



RUSTLER

SELECTIVE HERBICIDE

FOR CONSISTENTLY CLEANER CROPS WITH LESS #\$\$\$@!

Choose Rustler®, the proyzamide consistently formulated to the highest quality



PRODUCT GUIDE

FMC



A

Key weeds controlled:

- Annual ryegrass
- Barley grass
- Canary grass
- Fescue
- Great Brome
- Prairie grass
- Rat's Tail Fescue
- Silver grass
- Squirrel Tail
- Winter grass
- Wild Oats

B

Additional weeds controlled in legume pastures:

- Bent grass
- Blackberry nightshade
- Chickweed
- English couch
- Paterson's curse
- Perennial ryegrass
- Seedling sorrel
- Seedling wireweed
- Yorkshire fog grass

Broadacre crop and pasture registrations:

- Canola.
- Winter pulses (Chickpeas, Lentils, Lupins, Faba beans and Field peas).
- Legume Pastures (Lucerne, Clover and Medics) grown for forage, hay or seed production.

Key attributes:

- Strong soil residual herbicide.
- Effective grass weed control when applied as a pre-emergent and incorporated by sowing (IBS).
- Non-volatile - extending the window for incorporation.
- Targets grass weeds as they germinate preventing competition with the crop.
- Compatible with a range of knockdown herbicides and insecticides.

GROUP

3

HERBICIDE

For best results in canola and grain legumes:

Apply prior to sowing and incorporate by sowing (IBS).

Apply to a firm, clod-free seedbed

Apply during cool and moist conditions and with moderate rainfall forecast within 24 hours of application.

Ensure adequate and even soil coverage

Maintain water rates at a minimum of 70 L/ha and apply with a coarse spray quality.

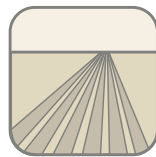
Place planted seed below applied band of Rustler®

Successful application



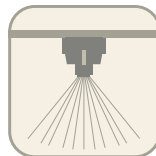
Environmental Conditions

Rustler® requires adequate soil moisture for effective weed control. Rustler® is effective in warm moist soils on small germinating grass weeds, its efficacy improves dramatically when soil temperatures decline below 10°C. Cool moist soils in the months following application will encourage strong residual grass weed control.



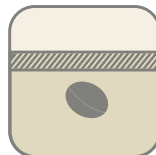
Min. till on no till systems

Maximum control will be achieved where weed seeds germinate close to the soil surface. Best results are achieved from minimum or no till systems where weed seeds are close to the surface.



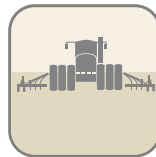
Spray application

Adequate and even soil coverage at application is critical for Rustler® efficacy. Water rates should be maintained at a minimum of 70 L/ha water and applied with a coarse spray quality. Coarse droplets combined with the minimum recommended water rate will improve soil coverage.



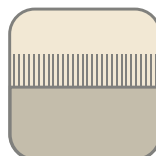
Seed placement and equipment

Planted seed should ideally be sown below the applied band of Rustler® to avoid reduced plant vigour. Sowing with knife points and press wheels is regarded as the safest sowing configuration when using Rustler®. Crop safety varies when using disc seeding systems, depending on seed placement.



Sowing Speed

Fast sowing speeds can throw Rustler® treated soil into adjacent furrows leading to crop damage. A slow, steady sowing speed will help keep the Rustler® treated soil in the inter-row where it is most effective against germinating weeds.



Stubble loading

High stubble loadings or ash from a recently burnt paddock can lead to poor soil contact. Results may be unsatisfactory, if ground cover from stubble exceeds 50%. Standing stubble will cause less efficacy loss than flattened stubble. It is best to delay application to recently burnt paddocks or windrows until rainfall occurs to disturb the layer of ash. Rustler® binds more strongly to ash than it does to stubble (ash is free carbon).

CAUTION: The potential for seedling damage may occur on:

- light soils with low organic matter if heavy rainfall follows sowing
- dry sown canola crops treated with Rustler® after heavy rain events

Re-cropping intervals

Application prior to sowing will minimise risk posed to the following season's cereal crop. In a failed crop scenario where establishment is poor, options for re-sowing with alternative crops are limited. Advice should be sought from an FMC technical specialist in this situation.

