



What is Ethos Herbicide?

Ethos Herbicide is a pre-emergent herbicide containing 500g/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.

Ethos is also registered for the control of a range of grass and broadleaf weed species in non-crop situations including fencelines and tree plantations.



Features of Ethos Herbicide

- ✓ Possesses both pre- and post-emergent activity.
- ✓ Excellent safety on cool season turfgrasses as well as Kikuyu and Qld Blue Couch.
- ✓ Unique mode of action group.
- ✓ Also registered for use in non-crop situations.
- ✓ Flexibility around re-seeding of cool season grasses.
- ✓ Has activity on difficult to control weeds including Barley Grass and Brome Grass.
- ✓ Quality formulation.

Ethos at a glance

Active Ingredient	500g/L Ethofumesate
Formulation	Suspension Concentrate
Pack Size	5L
Rate	800mL/ha
Residual Performance	4-8 months (dependent on rate)
Poison Schedule	Schedule 5 (Caution)
Mode of Action	Group J Herbicide

› Ethos Mode of Action

Ethofumesate, the active ingredient in Ethos is absorbed by young shoots and roots of susceptible weed species. The post-emergence activity of ethofumesate is limited to very young weeds 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. Ethos is a Group J herbicide.

› Soil Characteristics of Ethos

Ethofumesate 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.

› Ethos Application Information

Turf: The rate of Ethos for turf application is 800mL/ha (8mL/100m²). Apply first application one month before main Autumn germination (ie. 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 3-4L/ha. For handgun or knapsack applications use a rate of 300mL/100L of water. When using these techniques it is important to thoroughly wet the foliage.

Use 3L Rate when:	Use 4L Rate when:
1. Annual rainfall is 250-750mm.	1. Annual rainfall exceeds 750mm.
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%).	2. Dung accumulations are present.

› Key Factors to consider when using Ethos Herbicide in your Turf Maintenance Program

Ethos & Nitrogen: When Ethos is used on Bentgrass, previous research has reported that tank mixing with nitrogen at a rate of 0.25kg per 100m² not only improved safety to the plant, but also increased control on Wintergrass (Spak, 1995).

Resistant Genotypes: Variation in the control of Wintergrass can occur with differing biotypes of Wintergrass. Research in the United States reported that the control of several biotypes of Wintergrass collected from various states within the united states, provided a variation in control from 13 to 100%. This indicates that resistant genotypes can occur Taylorson and Spak (Rhode Island, 1994).

Turfgrass Safety: Perennial Ryegrass is considered to be the safest turfgrass to ethofumesate treatments. Previous research conducted has determined plant safety to ethofumesate in the descending order of tolerance as:

- › Perennial Ryegrass
- › Tall Fescue
- › Creeping Bentgrass
- › Kentucky Bluegrass
- › Wintergrass (Adams, 1989)

Ethos is also safe for use on Kikuyu and Qld Blue Couch turf species. Ethos is not safe however on pure stands of Couch and Hybrid Couch turf.

Ethos & Root Development: Previous overseas research has shown that ethofumesate when applied in the autumn months does not reduce root growth of Creeping Bentgrass. However, when applied during winter applications, root development was reduced by up to 5% when compared to untreated Bentgrass areas (Johnson, 1990). In a trial conducted in Australia in 1998 by John Neylan, Creeping Bentgrass root length and root health was not effected as a result of ethofumesate applications.

Ethos & Seed Germination: Ethos has good safety around seed germination of Perennial Ryegrass. In an overseas study in the US, ethofumesate applied at label rates at the time of planting, did not affect Perennial Ryegrass seed germination (Lee, 1977). At increased rates, seed germination was significantly impacted upon however.

