



# Matrix®

## Selective Grass Weed Control

### Product Overview

- MATRIX® Herbicide is a pre and post emergent herbicide containing 500 g/L of the active ingredient Ethofumesate
- It is registered for the pre-emergent control of Wintergrass in a variety of turfgrasses including Bentgrass, Kentucky Bluegrass, Kikuyu, Queensland Blue Couch and Ryegrass
- MATRIX® is also registered for the control of a range of grass and broadleaf weed species in non-crop situations including fencelines and tree plantations.

### Mode of Action

GROUP **J** HERBICIDE

Ethofumesate, the active ingredient in MATRIX® Herbicide is absorbed by young shoots and roots of susceptible weed species. The post emergence activity of ethofumesate is limited to very young weeds at lower use rates as ethofumesate is not absorbed by leaves after the plant has produced a mature cuticle. Ethofumesate is translocated within the plant following coleoptile or root absorption but is not translocated out of treated leaves. Ethofumesate is believed to inhibit photosynthesis and respiration within the susceptible weed.



### Use Rates

**Turf:** The rate of MATRIX® for turf application is 800 mL/ha (8 mL/100m<sup>2</sup>). Apply first application one month before main Autumn germination (i.e. apply in February to April). Repeat at monthly intervals for 3 to 4 months. In dry conditions, watering will improve residual activity. After spraying, wait at least 12 hours before watering. Avoid flooding or ponding of treated turf. Preferably mow immediately before spraying, or leave as long as possible after spraying before next mowing (1 to 2 weeks if practicable). Water volume is not critical but avoid excessive overlapping and dripping from spray equipment onto turf. DO NOT add other herbicides or surfactants to this product for this use unless specifically recommended.

**Other Non Crop Situations:** Apply (April-July) to moist soil after main germination of Barley Grass. DO NOT apply once Barley Grass reaches green flowerhead stage. The application rate for non-crop usage ranges from 3-4 L/ha. For handgun or knapsack applications use a rate of 300 mL/100 L of water. When using these techniques, it is important to thoroughly wet the foliage.

Use 3 L Rate, when;	Use 4 L Rate, when;
1. Annual rainfall is 250-750 mm	1. Annual rainfall exceeds 750 mm
2. Barley Grass is at very early growth stage (April to May)	2. Barley grass is at early vegetative growth stage (April-July)
3. Soil is low in organic matter (less than 10%).	4. Dung accumulations are present.

## Turfgrass Selectivity

Perennial ryegrass is considered to be the safest turfgrass to MATRIX® (*Ethofumesate*) treatments. Previous research conducted has determined plant safety to ethofumesate in the descending order of tolerance as below:

► **Perennial ryegrass** ► **Tall fescue** ► **Creeping bentgrass** ► **Kentucky bluegrass** ► **Wintergrass.** (Adams, 1989)

MATRIX® is also safe for use on Kikuyu and Qld Blue Couch turf species.

**MATRIX® is NOT SAFE on Couch and Hybrid Couch turf.**

## Soil Residual Activity

MATRIX® has been shown not to leach in soils that have an organic matter content greater than 1%. Soil microorganisms are responsible for the degradation of ethofumesate in soils. The soil persistence of ethofumesate is affected by climate, soil type and microbial activity. Under warm, moist conditions and cold, dry conditions the half- life of ethofumesate is 5 and 14 weeks, respectively.

## Features and Benefits

Features	Benefits
Pre and Post Emergent Activity	Ultimate application versatility. MATRIX® can be used prior to, at or after weed germination
Excellent safety on cool season turfgrasses as well as Kikuyu and Qld Blue Couch	Very safe to key turfgrass species that MATRIX® is labelled to be used on
Unique mode of action Group	Excellent rotational tool from a resistance management perspective
Flexibility around re-seeding of cool season grasses	Excellent safety around overseeding cool season grasses, particularly Ryegrass
Also registered for use in non-crop situations	Can be a useful rotational option for fenceline management
Has activity on difficult to control weeds including Barley Grass and Brome Grass.	Versatile on a range of weed species.



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