



PROCAM
AGRONOMY THAT DELIVERS™

Technical Update
July '18

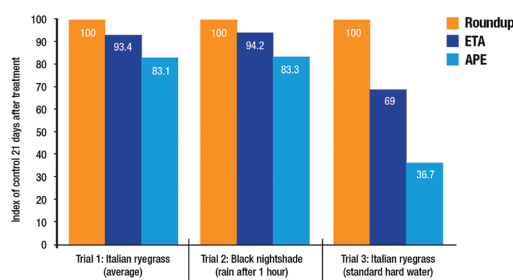
JULY JOURNAL

Despite a cold wet spring harvest looks as if it won't be late after high temperatures in June. There's still a few decisions to be considered though before the combines start rolling.



A period of warm dry weather at the end of June has accelerated crop ripening and many will be looking to desiccate oilseed rape crops and start harvest conditioning in some of the early maturing cereal crops. In most cases this will involve applications of glyphosate. Benchmark trials by Monsanto have confirmed anecdotal evidence from farmers and agronomists that glyphosate products reformulated with alkyl phosphate ester (APE), the most popular alternative to the tallow amine (ETA) surfactants, perform less well than their predecessors. The trials compared the most advanced glyphosate formulation, Roundup PowerMax, with both ETA and APE glyphosate products. A leading ETA formulation gave 6% less control of Italian ryegrass compared with the Roundup benchmark but the APE competitor was 17% behind the leading formulation. Simulating rainfall 1 hour after application and using hard water further demonstrated the greater reliability of the Roundup PowerMax formulation compared with both ETA and APE formulations. The results are summarised in the graph below.

Figure: Relative performance of glyphosate formulations



Monsanto controlled glasshouse trials

The official tallow amine formulation use-up date of 30 June 2018 means only reformulated glyphosates will be in use for the vast majority of this year's pre-harvest and stubble treatments. Make sure you are using the appropriate product to optimise your crop desiccation and pre-harvest weed control this year. The main advantages from using a glyphosate formulation such as Roundup PowerMax are:

- Rainfastness - 1 hour for annuals and 4 hours for perennials
- Speed of uptake and activity
- Improved reliability, in hot and dry or cool and dry weather conditions
- Less risk of drift

Suggested guidelines to optimise the activity of Roundup PowerMax and other glyphosate formulations include:

- Spray as soon as crop reaches 30% moisture.
- Apply Roundup PowerMax early in the day or in conditions of high humidity, especially in periods of hot weather. Early leaf wetness, provided it is not so wet as to cause run-off, and when conditions are drying will improve uptake. Applications in high light intensity and long days are also preferable to spraying on dull days/evenings.
- DO NOT spray crops intended for seed production.
- Roundup PowerMax is a low-drift formulation with ammonium sulphate included. Additional surfactants should not be required but in areas of very hard water additional water conditioners could be considered. With alternative glyphosate options the addition of ammonium sulphate based adjuvants and water conditioners will certainly help to improve uptake and speed of activity. These disrupt the leaf wax, especially important with oilseed rape, and the ammonium ions facilitate the entry of glyphosate into the plant through the waxy leaf surface.

GRAIN STORES

PRE-HARVEST HYGIENE



Good grain store hygiene is an essential foundation for keeping grain insect free. Over 90% of grain stores harbour at least one insect species known to infest grain. Mite and insect feeding result in direct losses but can also have a detrimental effect on the quality of stored grain. Whether intended for milling, malting or feed, infested grain runs the risk of being rejected with major losses of up to £50/t. A full cleaning procedure should take place; ideally around 6-8 weeks prior to harvest. The following steps should be followed:

1. Empty the grain store of any old grain and debris. Apply the same principles to grain handling equipment.
2. Sweep all surfaces of the store thoroughly and/or use a high pressure airline to clean crevices and burn the sweepings. Wear appropriate PPE including a dust mask.
3. Use an industrial cleaner to clear as much dust as possible. Dust provides breeding sites for mites and insects. Burn the dust.
4. Treat the fabric of the store - spray the walls, floors, ducts and handling equipment with an approved insecticide, ideally 4 weeks before harvest via a knapsack, motorised knapsack or tractor-operated spray lance.
5. Complete the treating process by using a smoke generating insecticide.
6. After the initial clean down check the grain store regularly for insect activity using sticky and pitfall traps. Placing traps every 6 metres or so around the grain store allows for effective monitoring of insect activity. It is a key part of an integrated programme to avoid insect and mite infestations.

There are a limited number of products available to use in grain stores. Chlorpyrifos methyl (e.g. Reldan 22) and deltamethrin (e.g. K Obiol) are examples of products that can still be used to treat the fabric and walls of grain stores. Pirimiphos methyl (e.g. Actellic smoke generators) are still available and will form part of the cleaning strategy.

Your ProCam Agronomist will have details of all the available products. You may also need to check with your grain buyer whether the proposed treatment is acceptable and conforms to any grain storage protocols.

GLYPHOSATE

STEWARDSHIP 2018



Following the vote in November 2017 to renew the approval of glyphosate for another five years, key stakeholders within the UK agricultural sector are now working together to update and develop glyphosate stewardship guidelines. Currently there are no known cases of glyphosate resistance in the UK, although this may change if its use is not carefully managed.

Stakeholders include AHDB, the NFU, the Agricultural Industries Confederation (AIC) and the Weed Resistance Action Group (WRAG), alongside major businesses such as Monsanto and Syngenta. A dedicated webpage is available on the AHDB website, offering best practice advice and guidance on glyphosate usage. The focus is on maintaining glyphosate performance whilst minimising any residues and protecting water quality. The aim, ultimately, is to ensure that glyphosate remains available when the current renewal expires in 2022.

AHDB and WRAG have proposed four key steps to reduce the risk of glyphosate resistance:

1. Maximise efficiency: Use the right dose rate for the target weed on actively growing plants. Reduced dose rates increase the risk of reduced efficacy. Apply glyphosate at no less than 540 g ai/ha.
2. Use alternatives: Use cultivation or other nonchemical control options when practical. Use other herbicides in sequence (or in mixture, only if recommended).
3. Monitor success: Remove survivors to prevent spread. Test seed samples of survivors for resistance.
4. Prevent survivors: Avoid repeat applications of glyphosate to the same (surviving) plants.

WEED CONTROL

RESISTANCE TESTS



Now is the time to assess weed control success and map patches where weeds have escaped herbicide treatments for future remedial action. If resistance is suspected, July is the month to collect seed samples for testing. It is important to ensure that seed is gathered at the correct timing appropriate to the weed and the planned test. Your ProCam Agronomist will have details of the available resistance tests for a number of grass and broad leaved weeds and sample requirements.