

# **STAMINA<sup>®</sup>** **RELIEVE**

# The perfect partner for soil surfactants

**Stamina Relieve** is a soil-amending polymer, which effects changes in the surface tension of the hygroscopic (bound) water in the soil. The ionic nature of soils, and the polarised molecular structure of water results in very strongly bonded (hygroscopic) water in the soil system. It is the strength of this soil-water adhesion which leads to soil compaction, resulting in poor water infiltration, low overall water-holding capacity, reduced soil aeration and high soil shear strength. By penetrating to vertical depths of over a metre, and by acting upon the bound water (unlike other soil surfactants which act on surface water), Stamina Relieve demonstrates long-lasting improvements in growing conditions and water management processes within the soil.

## MAJOR BENEFITS of STAMINA RELIEVE

- Improves aeration and permeability in the soil.
- Enhances water availability.
- Improves water infiltration.
- Ideal for use in the winter months to keep the rootzone from becoming over saturated.
- Optimises air:water ratios.
- Ideal for tank mixing with other Stamina surfactants.
- Eliminates wet/dry spots.
- Significantly increases water movement.
- Non toxic and environmentally safe.
- Low use rates, allowing for economical treatment over larger areas.



Stamina Relieve at a glance	
Formulation:	48% anionic surfactant
Uses:	Improves soil water management processes and aeration.
Rate:	1/ha
Residual performance:	2-3 months
Potential for burn:	Non burn formulation
Pack sizes available:	5L

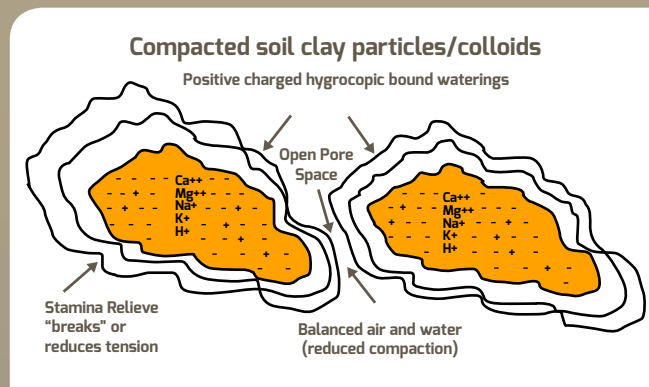
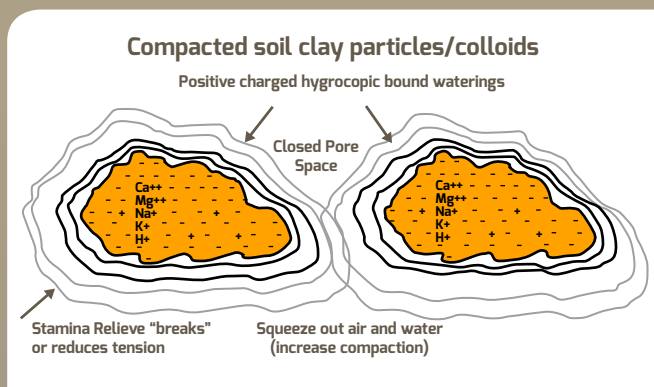
## Application rate

Situation	Rate /100m <sup>2</sup>	Rate / Ha	Comments
Loam / Clay Soils	10ml	1L	When mixing, pour the required amount of Stamina Relieve into the spray tank. If it is to be tank mixed with other chemicals, then ensure Stamina Relieve is added last. If excessive foaming occurs, use a defoaming agent. Stamina Relieve can be applied anytime. Ensure the soil is moist at the time of spraying, to ensure good soil contact and reduce product degradation. Stamina Relieve is degraded by sunlight and heat, as well as the complexity of the soil type and structure. Therefore, one application usually lasts up to 2-3 months. Apply Stamina Relieve to the entire turf area, both high and low spots. Light rain or irrigation applied the same day will accelerate the action.



# STAMINA Relieve Performance

## Stamina Relieve's Influence on Improvement in air:water ratios



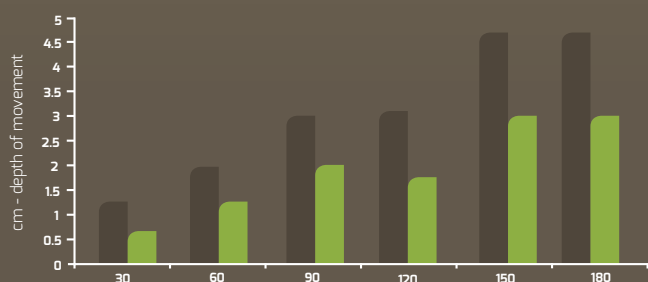
The breakdown of adhesion in soil structures produces a more open, better-aerated soil profile. As a consequence, the treated soil is more oxygenated, which results in an improved playing surface (particularly in the winter months). In addition, improved oxygenation allows for greater stimulation in soil microbiology and better nutrient utilization efficiency.

## Stamina Relieve's influence on water movement

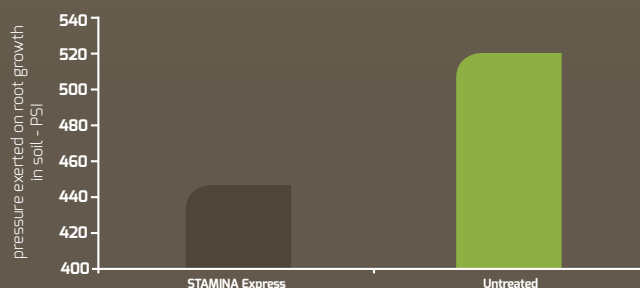
One of the most readily observed results of application of Stamina Relieve is an improved water infiltration rate. By breaking down the adhesion that creates compaction of soil, Stamina Relieve readies the soil for much deeper and faster influx of water. The increased penetration of water results in reduced run-off, evaporation, and standing water in previously wet areas. The below field trials prove the benefits that Stamina Relieve can provide in assisting water movement into the soil.

The prevention or breakup of compaction in soils results in a reduction in soil shear strength. The forces required for turf roots to penetrate the soil are thereby decreased, resulting in deeper and more uniform growth. As a result resistance to stresses (foot traffic / heat) is enhanced. The result of the above field trial indicates that Stamina Relieve, when you in a programmed approach significantly improves shear strength within the soil.

### Water Infiltration Rate Trial



### Stamina Relieve's influence on soil shear strength

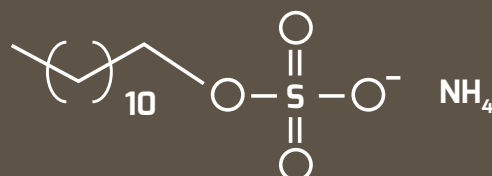


## THE MOLECULE IN STAMINA RELIEVE

The active molecule in Stamina Relieve is ammonium dodecyl sulphate (48% w/v). Stamina Relieve is as an anionic surfactant compound, consisting of a carbon tail (backbone of the molecule), which allows it to bond with non-polar materials (attaches itself to the water repellent soils). At the other end, the highly polar sulphate head allows the molecule to bond tightly to water.

### STAMINA RELIEVE CHARACTERISTICS

- pH - 7.0
- Solubility in water - Complete
- Appearance - Brown liquid
- Specific gravity - 1.072



# *STAMINA*<sup>®</sup> *RELIEVE*



CONTACT YOUR LOCAL TERRITORY MANAGER OR CALL 1800 631 008.

[www.nuturf.com.au](http://www.nuturf.com.au)