

# SILIXOL<sup>®</sup>

## Turf & Ornamental

*Highly plant available Silicon source which is tank mix flexible*



### Product Overview

SiliXOL T&O is a proprietary formulation of stabilized Orthosilicic acid. The product has been designed to strengthen and improve plant response in a range of situations including turfgrass, ornamentals and nursery production.

SiliXOL T&O contains 25g/L of Orthosilicic acid, which equates to 0.8% plant available silicon (Si). SiliXOL T&O is a tank mix flexible formulation of Silicon and can be mixed with a range of turf and horticultural management products.

### Key Features

- > Highly plant available source of Silicon.
- > Patented, stabilised form of Orthosilicic Acid.
- > Provides a mechanical barrier, increasing leaf rigidity, enhancing playability characteristics such as ball roll and wear tolerance in sportsturf.
- > Increases plant defence characteristics.
- > Enhances anti-oxidant systems & photosynthesis.
- > Tank mix compatible formulation. Unlike a range of Silicon sources, SiliXOL T&O can be tank mixed with a very broad range of turf and horticultural management products (as long as they are acidic or neutral in pH).
- > Unlike many forms of Silicon, SiliXOL T&O is tank mix flexible with Trinexapac ethyl.
- > Improves plant health, particularly during stressful growing conditions.
- > Premium quality formulation, developed and researched by Privi Life Sciences.
- > Formulated in Australia from imported materials.





### SiliXOL – Use Rates & Label Recommendations

- Shake well before each use. For maximum performance, apply at recommended rates followed by a light irrigation to move product into the root zone.
- Keep container closed when not in use.
- Mix in spray tanks with water and agitation.
- SiliXOL T&O has a pH of 1.7–2.2 (1% solution in distilled water @ 20°C).

SITUATION	RATE PER 100m <sup>2</sup>	RATE PER HECTARE	CRITICAL COMMENTS
<b>Turfgrass:</b> Boom Spray	<b>Fortnightly applications:</b> 2.5–5mL  <b>Monthly applications:</b> 5–10mL	<b>Fortnightly applications:</b> 250–500mL  <b>Monthly applications:</b> 500mL–1L	Apply in no less than 400L/ha of water. Repeat treatments as indicated in the table.
<b>Nursery Production, Ornamentals Garden Beds &amp; Landscaped Areas</b>	100–150mL / 100L of water		Apply as a foliar spray to plants to enhance stress resistance or to address and prevent silica deficiencies.

### Modes of Action

Silicon is one of the most abundant minerals found in soils. However, much of the silicon found in soils is present in insoluble (silicon dioxide or iron silicates) forms that are unavailable for plant uptake. Silicon is absorbed by plants as silicic acid, (H<sub>4</sub>SiO<sub>4</sub>). SiliXOL T&O contains silicon (Si) in this plant available form (orthosilicic acid, also known as OSA). It provides many benefits to plant growth and development, as highlighted below;

- Mechanical barrier – Silicon strengthens cells walls and the plant cuticle. Improves leaf rigidity, enhancing playability characteristics such as ball roll and wear tolerance.
- Increases Plant Defence Characteristics – Silicon provides faster and stronger activation of defence genes & enzymes within plants when in high enough concentrations, whilst generally assisting with protection from pest activity via enhanced cuticle strength.
- Improves Anti-Oxidant systems & photosynthesis.
- Enhances plant appearance and aesthetics. In ornamental plants, orthosilicic acid can prevent lodging of taller growing grasses, providing a sturdier, more structured plant.
- Links to improvement in drought and salinity stress.

### Compatibility

Although it is highly compatible, tank mix combinations with SiLIXOL T&O have not been tested on all varieties under all possible growing conditions. If the user is unsure a limited area should be tested and reasonable judgement and caution should be exercised. A jar test is recommended prior to broad scale use.

#### SILICON CONTENT REQUIRED IN PLANT TISSUE

Turfgrass Type	Plant Tissue Silicon (Si) %	Reference
Bentgrass	0.6 – 2.2	Zhang et al., 2006
Couch / Hybrid Couch	0.4 – 1.2	Datnoff and Rutherford, 2003
Perennial Ryegrass	0.4 – 1.2	Nanayakkara et al., 2009
Buffalo	0.4 – 1.4	Brecht et al., 2007

#### SILICON CONTENT REQUIRED IN GROWING MEDIUMS

Soil Type	Soil Silicon (Si) – PPM	Reference
Sand based	19	Guertal, 2010
Sandy Loam	70	
Silty Clay loam	173	

