



Transformer

A Soil Conditioner with
OROWET® Technology

Let's grow greener



Rovensa
Next

A Soil Conditioner with OROWET®

OROWET Technology combines natural, cold pressed orange oil with a special blend of surfactants. Transformer will influence soil physics and soil water relations to improve water infiltration and distribution in soil. Plant performance and root growth is improved in challenging soils. At the same time water is used more efficiently as run-off and evaporation is significantly reduced.

Did you know?

Soil restrictions can prevent optimal use of irrigation water and limit performance of your crop;► Compaction

- Hydrophobicity
- Slow infiltration rates (water-logging, run-off)
- Too fast infiltration (channelling)
- Poor water-holding
- Poor distribution of water in soil profile (drip irrigation)
- Textural and structural discontinuities (a sand on a clay or compacted layers in the soil).

How to apply Transformer

Dose rate per hectare

Row crops under pivot or overhead irrigation:

Potatoes, Onions: 2 x 5 L/ha. First application pre-plant and second application after planting

Cereals, Legumes: 1,5 L/ha in furrow during plant or 3 L/ha full surface after planting, but before emergence.

Maize: 3 L/ha in furrow during planting or 5 L/ha full surface after planting, but before emergence

Lucerne: 10 L/ha at the start of irrigation season, or just after a cutting.

Drip irrigation:

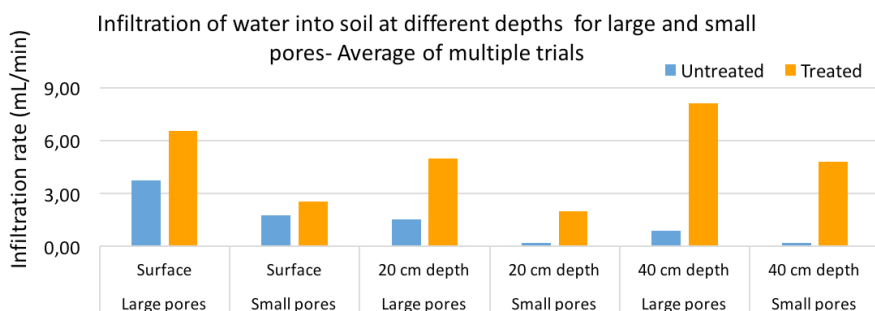
3-5 L/ha. Apply the lower rate in wider row spacings (e.g. perennial crops) and the higher rate in annual crops such as tomatoes with narrow rows.

Micro Irrigation:

5 to 10 L/ha. Lower rate in wider row spacings, where a smaller percentage of surface area is wetted (e.g. citrus). Increase the rate in narrow row spacings or where a larger percentage of the surface is wetted.

► The product must be washed in during application to reach the root zone or any compact layer that needs to be treated.

► A single application per season is usually sufficient as long as regular irrigation scheduling is maintained. A split or follow-up application is sometimes required in extreme hydrophobic soils or heavy clay (>25%)



Average infiltration rates from measurements in multiple trials. Transformer improved the infiltration rate at various depths. Water is moved faster through the soil profile, thus reducing surface puddling, water logging and run-off..

A Soil Conditioner with OROWET®

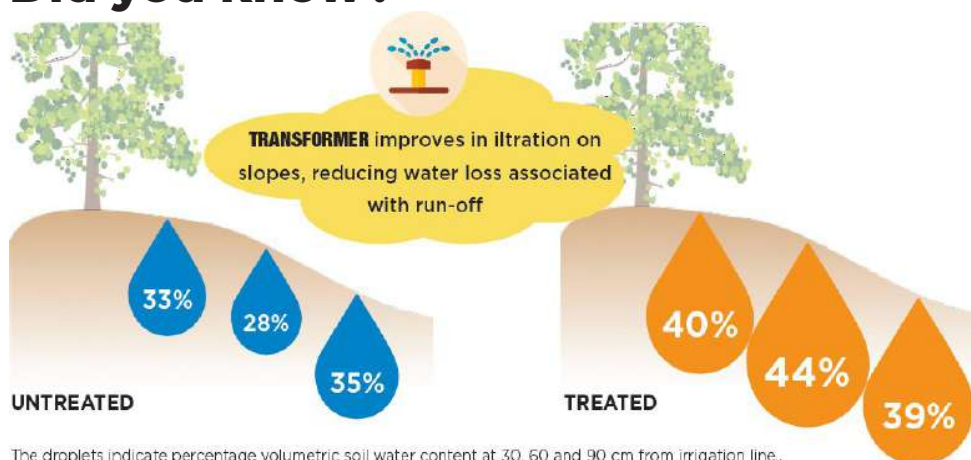
Benefits of Transformer in Drip Irrigation

Multiple studies have shown that Transformer can improve lateral movement of water. This is key for drip irrigated soils where often water accumulates under the drip emitter and does not distribute in the soil profile.

Soil water content was measured at 30, 60 and 90 cm from the irrigation line in a sandy vineyard soil to observe the increase in water distribution from the drip emitter after the application of Transformer. Measurements were taken 3 months after application of 5 L/ha.

Diagram showing expected change in wetting pattern following a Transformer application. Now you can increase the size of the wetted soil area under your drip emitter and ensure a better water distribution for better root development and distribution of fertilizer through the soil profile..

Did you know?