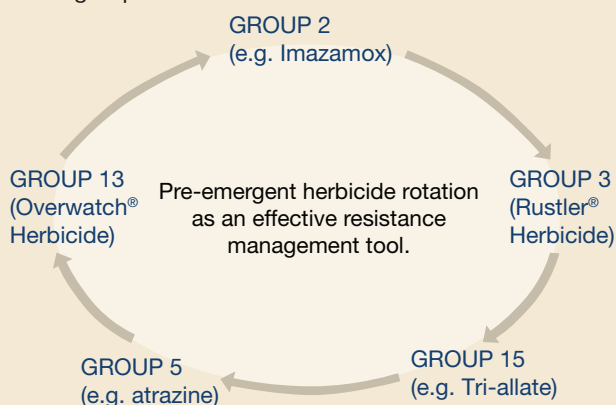
| Crop | Re-cropping interval |
|---|--|
| Cereals (Wheat, Barley, Oats, Triticale) | 9 months [^] |
| Canola, Winter grain Legumes (including Lentils, Lupins, Chickpeas, Faba bean and Field Peas) | Can be sown into soil treated with Rustler [®] in a failed crop scenario, however Rustler [®] (or any other propyzamide products) should not be applied prior to sowing the replacement crop (i.e. twice in one growing season). |

[^]Provided there has been sufficient rainfall (estimated >250mm) over summer to support microbial activity and degradation of Rustler. Conditions that are not conducive to adequate soil microbial degradation may result in extended re-cropping intervals.

Summer rainfall can be erratic with the top 10cm of soil experiencing wet and dry periods. Rustler[®] breakdown over summer will occur when the top 10cm of soil is moist. As the soil dries, breakdown will decrease and won't recommence until sufficient rainfall is received.

Resistance Management

Rustler[®] is a Group 3 Herbicide and belongs to the Benzamide subgroup, a different subgroup to trifluralin which belongs to the Dinitroaniline subgroup.



Rotating herbicide groups is an important resistance management tool when used as a part of a broader integrated weed management strategy.

Product attributes

Mode of action

Rustler[®] is absorbed by plant roots, preventing cell division (mitosis) of target weeds.

Following application, target plants exhibit signs of reduced root growth and development. Leaves become discoloured and less erect, gradually changing colour to red or yellow. Symptoms may develop within a couple of weeks under ideal conditions.

UV Stability

In comparison to Trifluralin, Rustler[®] is relatively UV stable allowing an extended window for incorporation.

Solubility

Rustler[®] is relatively insoluble (15 mg/L at 25°C). Following application, 80% of Rustler[®] will be present 10mm from the soil surface (under normal field conditions). Best results are achieved when sufficient rainfall occurs soon after application, or soil movement from sowing incorporates the product into the weed root zone. Infiltration could potentially be greater in sandy soils.

Breakdown

For microbial breakdown, Rustler[®] requires both adequate soil moisture and warm conditions. Soil pH does not effect the breakdown of Rustler[®].

The half-life of propyzamide significantly increases in soil temperatures below 10°C. Coming into winter, soils are cooling, decreasing the rate of breakdown, and the labelled rate of Rustler[®] will be sufficient to control the weed flush.

Soil conditions during spring sowing, however, are often warm with good soil moisture and therefore usually higher levels of microbial activity. For optimal control during spring, Rustler[®] should be applied at the recommended rate as close as possible to sowing. This will reduce loss due to microbial breakdown ensuring sufficient herbicide is still available to provide good weed control.

Activity

Rustler[®] must make contact with the soil to be effective as a pre-emergent herbicide. The roots of surface weeds, germinating on rain following Rustler[®] application, will extend into the herbicide treated band and be controlled. Weeds germinating from below this band may escape control.

Rustler[®] activity depends on soil temperature and moisture content. Weeds growing in cool conditions cannot break down Rustler[®] rapidly enough, enabling excellent control in these ideal conditions.

Rustler® Selective Herbicide is formulated to the highest quality at FMC's Wyong plant.

Rustler® Selective Herbicide meets the most stringent quality standards for optimal performance during mixing and application resulting in less risk of blockages and a lower chance of uneven spray delivery.

Rustler® Selective Herbicide is also very compatible with a wide range of pre-plant products.

FMC's Wyong facility in New South Wales has been manufacturing quality crop protection products, working to strict safety, environmental and quality standards, for more than 30 years. One such product, Rustler® Selective Herbicide has been manufactured at Wyong since its market launch more than eight years ago when it was the first propyzamide herbicide to be granted a canola registration.



