



# Soil Wetter

CONTAINS SEASOL AND LIQUID HUMATES  
FOR SOIL AND PLANT BENEFITS



## INSTRUCTIONS FOR USE

**1. Soil Wetter** must be diluted with water. **2.** Shake or agitate before use. Maintain agitation during dilution & application if possible. **3.** Soil Wetter is intended for application to soil. Can be injected into the irrigation system (Fertigated) or applied as a soil drench, spray or furrow injection. Agitate the product prior to using and re-agitate if the product is left standing for an extended period of time. The product can be applied before, during or after light to moderate rainfall. If the product is applied over plant foliage it is advised that residue be washed off as soon as possible with a follow-up application of water.

## APPLICATION GUIDELINES

Category	Crop	Rate	Application / Critical Comments
Drip Irrigation	ALL	Apply at 5-10L/Ha or 0.5-1ml per square metre of wetted area.	Apply at the start of the irrigation season. Follow-up applications may be required at 6-12 week intervals in extended dry periods
Sprinkler irrigation			
Under tree sprinkler			
Pivot irrigator			
In furrow (banding) application.	ALL	0.5-1ml per square metre of treated area or per 10 metres of linear row treated.	The linear metre rate for in-furrow application assumes a 10cm wide band of application or treatment
Water Cart, Watering Can, Backpack, Hand sprayer etc.	Street tree watering. Garden beds etc.	Use 3-5ml per litre of water applied	Can be combined with other liquid Seasol products for convenience
Dust Suppression	Roadways, Service yards tec.	3-5mL/Litre of water	Add to water cart during filling to ensure product is well mixed. Use in one application and then re-apply when the effect of the <b>Soil Wetter</b> has diminished

## GENERAL INSTRUCTIONS

**Foliar Spraying:** **Soil Wetter** is NOT intended for application to plant foliage. If the product is applied over a crop with sprinkler or pivot irrigation use sufficient water volumes to wash residue off the foliage or apply a follow-up irrigation immediately after application to wash residue from plants.

**Fertigation:** Agitate the product in the fertigation tank before and during application if possible. Rinse any residue from tank after application. For best results use the product on its own. **Soil Wetter** can be applied with other liquid products from Seasol.

## STORAGE AND HANDLING

Not to be kept for prolonged periods in hot conditions (>30°C) or in direct sunlight. Always use safe work practices for lifting and handling drums. Once diluted, the product should be applied within 24 hours. Agitate the product prior to using and re-agitate if the product is left standing for an extended period of time.

## SAFETY DIRECTIONS

Not to be taken. Keep out of reach from children. May irritate the skin and eyes. Avoid inhalation. Use in a well-ventilated space. Wash hands after use. Wash all edible plants before eating. If splashed, wash off with water. If swallowed or irritation persists, seek prompt medical advice. Additional information is listed in the Safety Data Sheet.

## CONDITIONS OF SALE

This product must be used strictly in accordance to the directions. The efficacy of the product may be influenced by environmental conditions and application procedures and no warranty, express or implied is offered.





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## TECHNICAL GUIDE



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For more information,  
please go to [www.seasol.com.au](http://www.seasol.com.au)

**Seasol**<sup>®</sup>  
a better way to grow





# Soil Wetter

## TECHNICAL INFORMATION

### OVERVIEW

**Seasol Soil Wetter** is a soil treatment that allows the water to get in and stay in the ground, improving water usage. It is specially formulated with surfactants to modify wettability of hydrophobic soils and increase water-holding capacity. Boosted with kelp and humate to stimulate root growth and improve plant access to water and nutrients.



Block co-polymer  
surfactant



Seasol Liquid  
Seaweed extract



Liquid Organic  
Humate extract



### GROWER EXPERIENCE

**Mango's irrigated with 75 L/Hour under tree sprinklers on sandy soils.**

*I have now used Soil Wetter in the orchards for the past 10 years, with one application at the beginning of summer irrigation, and a second application in the middle of summer. The penetration and retention of soil moisture was immediately apparent from the readings on the Irometers (tensiometers) But, to be sure, I dug many holes around root zones to confirm that this was in fact the case, so much so that I was able to reduce irrigation run times by an average of 25%.*

**Tony Maddern, Avalon Farm, WA**



### WETTING AGENT

Seasol Soil Wetter is formulated with a block co-polymer surfactant. These surfactants are effective and gentle to the environment. They improve wettability of hydrophobic soils, increasing water penetration while having minimal impact on aquatic organisms.

Seasol Soil Wetter is biodegradable and won't accumulate in the soil. This allows the product to be utilised during the dry season only if required.

### SEASOL LIQUID SEAWEED

Seasol Liquid Seaweed is an integral component of Seasol Soil Wetter. This organic kelp extract stimulates plant root growth which in turn provides plant and soil benefits.

### HUMATE

Humates are large aggregates of organic molecules formed from the decomposition of plant matter. Humates consist mostly of carbon. Organic carbon in soils is strongly correlated with water storage and retention.

