



# Gauntlet®

## Effective Grass Weed Control

### Product Overview

- GAUNTLET® is a broad spectrum post emergent herbicide, containing 720 g/L of the active ingredient MSMA
- GAUNTLET® Herbicide is registered for the control of Crabgrass, Summergrass and Paspalum in common and hybrid Couch turf types
- GAUNTLET® is also registered for the control of Prickly Pear, Bathurst Burr, Noogoora Burr, Johnson Grass, Nutgrass, Spiny Burrgrass and Summergrasses in non-crop areas including roadsides, fencelines and storage areas.

### Mode of Action

GROUP 0 HERBICIDE

MSMA, the active ingredient in GAUNTLET®, is a foliar absorbed herbicide. It accumulates in root and leaf tips, where it rapidly kills leaf and stem tissue. MSMA has multiple sites of action within the plant, however it is thought to impact on weed growth by interfering with ATP production (energy storage) and cell division (growth process). MSMA is typically more effective on grass weeds than broadleaf weeds.

MSMA is generally rainfast within 3 hours of application and has partially systemic properties which allow it to move through the plant. Susceptible weeds generally turn yellow to brown within 3-7 days after MSMA application.

### How to get the best results from Gauntlet Herbicide

**Turf Application:** Use rate is 3.3 – 6.6 L/ha (33 – 66 mL/100 m<sup>2</sup>) in 300 L of water per hectare. Split applications of 3.3 L/ha (33 mL/100 m<sup>2</sup>) in 300 L of water, applied 7-10 days apart will reduce phytotoxicity. Do not apply GAUNTLET® Herbicide to Bentgrass, QLD Blue Couch (*Digitaria* spp.), Fescue, Blue Grass, Kikuyu or Dichondra lawns or turf as severe damage or death to the turf may occur. While some yellowing is expected this can be kept to a minimum by splitting the application to two applications 7-10 days apart. Weeds should be sprayed when young and actively growing. A repeat application in 14 days may be necessary. Avoid using at high temperatures as this may increase phytotoxicity. Do not mow for 4 days before or after application and do not water for at least 2 days after application.

**Non Crop Areas Application:** Use rate is 11 – 13.3 L in 500 L of water per hectare or 1.1 L per 100 L of water. Use lower rate for seedling weeds. Repeat applications 3-4 weeks later on established perennial weeds. For Prickly Pear control recommended rate is 1.1 L per 40 L of water.



## Maximising Control of Paspalum using Gauntlet Herbicide

Complete, long-term Paspalum control in Couch turf will likely require several herbicide applications over multiple growing seasons. To provide the best Paspalum control using herbicides, The University of Tennessee (US) suggests making late-season applications, initiating at 10 CDD – Cooling Degree Days (CDD), followed by another application four weeks later and sequential applications at 270-360 Growing Degree Days (GDD) in the following spring.

**Growing Degree Days (GDD):** GDDs measure atmospheric heat accumulation in the growing environment that above a given base temperature threshold during a 24-hour period. For warm season weeds, the default base temperature is 10°C. GDDs can be calculated using the following equation.

$$\text{Daily GDD} = [(\text{Daily high air temp} + \text{Daily low air temp})/2] - 10^\circ\text{C}$$

Each daily GDD value is added to the yearly total beginning the 1st of July.

**Cooling Degree Days (CDD):** Late-season herbicide applications are also effective in controlling Paspalum. However, using GDD accumulation to time late-season applications is not optimal. Instead, timing of late-season herbicide applications can be determined using cooling degree-days. CDDs measure the accumulation of cooling below an optimal air temperature threshold. For warm-season weeds this temperature is 22°C. CDD accumulation begins on the 1st of February, where Feb. 1 equals 0. In the same manner as described earlier for GDDs, these daily CDD values are added to the total. Daily CDD values below 0 are disregarded, and do not affect the yearly total. CDD's can be calculated using the following equation.  $\text{Daily CDD} = 22^\circ\text{C} - [(\text{Daily high air temp} + \text{Daily low air temp})/2]$ .

## Maximising Weed Control Performance with Gauntlet in Combination with other herbicides

Herbicide	Weeds Controlled
2,4-D & MCPA	Improves performance on grasses and broadleaf weeds
Metribuzin (Metric®)	Research shows improved performance on grass weeds
Quinclorac (Drive®)	Improves spectrum of grass weed control and activity on key weeds
Trifloxysulfuron sodium (Monument®)	Improves spectrum of grass weed control and activity on key weeds
Foramsulfuron (Tribute®)	Research has shown that sequential applications in a program improves weed control performance on Paspalum and Kikuyu

## Features and Benefits

Features	Benefits
Fast acting Herbicide	Symptoms of weed control are generally evident within 7 days of application
Effective form of grass weed control, particularly on Paspalum & Crabgrass where there are limited options	Reliable control of difficult to control grass weeds
Tank mix flexible with other herbicides. Provides improved grass weed control activity when in used combination with leading herbicide brands	Improved spectrum and weed control when used in combination with herbicides such as Tribute, Monument, Metric, Drive and 3D
Lower use rates than DSMA herbicides	Easier to handle, measure and use
In-built surfactant in formulation	Maximises weed control properties

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