



Technical Bulletin: Spring 2020

Autumn 2019 is not one we will forget in a hurry. Unfortunately, its effects will rumble on well into 2020.

And it's not just cropping which was effected. Black-grass emergence was also impacted by the very wet conditions as autumn germination can be delayed by induced dormancy in wet soil, germinating in spring when the soil dries out (*Fryer & Makepeace, 1977*). This has been confirmed by John Cussans, NIAB, who provides an explanation, "Wet soils create anaerobic soil conditions and it is this environment which induces dormancy. We simply do not know how much of the autumn population will be affected – there is no room for complacency!" Additionally, last summer black-grass seed dormancy was relatively high, so does that mean more spring germination anyway?

So whereas typically we see 15-20% of Black-grass germinating in spring, this spring is likely to see levels well above this.

What are the options for Black-grass control in spring cereals? With the exception of Avadex[®] Factor, Avadex[®] Excel 15G and some of the pendimethalin-containing products, the vast majority of pre-emergence herbicides have greatly reduced spring application rates with individual flufenacet products being limited to rates delivering just 120g of active per hectare, that's 50% of the autumn black-grass rate.

Both Avadex products deliver a full effective grass weed dose at all cereal drilling dates – autumn or spring. Remember, Avadex Excel 15G can be used on both Spring Barley and Spring Wheat whereas with Avadex Factor it's just Spring Barley.

Product	Spring pre-em rate (g ai/ha) of key grass-active ingredient	Proportion of Autumn black-grass rate	Spring Barley Use	Spring Wheat* Use	Wild-oat control?
Avadex [®] 15G	2250g Tri-allate	100%			
Avadex [®] Factor	1620g Tri-allate	100%			
Liberator [®]	120g Flufenacet	50%			
Crystal [®]	120g Flufenacet	50%	EAMU		
Herold [®]	60g Flufenacet	25%	EAMU	EAMU	
Defy [®]	2400g Prosulfocarb	60%	EAMU		
PDM (Various)	1320g Pendimethalin	100%		Varies	
Orient [®] /etc.	1320g Pendimethalin	100%			
Chronicle [®] /etc.	960g Pendimethalin	73%			
Tower [®] /Tribal [®]	604g PDM + 500g CTU	50%?			

*CRD consider all wheat drilled from 1st February as spring wheat.

One of the additional benefits of both Avadex Factor and Avadex Excel 15G is the wide application window in Spring Barley with the option to apply ahead of drilling as well as the classic post-drilling pre-emergence slot, allowing plenty of time to get on. Remember, performance doesn't change whether it's applied pre- or post-drilling.

Spring Barley



Besides spring cereals, Avadex Factor and Excel 15G can both be used in Spring Linseed, under an EAMU. In fact, the Avadex products are the only non-ACCase herbicides for Black-grass or Wild-oats available for use in Spring Linseed. They are also the only pre-emergence graminicides available and, just like in spring cereals, the full autumn Black-grass rate can be applied.

With all the focus on Black-grass it's easy to forget that Avadex was originally introduced as a Wild-oat herbicide specifically in spring barley and excellent control is still being delivered over 50 years later! Due to their germination peaking in spring Wild-oats have long been a significant weed in spring cereals. With increased ACC-ase resistance Avadex products continue to be an important tool for the early removal of this most competitive of weeds.

Last but not least, it's important to remember the useful contribution from both Avadex Factor and Avadex Excel 15G to broad-leaved weed control. Whilst not targeted as a broad leaf herbicide, Avadex provides a useful start to control helping to reduce weed pressure during the important early phase of crop establishment when the crop is sensitive to competition. A wide range of species are Susceptible or Moderately Susceptible to Avadex including speedwells, Cleavers, Fat-hen and Knotgrass.



Control of Cleavers (L) and Common Field Speedwell (R) with Avadex Excel 15G: AgHerba, 2019

Avadex Factor and Avadex Excel 15G continue to be the cornerstone of any Black-grass or Wild-oat programme delivering reliable and consistent control in your spring cereals and linseed.

Reference: JD Fryer & RJ Makepeace, *Weed Control Handbook Vol.1-Principles*, 6th Edn. 1977.

USE PLANT PROTECTION PRODUCTS SAFELY. Always read the label and product information before use. For more information visit www.Avadex.co.uk. Avadex[®] contains tri-alleate. Avadex is a registered trademark used under licence by Gowan Crop Protection Ltd. All trademarks duly acknowledged.

