

FOR FACTS SAKE

WITH NEW CHEMISTRY, NEW ACTIVES AND A LOT OF MISINFORMATION IN THE MARKET, SORTING THE FACTS FROM THE FICTION IS NOT ALWAYS EASY.

Overwatch® HERBICIDE

Overwatch® Herbicide is different

Not all products are created equal and this also applies to today's modern pre-emergent annual ryegrass herbicides used in winter cereals. While they all provide a high level of pre-emergent control of annual ryegrass, they are all very different in how they act and behave on weeds, crops and the environment.

FMC's Overwatch® Herbicide will change the way you see your pre-emergent herbicide program. When you see the visual signature of magenta annual ryegrass in the paddock, you know Overwatch® Herbicide is working hard for you throughout the season. It delivers reliable control of annual ryegrass, bifora, sowthistle, wireweed and silvergrass for up to 12 weeks after application, offers operational flexibility with excellent crop safety in wheat (including durum), barley, canola, faba beans and field peas when applied as directed.

To highlight this, below are just five differences that exist between these modern pre-emergent herbicides – Boxer Gold®, Sakura®, Luximax® and Overwatch® Herbicide:

✓ Mode of action

Belonging to the isoxazolidinone chemical family, Overwatch® Herbicide's active ingredient bixlozone, branded as Isoflex®, has a unique mode of action for winter grain crops.

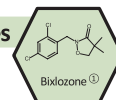
Overwatch® Herbicide is an inhibitor of DOXP which is involved in the synthesis of carotenoid and is classified as a Group 13 Herbicide (formerly Q).

In Australia, it is the only Group 13 herbicide registered for use in any winter grain crop. Sakura® (pyroxasulfone), and Boxer Gold® (S-metolochlor + prosulfocarb) are VLCFA inhibitors and now belong to Group 15 (formerly K and J+K respectively) while Luximax® (cinnethylin), an inhibitor of fatty acid thioesterase, is a Group 30 (formerly T) mode of action herbicide. So, while Sakura and Boxer Gold act on the same pathway, Overwatch® Herbicide and Luximax act on uniquely different sites.

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Inhibition of Deoxy-D-Xyulose Phosphate Synthase

Isoxazolidinones



✓ Big four label claims

Along with excellent annual ryegrass control, Overwatch® Herbicide provides long-lasting control of many other weeds including silvergrass, sowthistle, bifora, lesser loosestrife and wireweed.

Of the four products listed, there are differences in their registered crops and target weeds.

Overwatch® Herbicide has the broadest list of weeds registered for control or suppression and is the only one registered in canola.

Label of Overwatch® Herbicide compared to industry standard pre-emergent herbicides

| Active | MOA Group | Overwatch® 13 (Q) | Boxer Gold® 15 (J) & 15 (K) | Sakura® 15 (K) | Luximax® 30 (T) |
|------------------|--------------------|----------------------|--------------------------------|-------------------|--------------------|
| | | Isoflex® | Prosulfocarb + S-Metolachlor | Pyroxasulfone | Cinnethylin |
| Registered Crops | Wheat | ✓ | ✓ | ✓ | ✓ |
| | Durum wheat | ✓ | ✓ | | |
| | Barley | ✓ | ✓ | | |
| | Canola | ✓ | | | |
| | Lupins | | ✓ | ✓ | |
| Registered Weeds | Lentils | | ✓ | ✓ | |
| | Chickpeas | | ✓ | ✓ | |
| | Field peas | ✓ | ✓ | ✓ | |
| | Faba beans | ✓ | ✓ | | |
| | Triticale | | | ✓ | |
| Registered Weeds | Annual ryegrass | C | C | C | C |
| | Silvergrass | C | C | C | C |
| | Bifora | C | | | |
| | Sowthistle | C | | | |
| | Wireweed | C | | | |
| | Lesser loosestrife | C | | | |
| | Barley grass | S | S | C | C |
| | Wild oats | S | | S | S |
| | Brome grass | S | | S | S |
| | Phalaris | S | | C | |
| | Bedstraw | S | | | |
| | Capeweed | S | | | |
| | Prickly lettuce | S | | | |
| | Wild radish | S | | | |
| | Stone crop | | C | | |
| | Toad rush | | C | C | C |

