to suit the weeds present in each field.*

temperatures, but keen "not to make a mess" he prefers to stay off the land until soils are drier and warmer, allowing both crops and weeds to display active growth.

This year he has Zypar in the store and says it will be applied to winter crops in late spring, when conditions are right for travelling on the farm's heavy soils, and he has also used it on spring barley in the past.

## Weed spectrum for Zypar

Weed	0.75 l/ha	1.0 l/ha	Weed	0.75 l/ha	1.0 l/ha
<b>Back Bindweed</b>	S<10cm	S<15cm	Pansy	T	T
Black Nightshade	-	S<5cm	Parsley Piet	T	S<10cm
Burr Chervil	-	MS<4 lf	Penny-cress	S<10cm	S<10cm
Charlock	S<flowering	S<flowering	<b>Poppy</b>	S<10cm	S<rosette
<b>Chickweed</b>	S<flowering	S<flowering	<b>Red Dead Nettle</b>	S<18cm	S<flowering
<b>Cleavers</b>	S<flowering	S<flowering	Redshank	MS	MS
Clover	-	S<10cm	Scarlet Pimpernel	MS	S<flowering
<b>Cranesbill</b>	S<5cm	S<10cm	<b>Shepherds Purse</b>	S<20cm	S<flowering
Docks	-	S<4 lfcm	Shepherds Needle	MS	S<4 lf
<b>Fat Hen</b>	S<15cm	S<15cm	Speedwell, Comon Field	MS<2 lf	S<4 lf, MS<4 lf
Fool's Parsley	MS	S<4 lf	Speedwell, Ivy Leaved	MS<2 lf	S<4 lf, MS<4 lf
Forget-me-not	MS<10cm	S<10cm	Thale Cress	-	S<6 lf
<b>Fumitory</b>	S<flowering	S<flowering	Thistle, Creeping	T	MS
Groundsel	MS	S<4 lf	Vol Beans	S<8 lf	S<flowering
Hemp-nettle	MS<10cm	S<4 lf	Vol Borage	-	S<4 lf
Henbit Deadnettle	S<flowering	S<flowering	<b>Vol Oilseed Rape</b>	S<flowering	S<flowering
Marigold	T	MS<rosette	Vol Potatoes	T	T
Mayweed	S<12cm	S<flower buds visible	Volunteer Sugar Beet	S<2 lf	S<6 lf
Nettle, Small	MS	S<4 lf	Wild Carrot	MS, S<4 lf	S<4 lf
Oracle	MS	MS	Wild Radish	S	S<flowering

**Key: bold** - label weeds, S - susceptible, MS - moderately susceptible, T - tolerant

Source: Corteva Agriscience, 2021; Zypar contains haloxifen-methyl+ florasulam.

► Arylex also works well with the phenoxy, MCPA, as a partner.

Last season poppy control suffered from a lack of PDM going on in the very wet autumn. This was followed by dry conditions in the spring which meant that sometimes poppies were not adequately controlled. Where autumn residual programmes may have been compromised this season, it'll be important to target

poppies early this spring, utilising the activity of Zypar in marginal conditions and particularly if the spring is another dry one.

Mayweed can still prove problematic if residuals don't perform well. Large mayweed isn't a strength of Arylex. Spring-emerging polygonums, pansy and speedwells can be tackled with the help of SUs or DFF and some of the phenoxy

herbicides also marry up well to boost control on less susceptible or larger weeds.

Umbelliferous weeds, such as bur chervil and cow parsley, are increasingly becoming a problem in Scotland as well as parts of England and Wales. Zypar has an effect while they are small but an SU may be more appropriate.

### How do I control fumitory?

Fumitory is a weed that is often difficult to control in spring crops, though it hasn't been identified as having resistance as such. However, it isn't adequately controlled by SUs or phenoxy herbicides anymore and can be a real pain in spring barley crops if it gets away.

Fumitory is mainly spring germinating and particularly favours the same soil types as spring barley. In recent years it appears to have become less susceptible to the phenoxy herbicide — dicamba and mecoprop — tank-mixes. Of the SUs, those containing tribenuron are the best of the bunch, but

the remainder are weak on fumitory and residual herbicide chemistry also doesn't contribute much to its control. This is where Arylex brings good activity on fumitory and it knocks it down very quickly and remains effective on larger weeds.

### What about ALS-resistance?

There hasn't been recent monitoring of ALS-resistance weed species in the UK. But at the last count, around 50% of the population of chickweed in Scotland was found to have resistance to ALS-chemistry, with further problems found in both poppy and mayweed. It's not a new problem, having first been reported a couple of decades ago. But in recent years, herbicide programmes have moved away from the SUs after the introduction of Arylex provided an alternative mode of action, easing the reliance and selection pressure on the SUs and further evolution of resistance problems.

ALS-resistance isn't confined to Scotland, with resistant chickweed identified in the North, poppy in the South East and mayweed in Yorkshire, with corn marigold also found to have resistance in Ireland.

### How do I get the best from Arylex?

Herbicides are most effective when target weeds are small and actively growing, though the Arylex MoA ensures tight binding to its target site even under cooler conditions. There has been a trend for spring herbicide applications to get later in the season. This means weeds tend to be larger and tank-mix partners can be more limited due to growth stage cut-offs, particularly with herbicides in the phenoxy group.

The label recommends the addition of an adjuvant which improves activity. In practice, where Arylex herbicides are applied in complex tank-mixes, the agronomist may use their judgement whether this is actually required. ■

## Sponsor message

Corteva Agriscience has an unparalleled pipeline of innovative new products for UK farmers which focus on the need for sustainable, profitable crop production. Combining the knowledge and expertise of its heritage companies, Corteva's scale and commitment to research and development means it is perfectly positioned to deliver the market-shaping innovations demanded by modern day agriculture.

Zypar is a great example of the robust, reliable chemistry farmers can rely on Corteva to deliver. It is a contact-acting herbicide which gives

control of key problem weeds with excellent performance in cold and variable conditions. It controls yield-sapping weeds such as poppy — including ALS-resistant populations — as well as cleavers, cranesbill, chickweed, mayweed, fat hen, fumitory and charlock, even at low or fluctuating temperatures. Zypar can be used early in winter cereals from 1 Feb and 1 March for spring-drilled crops, right up to growth stage 45. For more about Corteva's range of crop protection and seed products, go to [www.corteva.co.uk](http://www.corteva.co.uk)

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