

#### **Product overview**

Uragan is a pre-emergent soil residual herbicide that controls more than 20 grass and broadleaf weeds, including annual ryegrass, barnyard grass, feathertop Rhodes grass, flax-leaf fleabane, summer grass, capeweed, cobbler's pegs and khaki weed, in established citrus orchards. 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 orchards (Figure 1). As a Group 5 herbicide, it is ideal for use in herbicide resistance management programs to control glyphosate-resistant weeds, including annual ryegrass. 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, has been absorbed and then distributed within the plant.

#### At a glance

Residual control	Uragan controls key grass and broadleaf weeds for up to 12 months, reducing the need to re-treat orchards.
Broad spectrum	Uragan controls more than 20 grass and broadleaf weeds, including annual ryegrass, barnyard grass, feathertop Rhodes grass, flax-leaf fleabane, summer grass, capeweed, cobbler's pegs and khaki weed.
Group 5 herbicide	Uragan is ideal for use in herbicide resistance management programs to control glyphosate-resistant annual ryegrass.
Highly compatible	Uragan is highly compatible with non-selective knockdown herbicides, including glyphosate, paraquat and glufosinate, to enable one-pass knockdown and residual weed control.

#### Weeds controlled

Uragan controls annual ryegrass, barley grass, Bathurst burr, brome grass, caltrop, capeweed, cobbler's pegs, doublegee (spiny emex, three-cornered jack), fat-hen, feathertop Rhodes grass, flax-leaf fleabane, khaki weed, noogoora burr, Paterson's curse, prairie grass, annual ragweed, saffron thistle, sowthistle, summer grass, thornapple, wild mustard, wild oats, wild radish, wild turnip and winter grass.

# Uragan

#### **Application rates**

Apply at 2.2-4.5 kg/ha in established citrus orchards in autumn and spring. If weeds are already present, Uragan should be applied in combination with a non-selective knockdown herbicide, such as Wipe-Out® (glyphosate), glufosinate or Spraytop® (paraguat). For best results, add a non-ionic surfactant (BS1000\*) at 100 mL/100 L (0.1% v/v) of spray solution. DO NOT apply more than 9 kg/ha per year. Apply a minimum rate of 3 kg/ha when targeting wild oats and caltrop. Use lower rates on lighter soils that are low in clay or organic matter. Use higher rates on heavy soil types that are high in clay and or organic matter.

## **Application recommendations**

Apply using a fixed boom sprayer or handgun with sufficient water to achieve good soil coverage (250 to 450 L/ha water fixed boom sprayer; 1000-2000 L/ha water handgun). Use screens of 50 mesh or coarser to prevent nozzle blockage, strainer and nozzle. Maintain agitation in the spray tank throughout operation.

#### Length of residual weed control

Application rate, soil type, organic matter and rainfall will determine length of residual weed control and when retreatment is required. After one or two years of application, treatment once per year may be adequate. Rainfall or irrigation within four days of application is required to incorporate Uragan into the soil and commence weed control. DO NOT cultivate or disturb the soil surface following application as efficacy may be reduced. Heavy rainfall or irrigation causing movement of soil from the treated area may impact non-target vegetation and pose a risk of contaminating streams, rivers and waterways.

## Citrus re-entry period

Do not re-enter orchard for three days after application unless wearing protective clothing.



Figure 1: Uragan residual weed control in established citrus orchards 14 months after application at 4 kg/ha (Mildura, Victoria 2013).

### Citrus safety

Apply Uragan with caution on light sandy soils as yellowing may occur. DO NOT replant any crops within three years of the last application as injury may occur.

## Compatibility

Uragan is compatible with paraquat, glufosinate and Adama glyphosate (Wipe-Out®) 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 metre buffer zone between spray and nearest trees other than citrus.



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