**All information is correct at the time of production 28/02/2022.

Control C Suppression S



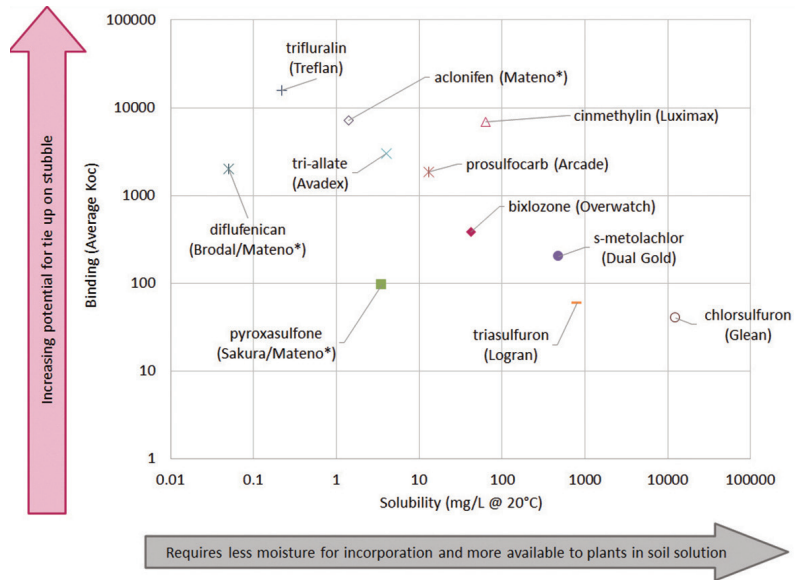
An Agricultural Sciences Company



FMC Australasia Pty Ltd
Phone: 1800 066 355
www.fmccrop.com.au

✓ Adhesion to stubble

All pre-emergent herbicides vary in their binding ability to both soils and organic material. The sorption coefficient (K_{oc}) is a measure of the tendency of a chemical to bind to soils, corrected for soil organic carbon content. The lower the figure, the more mobile the chemical is in soils. Similarly, solubility measures the potential of an active to dissolve in water for movement in soil and plant uptake. With moderate binding and low water solubility, Overwatch® Herbicide washes off stubble and binds effectively to soil where it is needed.



✓ Plant-backs

Re-cropping intervals also highlight the difference in chemistry of these modern pre-emergent herbicides. Adjacent is an example of the difference that applies to just a handful of crops that appear on the product label of these four products. Here the list of minimum re-cropping interval for several crops supported by FMC for Overwatch® are used as a reference:

| | Re-cropping intervals ¹ (months) | | | |
|-------------|---|---------------------|-------------------------|----------------------|
| | Overwatch | Sakura [#] | Boxer Gold [#] | Luximax [#] |
| Barley | 0 | 9 | 0 | 9 |
| Canola | 0 | 9 | 6 | 9 |
| Durum wheat | 0 | 21 | 0 | 9 |
| Faba beans | 0 | 9 | 0 | 9 |
| Chickpeas | 9 | 9 | 0 | 9 |
| Oats | 9 | 21 | 6 | 9 |

¹ - Other factors such as rainfall and soil type can influence the minimum re-cropping interval. Consult the individual product labels for specific plant back recommendations.

✓ The visual signature

Given the difference in chemistry it is not surprising that there are differences in how these products work in the field. After uptake of Overwatch® Herbicide, susceptible germinating plants are deprived of protective carotenoids which disrupts the plant's ability to photosynthesise. Weed seedlings that have absorbed Overwatch® Herbicide commonly emerge with a bleached and/or magenta appearance. The seedlings then rapidly desiccate over a few weeks while their seed energy store is depleted. In contrast, other pre-emergent herbicides that affect cell division of germinating plants, which limits growth, often meaning that those plants that receive a lethal dose simply don't emerge.



This highlights the importance of reading and understanding the registered label of each product before handling, applying and disposal of containers. This is to ensure you not only get the most value out of the product's application, but also that you do so in a manner that is safe to you, your crop and the environment.

For further details, visit www.overwatchherbicide.com

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