

Many parts of the country are seeing ryegrass becoming an increasingly challenging weed, even in all arable rotations. Action this autumn is vital if the weed is not to become an ever greater problem. Ryegrass is highly competitive, with densities of 5 plants / m² causing yield losses of 5% or more in cereals. Populations can build rapidly as ryegrass tillers profusely, with each plant capable of producing over 5000 seeds. The weed thrives in autumn sown crops and the shift to non-inversion forms of cultivation has also encouraged it. In addition, the issue of herbicide resistance has been identified over the past two decades. This topic sheet updates current advice and gives top reasons to use Broadway Star this autumn to tackle ryegrass.

Cultural control

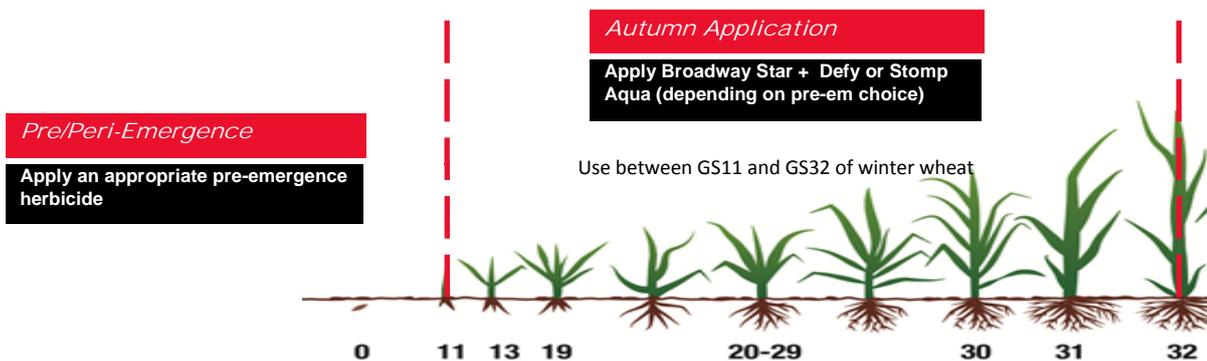
Some field populations of ryegrass are no longer able to be controlled with herbicides alone. For this reason, integrated control of ryegrass is an important consideration. The use of stale seedbeds will reduce the population, but as the germination period of ryegrass can be prolonged, the level of control is not substantial. Ploughing is the best method of cultural control, ensuring a complete inversion of the soil. Ploughing will increase the risk of bringing seed from the previous season to the surface, but when dealing with high populations of ryegrass, this will have little effect on the population level, and is still the most effective cultural control method available. Spring cropping, or later drilling of autumn crops can help reduce the weed pressure.

Herbicide programmes

Control programmes should be based on both pre- and post-emergence herbicides. A residual pre-emergence herbicide application is an important first step in the herbicide programme. Treatments based on prosulfocarb or flufenacet plus pendimethalin are suitable for ryegrass control.

This should be followed up post-emergence with Broadway® Star (pyroxsulam and florasulam) plus a residual partner. Broadway Star has the benefit of not only targeting grassweeds such as ryegrass, bromes and wild oats, but also a wide range of broad-leaved weeds including groundsel, cranesbill, volunteer rape and volunteer beans.

Trials and observations on farm have consistently demonstrated that autumn applications of Broadway Star are more effective than treating in the spring, as weeds are smaller and soil temperatures provide optimum conditions for active growth.



Resistance

Herbicide resistant Italian ryegrass has been found on >475 farms in the UK. Enhanced metabolism is the most common mechanism of herbicide resistance in ryegrass in the UK. ACCase and ALS target site resistance has also been found, but is much less common than in blackgrass.

Although herbicide resistance is currently less rife in ryegrass than in blackgrass, we should not be complacent. Check spray records to ensure there hasn't been a reliance on any one active ingredient over recent years. Varying the mode of action is good practice and important to delay the development of herbicide resistance. Ryegrass species globally have shown cross-resistance to 11 different herbicide modes of action. The first case of glyphosate resistance in a European annual cropping system was found in ryegrass in Italy.

If you have experienced poor control, and suspect that you have herbicide resistant ryegrass, resistance testing will be a useful management tool. For further information on collecting samples, and the different types of resistant testing available, see the Weed Resistance Action Group leaflet "The benefits of herbicide resistance testing"

www.pesticides.gov.uk/guidance/industries/pesticides/advisory-groups/Resistance-Action-Groups/Latest-News/WRAG+-+Benefits+of+herbicide+resistance+testing+leaflet

Frequently Asked Questions

I have resistance confirmed, will Broadway Star still work?

Use cultural control measures, combined with a robust herbicide programme. Use a pre-emergence spray, followed by a post emergence spray to a small, actively growing target weed. Where enhanced metabolism is the known resistance mechanism, it is important that post emergent herbicides are applied to as small a target weed as possible, as smaller weeds are likely to have lower levels of the enzymes present which are able to detoxify the herbicides. For post-emergent herbicides to be effective, weeds must be actively growing.

Can I just take the same approach to blackgrass control?

Ryegrass does have a similar biology to blackgrass in terms of emergence, seed persistence and depth of emergence, so cultural control methods used for blackgrass will also be applicable to ryegrass. A programmed approach to herbicide control is also needed.

Why is it so hard to control?

Ryegrass can be difficult to control as the waxy leaf cuticle makes it difficult for herbicides to gain entry to the leaf.

How do I know if I have Italian or perennial ryegrass?

Two species of ryegrass are commonly found in the UK: perennial and Italian. Perennial ryegrass is rarely a weed in UK arable crops, except after a herbage seed crop, whilst Italian ryegrass is an increasing problem even in all arable areas, particularly in autumn sown crops. Leaves of Italian ryegrass are rolled in the shoot, whilst leaves of perennial ryegrass are folded.

What can we learn from Europe?

Ryegrass has been a key grassweed on continental Europe for a number of years, so what lessons can we learn from their experience of control options?

A robust, programmed approach to ryegrass control is consistently used, in conjunction with use of rotations. Broadway Star remains the cornerstone primary contact graminicide used in ryegrass control programmes.