Directions for use in canola, winter pulses and legume pastures

Application prior to sowing will minimise risk posed to the following season's cereal crop. In a failed crop scenario where establishment is poor, options for re-sowing with alternative crops are limited. Advice should be sought from an FMC technical specialist in this situation.

| Crop | State | Rate L/ha | Critical Comments |
|--|----------------------------|----------------------|---|
| Canola and Mustard (oilseed cultivars, Brassica juncea) | All States | 1 | Incorporate by sowing (IBS) when weeds are at the pre-emergent stage. |
| Chickpeas, Faba beans, Field Peas, Lentils, Lupins | All states | 1-2 | Incorporate by sowing (IBS) when weeds are at the pre-emergent stage. Use rates towards the higher end of the range on heavy soil, if conditions are not optimal or where a heavy grass population is expected. |
| Legume Pastures (including Lucerne, Clover, Medics) Grown for Forage, Hay or Seed Production | NSW, VIC, ACT, Tas, SA, WA | 1 - 1.5 ¹ | Use rates towards the higher end of the range on heavy soils, if conditions are not optimal or where a heavy grass population is expected. |
| | | 1.5-2.0 ² | |

¹ - Refer to weed list in column A on page 2

² - Refer to weed list in column B on page 2

WITHHOLDING PERIODS:

CANOLA, MUSTARD AND WINTER GRAIN LEGUMES:

HARVEST: NOT REQUIRED WHEN USED AS DIRECTED.

GRAZING: **DO NOT** GRAZE OR CUT FOR STOCK FOOD FOR 12 WEEKS AFTER APPLICATION.

ALL OTHER CROPS:

DO NOT HARVEST, GRAZE OR CUT FOR STOCK FOOD OR FOR SEED FOR 25 DAYS AFTER APPLICATION.

EXPORT GRAZING INTERVAL: SAME AS WITHHOLDING PERIOD.

Rustler® compatibilities and tank mixing

For the physical compatibility of Rustler® Selective Herbicide with other crop protection products please refer to the Rustler® Herbicide compatibility guide at www.rustlerherbicide.com.au

Physical compatibility with Rustler® Selective Herbicide should be determined prior to mixing with a product not listed in this compatibility guide, or when mixing Rustler® as a component of a 3-way tank mix.

Always read the other product label for the manufacturer's tank mix recommendations and to determine individual product compatibility options and correct mixing orders. If unsure, perform a jar test to determine physical compatibility, before proceeding. Physical compatibility does not always guarantee biological compatibility and tank mixing should be undertaken only with careful consideration.



Disclaimer: The information and recommendations in this guide are based on tests and data believed to be reliable at the time of publication. Results may vary, as the use and application of the products is beyond our control and may be subject to climatic, geographical or biological variables, and/or developed resistance. Any product referred to in this guide must be used strictly as directed, and in accordance with all instructions appearing on the label for that product and in other applicable reference material. So far as it is lawfully able to do so, FMC Australasia Pty Ltd accepts no liability or responsibility for loss or damage arising from failure to follow such directions and instructions.

Mixing Instructions

Failure to follow correct tank mixing orders or compatibility recommendations can lead to poor application and potentially poor weed control.

Top Tips for Mixing and Compatibility

- **Take your time and BE PATIENT.**
Many incompatibility issues and mixing problems are caused simply by rushing the process. Trying to add all your products into the spray tank before it fills should not be your objective when undertaking complex mixes.
 - Fill the spray tank to 70% of its capacity with water before introducing any products. Starting with more water will increase the chance of a successful tank mix.
 - Allow enough time for products to fully disperse in the tank before adding the next product.
 - Effective agitation when filling, in transit and spraying is critical as it improves compatibility and prevents settling.
 - FMC recommends using a spray volume of no less than 70 L/ha.
- **Over filtering may cause sprayline blockages**
Check the recommended in-line filtration is appropriate for the nozzle being used.
- **Simplify the mix**
The complexity of the chemistry and potential for mixing issues increases with each additional component.
- **Only ever add one product at a time when filling. Always add products to water. Never add neat products together.**
- **Not all products are created equal:**
 - There are minor (and sometimes major) differences between formulations of products with the same active ingredient.
 - FMC recommends using quality products from reputable manufacturers.
 - Understand the formulation types of each product being mixed and adhere to mixing order recommendations.
- When Rustler® Selective Herbicide is applied in conjunction with other herbicides refer to label for further details.
- It is the responsibility of the end-user to understand all risks associated with using other herbicides in a tank-mix. Ensure all precautions on the label of the other tank mix partners are closely followed.



This guide is not a substitute for reading the product label. Always read the label before use. Additional information for Rustler® Selective Herbicide can be found at www.fmccrop.com.au

For further details, contact your local FMC representative

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