

Check your risk for glyphosate resistance

A questionnaire for self-assessment of resistance risk in barnyard grass

Fact Sheet

1. How many summer fallows using zero or minimum till and relying on glyphosate have been carried out in this paddock?

Answer:	0	1-5	6-10	11-15	16+
Score:	0	2	6	8	10

If all these fallows have been consecutive, multiply this score by 1.5

2. Over the last five years, how regularly have you controlled barnyard grass survivors or regrowth from a glyphosate spray with a non-glyphosate follow-up?

Answer:	<i>never</i>	<i>rarely</i>	<i>regularly</i>	<i>always</i>
Score:	0	-2	-4	-7

3. Over the last five years, when you have attempted to control survivors from a glyphosate spray with a non-glyphosate follow-up, how often has your success rate been very high (more than 99% of survivors killed)?

Answer:	<i>never</i>	<i>rarely</i>	<i>regularly</i>	<i>always</i>
Score:	0	-1	-3	-5

4. Over the last five years, how many summer crops have you grown using selective or residual herbicides for barnyard grass control in this paddock?

Answer:	0	1-2	3-4	5
Score:	2	0	-4	-8

5. How many times over the last five years have you used an alternative knockdown herbicide instead of glyphosate in this paddock?

Answer:	0-3	4-8	9+
Score:	0	-4	-8

6. How many times over the last five years have you controlled a large flush of barnyard grass with tillage in this paddock?

Answer:	0-3	4-8	9+
Score:	0	-2	-6

TOTAL

SCORING: Add scores for questions 1-6 together.

RATING: <0: Very low 0-6: Low Risk 7-12: Medium Risk 12+: High Risk





Check your glyphosate resistance risk

This questionnaire assesses the risk of awnless barnyard grass populations in your paddock or farm developing resistance to glyphosate. It may give good results for other summer grasses, but we cannot guarantee its accuracy for other types of weeds.

How to rate your risk

- Answer the questions, 1 to 6.
- Write down your score for each question, and add them up at the end. Your answers for questions 2 to 6 may be negative numbers, so remember to subtract them from the score for question 1.
- Then, check your score against the numbers at the bottom of the table, which will tell you whether your paddock or farm is at very low, low, medium, or high risk of developing a glyphosate-resistant awnless barnyard grass population.

The questionnaire also provides information about the factors that promote and reduce risk. If you score in the high risk category, you may be able to check the other possible answers for questions 2 to 6, and see where you have options to reduce your risk into the future.

A 'high risk' score does not mean your farm will definitely develop glyphosate-resistant weeds. On the other hand, a 'low risk' score does not mean you definitely won't develop resistant weeds. A 'high risk' score means that if there is a resistant plant in your paddock, it is very likely that its progeny will dominate future generations of the weed population. A 'low risk' score means that even if there is a resistant plant in your paddock, your weed control practices will make it difficult for that plant's progeny to dominate future weed generations.

Notes on questions 1-6

1. The number of times the weed population is exposed to glyphosate plays a large part in determining how much risk there is for glyphosate resistance developing. Zero-till summer fallows with glyphosate used as the only method of weed control are common, but they also put pressure on the population to develop glyphosate resistance.
2. Preventing seed set on survivors of glyphosate applications is a key method of preventing resistance. If no survivors of glyphosate applications produce seed, there can be no increase in the number of glyphosate-resistant plants. You may have used a non-glyphosate herbicide, tillage, or chipping to control glyphosate survivors. A double knock tactic would also count as preventing seed set on glyphosate survivors.
3. Getting very high control of glyphosate survivors helps stop seed set in these plants.
4. Summer cropping provides options for using selective knockdown and residual herbicides, which give you another way to keep the number of glyphosate resistant plants low. Also, the summer crop if planted at the right time and density can reduce weed pressure through competition.
5. In fallow, non-glyphosate knockdown herbicides and residual herbicides provide a good way to control weed numbers and keep glyphosate-resistant plant numbers low.
6. Tillage, applied strategically, can be a useful tool for controlling weed numbers in fallow or before planting a summer crop, and kills resistant and susceptible plants equally.

Risk questionnaire and notes developed by David Thornby and the QPI&F Weed Sciences team.

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