



Technotes

Managing Clearfield® Plantbacks

Clearfield® (Imidazolinone) herbicides such as Midas® and Intervix® are residual herbicides that may carry over from one year to the next. It is vital that growers take adequate precautions to prevent any potential effect in the following crop.

Introduction

Due to the residual nature of **Clearfield** herbicides, plantback crop selectivity is essential to minimise potential crop effect. Rainfall, soil microbes and time are all key influencers of herbicide breakdown. Conditions need to be monitored after applications of these herbicides and prior to the sowing of the plantback crop to be able to select the most appropriate follow crop.

Clearfield Herbicide Breakdown

The primary method of degradation for **Clearfield** herbicides is via microbial degradation. Microbial degradation is dependent on the presence of soil microbes, which are more prevalent in soils with higher organic matter. As the soil microbes are most active when soils are wet, degradation of **Clearfield** herbicides is enhanced during periods when topsoil moisture is available.

- High degradation rate: Moist Soils, High Organic Matter %, High pH.
- Low degradation rate: Dry Soils, Low Organic Matter %, Low pH.

Herbicide Physical Traits

Imidazolinone's exhibit:

- High to Very High Acidity.
- Moderate to High Water Solubility.
- Very Low Volatility.
- Limited Chemical Degradation.

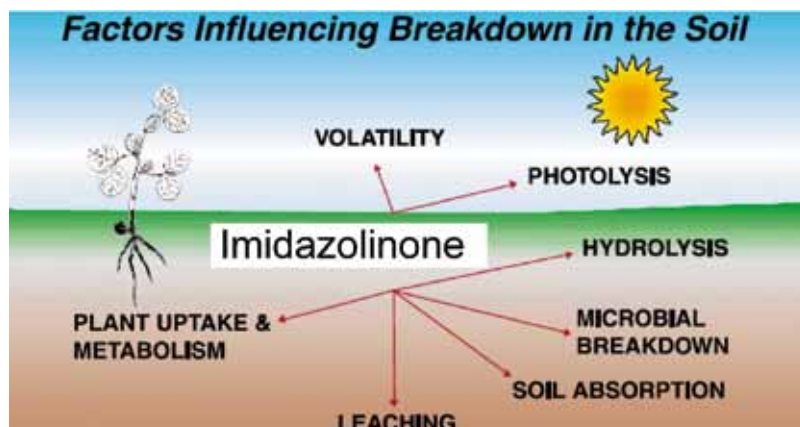
Summer Rainfall and Herbicide Breakdown

One summer thunderstorm is not sufficient for the breakdown of **Clearfield** herbicides. When the soil moisture level increases following rain, it takes time for the Imidazolinone residues to be released and become available for microbial breakdown. Any factor that reduces the time in which the topsoil remains moist will potentially limit the amount of breakdown that occurs. Hot, dry conditions following summer rain can limit the breakdown benefits of this moisture. Five rainfall events of 20 mm fortnightly is a much better scenario than a 'one-off' rainfall event of 100 mm.

Plantback options for the Following Season

Follow the three steps below to work out what crop can be sown after using a **Clearfield** herbicide:

1. Determine date of herbicide application.
2. Quantify the Rainfall from the date of application up until sowing plantback crop (exclude 'one-off' rainfall events during the summer months of December, January, February).
3. Consult product label recommendations on the Crop Care website at: www.cropcare.com.au





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Follow Crops - following application of Midas and Intervix

The following minimum re-cropping intervals (months after application) should be observed.

| MONTHS AFTER APPLICATION | | | |
|---|-----------------|--|--|
| 0 | 10 | 22 | 34 |
| Clearfield canola, Clearfield wheat, Clearfield Plus wheat | chickpeas | | All other crops including canola and safflower (following Intervix application) |
| | fab beans | | |
| | field peas | | |
| | lucerne | | |
| | lupins | | |
| | oats | safflower (following Midas application) | |
| | pasture legumes | | |
| | vetch | | |
| | #triticale | | |
| | #barley | | |
| #wheat (except Clearfield Plus wheat and Clearfield wheat) | | | |

Barley, Oats, Triticale, Non-Clearfield Wheat:

The following additional requirements apply if it is intended to sow these cereals during the next Winter season:

- DO NOT apply Intervix or Midas Herbicide later than the end of August (no later than the end of July in WA).
- DO NOT use Intervix Herbicide in areas where rainfall from spraying to sowing of cereals the following year is expected to be below **150mm (for 300-375mL/ha use), 200mm (for up to 500mL/ha use) and 250mm (for 600-750mL/ha use)**.
- DO NOT use Intervix rates above **375mL/ha** in the Lower Great Southern region of Western Australia.
- DO NOT use MIDAS in areas where rainfall from spraying to sowing of cereals (except **Clearfield Plus** wheat and **Clearfield** wheat) is expected to be below **250mm**.

In calculating rainfall actually received, place greater emphasis on rain received from application up to the end of Spring and lesser emphasis on break rains. If rainfall from application to the end of Spring is less than 200mm and if single isolated heavy Summer and Autumn falls and break rains are required to achieve rainfall

targets, it may not be safe to sow non-**Clearfield** cereals within 10 months of application. Consult your local Crop Care representative for advice.

Managing Clearfield Plantbacks

When sowing a plantback crop at the lower end of its plantback range, ensure the following steps are taken to help minimise potential follow crop damage as a result of Imidazolinone herbicide residual:

1. Root Disease Test – Crop effect will be magnified in the presence of root disease.
2. Apply Zinc to the Seed – Allowing for early root development.
3. Delay Seeding – To maximise potential breakdown.
4. Sow at the right depth and ensure there is adequate nutrition – to promote rapid germination and emergence.
5. DO NOT use another Group B herbicide in the plantback crop – to avoid the potential of compounding herbicide effects.
6. Avoid Stress during the growing season – Any stresses encountered during the growing season may also exhibit symptoms (ie. poor growing conditions (cold, dry), insect damage).

Clearfield herbicides are an important and powerful component of the broadacre cropping system.

With careful rotational planning, potential crop effect can be minimised through appropriate crop selection and management techniques.



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Before using, always read the product label.

Contact your local Crop Care distributor for further information:

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