

Weed Resistance Action Group confirms first cases of glyphosate resistance in UK

Update: In addition to the initial confirmed case of glyphosate resistance in Kent, having tested three additional samples (Somerset, Essex and North Yorkshire), two of these have demonstrated significantly reduced control from appropriate doses of glyphosate. The third population also showed decreased glyphosate sensitivity in the tests. All of these cases are very high-risk situations. The note has also been updated to include information on sample testing in Spring 2025.

SUMMARY

A single field population of the weed Italian Ryegrass has been identified which is resistant to glyphosate at the maximum label rate. This is the first such fully documented case in the UK. The situation represented a high risk and although several other cases were investigated these all turned out to be well-controlled by well-applied field rates.

- This finding has been rigorously investigated and the population has been re-sampled and re-tested.
- Since summer 2019 over 300 seed samples have been screened by ADAS & NIAB.
 - No evidence of glyphosate resistance has been identified through extensive survey.
 - Several other populations were identified as high risk but in every other case, following further investigation and re-sampling, no indication of glyphosate resistance was detected.
- A very small number of other cases are still under investigation.

The [WRAG Guidelines for minimizing the risk of glyphosate in the UK](#), first published in 2015 and informed by AHDB & industry research, remain highly relevant and this case highlights why they were produced and the need to use them. Their key management includes: Prevent Survivors, Maximise Efficacy, Use Alternatives, and Monitor Success.

DETAILS

- WRAG is aware of a single field population of the weed Italian Ryegrass (*Lolium multiflorum*) that has been identified as resistant to glyphosate at the maximum label rate. This finding has been rigorously investigated and the population has been re-sampled and re-tested.
- This was a high risk scenario where large weeds were surviving high rates of appropriate glyphosate applications in the run-up to drilling a relatively late drilling spring crop.
- The situation here refers only to annual Italian Ryegrass (*Lolium multiflorum*).
- Since 2018/19, targeted approaches have identified several populations as high-risk but in every other case, following further investigation and re-sampling, no indication of glyphosate resistance was detected – demonstrating that vigilance and appropriate action of potential cases can be dealt with without going on to develop field cases of resistance.
- Since summer 2019 over 300 seed samples were also submitted for testing by ADAS & NIAB. Using this approach no evidence of glyphosate resistance has been identified.
- This is a timely reminder of the importance of glyphosate stewardship and highlights the need to keep communicate and follow WRAG glyphosate stewardship guidance.
- It further highlights the importance of monitoring and investigating suspicious cases/survivors with your agronomist, company and research providers.
- We are aware of a very small number of other cases which are still under investigation.

ACTIONS AND TESTING

- There are many reasons for poor control, thorough investigation is essential to confirm causes.
- Vigilance and appropriate action can minimize development of field cases of resistance.
- All farmers and agronomists should be fully aware of the risk and are recommended to read and act on the [WRAG Guidelines for minimizing the risk of glyphosate in the UK](#), including Prevent Survivors, Maximise Efficacy, Use Alternatives, and Monitor Success.

- To monitor the situation and evaluate the potential for additional cases of glyphosate resistance, ADAS will conduct a **focused testing programme** in spring 2025.
- This testing will target populations of Italian Ryegrass surviving glyphosate application prior to drilling a spring crop as this has been identified as high risk situation.
- The testing will require farmers/advisers and others to;
 - Complete a questionnaire to evaluate risk [if there is over-subscription, this may be used to identify the highest risk samples].
 - Dig up Italian ryegrass plants from the field (enough plant material to cover an A4 sheet of paper in total) and send them to ADAS (in sealed plastic bags with the completed questionnaire).
 - Test results will be reported back to the farmer/advisor in weeks so that action can be taken if needed. Note a positive rapid test results does not automatically mean that glyphosate resistance is present at a field scale but populations identified from this testing can be taken forwards for further investigation.
 - Overall summaries for regions will be produced but individual test results and locations will be kept confidential.
- If after assessing your own risk you identify a need for testing you should do so through your agronomist (who have the relevant details). In the event you do not have an agronomist you should contact your Bayer Crop Science representative, or in exceptional circumstances, ADAS.

FURTHER BACKGROUND NOTES

Species

- The situation refers only to annual Italian Ryegrass (*Lolium multiflorum*) this is NOT Perennial Ryegrass (*Lolium perenne*).
- Rigid or Annual Ryegrass (*Lolium rigidum*), a common weed in Australia, is a different species. Although like Italian Ryegrass, be careful about reading across findings from this species and region.

European context

- Most confirmed cases of glyphosate resistance in Italian Ryegrass have been in North and South America.
- There have been cases of glyphosate resistance in Europe (2006 in Spain and 2012 in Italy) but it's notable that the situation in both countries has not escalated resulting in a widespread problem.

Combining a pro-active and re-active approach


- Glyphosate stewardship is both pro-active and re-active.
- *Pro-active*: Best practice glyphosate use should reduce the risk.
- *Re-active*: Monitor and react quickly and appropriately to any individuals surviving application.


Implications for Regen/Conservation Agriculture (CA).

- Glyphosate resistance concerns are not a barrier to Regen/CA adoption...BUT
- Pressure on, and increased reliance on glyphosate, such as in a reduced/no-till system must be managed.
- In all systems monitoring and proper focus on glyphosate stewardship is essential.

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Issued by the UK Weed Resistance Action Group on 05 February 2025

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