

An option for herbicide resistant wild-oat?

Herbicide resistance in wild-oat (*Avena fatua*) is potentially a problem UK cereal growers are facing. There is a heavy reliance of post-emergent herbicides to control this weed. Tri-allate (Avadex Excel 15G & Avadex Factor) has excellent activity on wild-oat.

Herbicide Resistance

According to HRAC (weedsience.org) there are 55 unique cases of herbicide resistant wild-oat globally, with the first reported case in 1985.

In the UK, the first reported cases of herbicide resistant wild-oat was in 1994 (Source: weedsience.org). There is no reported tri-allate resistance in the UK to any weeds, including wild-oat.

Year	Species	MOAs	Actives	Crops
1994	<i>Avena fatua</i>	Antimicrotubule mitotic disrupter - HRAC Group 0 (Legacy Z)	flamprop-m	Cereals, Wheat, Oilseed rape
		Inhibition of Acetyl CoA Carboxylase - HRAC Group 1 (Legacy A)	fluzifop-butyl, fenoxaprop-ethyl, tralkoxydim, pinoxaden	
		Inhibition of Acetolactate Synthase - HRAC Group 2 (Legacy B)	imazamethabenz-methyl, mesosulfuron-methyl, pyroxsulam	

According to AHDB, a survey conducted in 2016 is showing that herbicide resistant wild-oat was found in 28 counties and on over 250 farms. The spread is slower compared to other grass-weeds, but still needs to be carefully managed.

Wild-oat Competitiveness

Wild-oat is one of the most competitive grass-weeds, so early removal is important to minimise crop yield loss.

Source: Croprotect.

<https://croprotect.com/articles/how-competitive-are-different-weed-species>

Common name	Latin name	(% yield loss per weed plant/m2)
Severely competitive		
Cleavers	<i>Galium aparine</i>	3.0
Wild-oats	<i>Avena spp.</i>	1.0
Italian rye-grass	<i>Lolium multiflorum</i>	1.0
Sterile brome	<i>Bromus sterilis</i>	1.0
Black-grass	<i>Alopecurus myosuroides</i>	0.4

Summary

Wild-oat does primarily germinate in the spring but can also germinate in the autumn so could be problematic for both autumn and spring drilled crops. Management of wild-oat should be considered to lower the potential yield loss from this grass-weed and the earlier the removal, the less impact there should be. Applying a soil residual herbicide that has activity on wild-oats will provide the early weed removal and be a component to fight against wild-oat herbicide resistance. A potential solution is to include either Avadex Excel 15G or Avadex Factor in the grass-weed control programme. With no known resistance to Tri-allate and known efficacy against wild-oat well beyond the half-life of approximately 3 months, Avadex is providing a solid foundation for wild-oat control.