

HERBICIDE Q & A

WITH
MALCOLM TAYLOR

With recent rain events and more forecast, field trafficability to get your herbicides applied post-sowing and pre-emergence may be challenging. To help you with your decision-making and alternatives to the standard programs we have posed some questions to Malcolm Taylor, of Agropraisals Pty. Ltd.

When spraying post sowing, pre-emergence on drill sown rice, how much rain is required and how soon after spraying to activate Stomp and Magister?

Short answer is that we don't know. Many pre-emergence herbicide labels quote figures of 2 to 10mm up to 5 days after flushing, but very little evidence is available to support these assertions. Both Magister and Stomp have substantial persistence on dry soils. However, rainfall or flushing is necessary to move the chemicals to where most barnyard grass germinates from (0-5cm). In practice, this combination works reliably when applied post flushing, pre crop emergence. A subsequent rain or flushing event is often necessary to enhance rice seedling emergence at this stage, particularly on dispersive clay soils that are prone to sealing.

What is the latest crop stage that you can apply Magister?

Magister can be applied post-emergence to drill sown rice, with no maximum crop growth stage specified. Magister works best as a pre-emergence application. Rice injury (bleaching and a loss of vigour) is more common with post-emergence applications. Magister can also antagonise barnyard grass control with Agixa, resulting in poorer weed control. This is why we recommend Magister as a pre-emergence application and not to be tank mixed with Agixa.

What is the latest crop stage that you can apply Gramoxone?

Gramoxone (paraquat) is a non-selective and very potent desiccant herbicide that relies upon contact. It is not translocated (in contrast to glyphosate). Any rice leaf that is contacted with Gramoxone will be burnt off. Rice seedlings can lose the first leaf and recover as the seedling is still relying upon the seed endosperm for a carbohydrate source. By two leaf stage, the seed reserves are exhausted, so if you desiccate rice at this stage, the plants will die.

If rice is commencing to emerge, some damage can be tolerated in order to ensure that the 3 way mix of Gramoxone plus Stomp plus Magister is applied. The application window will be very narrow however (1-2 days). In practice, if a post flush, pre-emergence timing is missed due to a rain event delaying field access, dropping the Gramoxone will be necessary, but applying Magister plus Stomp will still be worthwhile. In these circumstances, where temperatures are above 25°C, Stam can be substituted for Gramoxone at a half rate of 3.75L/ha. Roundup can be applied by air if wet ground delays field access to emerged weeds, ensure no rice is emerged, and apply Magister/Stomp later when the field becomes accessible.

What is the latest crop stage that you can apply Stomp?

Stomp is a pre-emergence herbicide that can be applied in a wider window than Magister as it will not damage emerged rice. As it has little or no post-emergence activity on barnyard grass, it is best applied pre-emergence. STOMP can be tank mixed with Stam, Agixa or Aura to provide extended pre-emergence barnyard grass control. These combinations are useful if the 3 way mixture was missed due to poor field trafficability. Minimum rice growth stages need to be observed with Agixa and Aura mixtures with Stomp to avoid crop injury.

Could you spray Magister or Stomp post-sowing, prior to the first flush?

Magister can be sprayed prior to the first flush as it will be tolerated by the crop. Stomp should not be sprayed until germination of rice has commenced as the crop may be more susceptible to injury. Weed control is best if the first flush has been completed as soil clods will have melted to leave a more even surface upon which to apply residual herbicides.



Rice Extension
Powered by



continued..

Why is it important to mix Stomp with Gramoxone and Magister?

Because the mixture works extremely well. Stomp is insoluble in water and is tied up rapidly by organic matter. Magister is highly water soluble and less prone to tie up. They complement each other as they have slightly different spectrums of herbicidal activity eg: both are active against barnyard and silvertop grass, but Stomp also controls dirty Dora and some broadleaf seedlings.

Tank mixing Stomp and Magister enables concurrent delivery of two alternate modes of herbicidal action on the same cohort of weeds; a critical strategy for deferring herbicide resistance. Gramoxone is added to ensure any early germinating weeds are removed that would otherwise survive the two pre-emergence herbicides. Application of the 3 way mixture before crop emergence ensures that early weed competition doesn't occur, thus maximising rice crop yield potential. I recommend this treatment to any rice grower who chooses to drill sow their crop.

Can you apply two applications of Stomp? If so, what would the timing, growth stage and rates be?

No prohibition of using two applications of STOMP exists on the label. We have tested a sequence in small plot trials with no ill effects to the crop. Using a lower rate (eg: 1.5 – 2.0 L/ha at the second (post emergence) 2-4 leaf stage (rice) timing would be prudent as we only seek a relatively short extension of residual grass control prior to permanent inundation.

What are your options if you miss the 3-way mix?

Drop out the GRAMOXONE if the crop has emerged and apply MAGISTER plus STOMP as soon as you can. If advanced weeds survive this treatment, you may need to follow up with AGIXA.

Why is it so important for the industry to preserve the use of Agixa?

AGIXA is a co-formulation of floryprauxifen and cyhalofop. We have a long history (>20 years) of cyhalofop usage, thus selection for resistance in grass weeds has already occurred, but has not yet been observed in Australia. In other countries, multiple resistance to rice herbicides is common in grass weeds. Our strategies are designed to slow and minimise herbicide resistance development by rotating fields to reduce weed seed burdens, overlaying multiple modes of action on the same cohort of weeds, treating smaller weeds and rotating herbicide programs and seeding methods.

What's your best practice use guide for Agixa?

Refer to the label and consult your local agronomist. Always use a foundation pre-emergence herbicide prior to using AGIXA to keep weed numbers and early competition low. Spray weeds smaller than your thumb, make sure they are not water stressed (or submerged), flood the field ASAP after application and be mindful of susceptible crops and vegetation downwind.

