



ADAMA

Uragan®

Year-round weed control  
along fencelines.

## Product overview

Uragan is a pre-emergent soil residual herbicide that controls more than 20 grass and broadleaf weeds. Depending on the application rate, soil type and rainfall, Uragan can provide residual weed control for up to 12 months, reducing the need to re-treat fencelines. At higher application rates, residual weed control beyond 12 months is possible. As a Group 5 herbicide, it is ideal for use in herbicide resistance management programs to control glyphosate-resistant annual ryegrass and feathertop Rhodes grass. Uragan is highly compatible with non-selective knockdown herbicides, including glyphosate, paraquat and glufosinate, to enable one-pass knockdown and residual weed control.

## Mode of action

**GROUP 5 HERBICIDE**

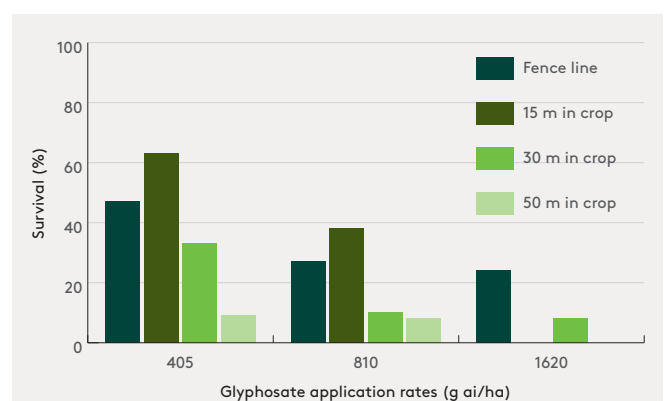
Uragan contains 800 g/kg of the active ingredient, bromacil, a member of the uracil group of herbicides. It disrupts photosynthesis by inhibiting the photosystem II pathway. Bromacil is mainly absorbed through weed roots and is translocated upward to the foliage via the xylem. Herbicidal effects on existing weeds may not become apparent until the active ingredient has reached the root zone following rainfall, absorbed and then distributed within the plant.

## Weeds controlled

Uragan is registered for the control of annual ryegrass, barley grass, Bathurst burr, brome grass, caltrop, capeweed, cobbler's pegs, doublegee (spiny emex, three-cornered jack), fat-hen, khaki weed, noogoora burr, Paterson's curse, prairie grass, annual ragweed, saffron thistle, summer grass, thornapple, wild mustard, wild oats, wild radish, wild turnip and winter grass.

## At a glance

<b>Robust control</b>	Uragan controls key grass and broadleaf weeds for up to 12 months, reducing the need to re-treat fencelines.
<b>Broad spectrum</b>	Uragan controls more than 20 grass and broadleaf weeds, including annual ryegrass, barley grass, brome grass, caltrop, feathertop Rhodes grass, flax-leaf fleabane, sowthistle and windmill grass.
<b>Group 5 herbicide</b>	Uragan is ideal for use in herbicide resistance management programs to control glyphosate-resistant annual ryegrass.
<b>Highly compatible</b>	Uragan is highly compatible with non-selective knockdown herbicides, including glyphosate, paraquat and glufosinate, to enable one-pass knockdown and residual weed control.



**Figure 1: Survival (%) of annual ryegrass plants sampled in transects at various distances in a wheat field adjacent to trials in 2011 after treatment with three rates of glyphosate (Ungarra, SA, 2011).<sup>1</sup>**



HERBICIDE

# Uragan<sup>®</sup>

## Resistant weeds spread from fencelines

A study conducted by Adelaide University found that weeds growing along fencelines have higher levels of resistance than those growing within the crop.<sup>1</sup> The development of resistance was attributed to the fact that plant populations growing along fencelines are often exposed to repeated applications of only one mode of action (glyphosate). Rotating between herbicides with different modes of action to control weed populations along fencelines is just as important as rotating chemistry in crop.

## Control of glyphosate resistant weeds

Fencelines and roadside areas can harbour populations of glyphosate resistant weeds, such as flax-leaf fleabane, sowthistle, windmill grass and feathertop Rhodes grass. Wind-dispersed seed can infest cropping paddocks and pose a biosecurity risk to other areas. A series of experiments along fencelines and roadside areas in NSW confirmed that a single application of bromacil (Uragan) at 3 kg/ha provided robust residual control of grass and broadleaf weeds for up to seven months.<sup>2</sup> As such, Uragan offers an alternative to repeated applications of glyphosate and an alternative mode of action for managing resistant weeds. Adama recommends tank-mixing Uragan with a knockdown herbicide when controlling flax-leaf fleabane, sowthistle, windmill grass and feathertop Rhodes grass.



**Figure 2: Robust control of annual ryegrass, 12 months after application of Uragan applied at 3 kg/ha with a knockdown herbicide (Moorra, Western Australia, 2016).**

## How to get the best results

If weeds are already present, Uragan should be applied in combination with a non-selective knockdown herbicide, such as Wipe-Out<sup>®</sup> (glyphosate), glufosinate or Spraytop<sup>®</sup> (paraquat). For best results, add a non-ionic surfactant (BS1000\*) at 100 mL/100 L (0.1% v/v) of spray solution. Apply within 10 weeks of germination of winter weeds. Long-term residual control may not be as effective if heavy organic matter loads prevent the active ingredient from reaching the soil or root zone. Best results will be achieved if rain occurs within a week of application.

## Application rates

Apply at 3.5–6.5 kg/ha to establish a weed-free zone along fencelines. The lower rate will provide effective control in low rainfall areas (<250 mm). Apply at 2.0–6.5 kg/ha for retreatment and maintenance of established weed-free areas. Retreat when weeds begin to reappear.

## Application recommendations

Apply using a fixed fenceline boom sprayer or handgun. Use screens of 50 mesh or coarser to prevent nozzle blockage, strainer and nozzle. Add Uragan to the spray tank steadily after water conditioners (e.g. ammonium sulphate). Always agitate in spray tank to keep material in suspension. DO NOT apply Uragan by air.

## Compatibility

Uragan is compatible with paraquat, glufosinate and Adama glyphosate (Wipe-Out<sup>®</sup>) formulations. Conduct a jar test to determine compatibility with potassium salt glyphosate herbicides.

## Protection of non-target plants

DO NOT apply or drain or flush equipment on or near desirable trees or other plants or where their roots may extend. DO NOT spray under weather conditions or from sprayer equipment that may cause spray to drift. Leave a 50 m buffer zone between spray and nearest trees.



Scan here for more information

References: 1. Adu-Yeboah, P. et al. (2014). Use of alternative herbicide mixtures to manage glyphosate-resistant *Lolium rigidum* Gaud. along crop margins in South Australia. *Crop & Pasture Science*, 65:1349–1356. 2. Cook, A. & Davidson, W. (2017). Combatting glyphosate resistant weeds along fencelines and roadsides. 19th NSW Biennial Weeds Conference, Armidale, 16–19 October 2017. ©Registered trademarks of an ADAMA Agricultural Solutions Ltd Company. \*Registered trademarks. Please note: This information is not intended to replace the product label. Always read the complete product label appearing on the container before opening or using products. ADA24367



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