Humates also stimulate root growth, root density, and root hair development, all of which improve water accessibility for plants.

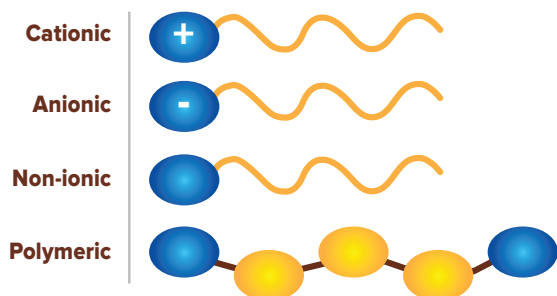
Humates have some natural surfactant properties, which helps wetting and spreading. They act as a reservoir for important biomolecules and plant nutrients which helps to stimulate plant and soil health.

## WETTING AGENTS - THE KEY TO WET SOILS

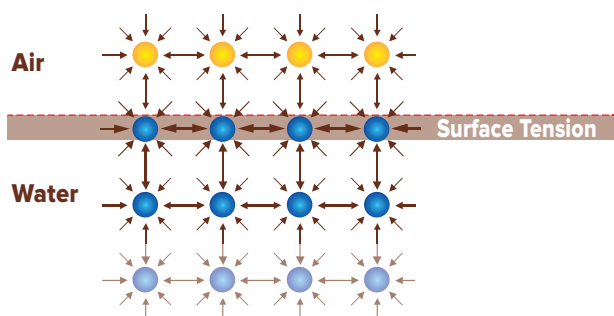
Our product formulation consists of three key ingredients which all contribute to actively getting and keeping water in the soil, **Wetting Agent, Humate and Seasol**.

Soil Wetters are products formulated with Wetting Agents, or surfactants, to overcome the hydrophobicity of soils and get water to penetrate into the ground.

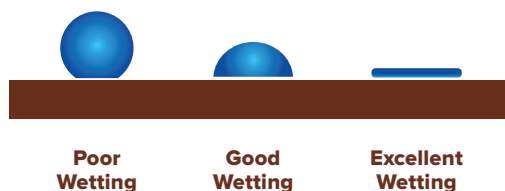
Surfactants, (surface-active molecules) as shown in the image below are molecules that contain both a hydrophilic part (blue) and a hydrophobic part (yellow). Surfactants may be charged (ionic) or not (non-ionic). They can be short molecules or comprised of multiple segments (polymeric surfactants). In the case of polymeric surfactants, surfactants are often block-copolymers which refers to organised segments of a particular type (blocks) strung together in a polymer.



The high surface tension of water results from the stronger intermolecular forces compared to the weak intermolecular forces between water and air. This means that the water molecules at the surface of the water prefer to bond with themselves resulting in tension across the water-air interface. Surface tension acts against the formation of new surfaces.



Surfactants preferentially arrange themselves at the water-air interface. The hydrophilic head sits in the water phase, and the hydrophobic tail sits in the air. This arrangement lowers the surface tension, as each part of the surfactant has favourable interactions with its respective surrounding phase.



When water is in contact with a solid surface, such as soil, there is an energy cost caused by the interactions between water molecules and that surface. If the interactions are favourable, that is the surface is hydrophilic, there is an energy gain, and the water spreads spontaneously across the surface. When the interactions are unfavourable, **the surface is hydrophobic**, there is a high energy cost and water minimises its contact with the surface, **that is, the water won't spread**.

Soil, is a porous media. For water to penetrate into the soil, it has to **squeeze into the pores** between soil grains. This squeezing is opposed by the surface tension of the water, which prefers to minimise the surface area of the water. If the **soil is hydrophobic** there is no energy gain through favourable surface interactions to overcome the surface tension and **water cannot get into the soil**.

**Surfactants** in soil wetter perform two main functions. They **lower the surface tension** which helps the water to squeeze in through the pores in the soils and penetrate even small spaces. The second function of the surfactant is to **modify the wettability of the soil**.

**Surfactants arrange at the soil/water surface like a bridge between the two phases**, with their hydrophobic parts in contact with the soil grains, and the hydrophilic part surrounded by water. This **allows the water to spread easily** over the surface by removing unfavourable interactions between the soil and water. It is important to keep in mind, that wettability modifications are not permanent. **If the soil dries out**, surfactants can rearrange, with the hydrophilic part in contact with the soil and the hydrophobic part presenting in the air. They do this because air is hydrophobic. The effect of the rearrangement is a **re-hydrophobisation of the soil**. **Therefore, it is not enough to just get water into the soil, the real aim is to keep it there**. Water loss occurs through drainage, evaporation and plant usage. That is why our Soil wetter comes specially formulated with humates and kelp to improve soil quality, improve water storage, and improve plant accessibility to water once it's in the ground.

## AVAILABLE IN 3 SIZES

Whatever your requirements, we now have sizes to suit your needs. Soilwetter is available in 20L, 200L & 1000L quantities.



Thinking roots?  
Think Seasol.