The droplets indicate percentage volumetric soil water content at 30, 60 and 90 cm from irrigation line.
* Readings were taken with a Diviner 2000 probe (Sentek, Australia)

Poor distribution of water under the drip emitter can leave the soil too wet directly under the drip emitter thereby reducing oxygen levels and preventing root growth.

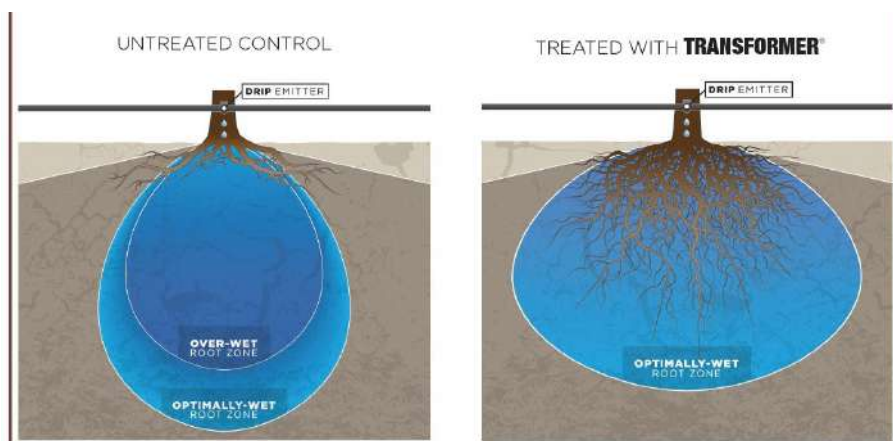


Diagram showing expected change in wetting pattern following a Transformer application. Now you can increase the size of the wetted soil area under your drip emitter and ensure a better water distribution for better root development and distribution of fertilizer through the soil profile.

A Soil Conditioner with OROWET®

Benefits of Transformer in Drip Irrigation

Multiple studies have shown that Transformer can improve lateral movement of water. This is key for drip irrigated soils where often water accumulates under the drip emitter and does not distribute in the soil profile.

Soil water content was measured at 30, 60 and 90 cm from the irrigation line in a sandy vineyard soil to observe the increase in water distribution from the drip emitter after the application of

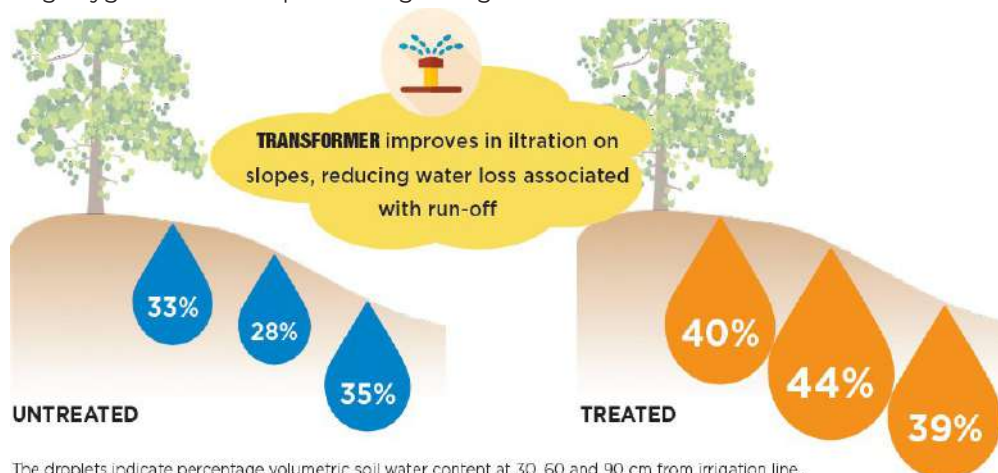
Transformer. Measurements were taken 3 months after application of 5 L/ha.

Diagram showing expected change in wetting pattern following a TRANSFORMER application.

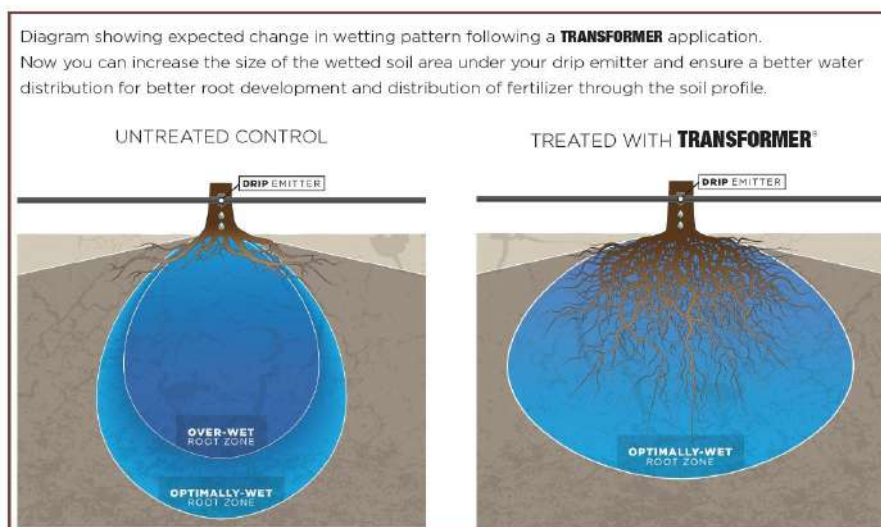
Now you can increase the size of the wetted soil area under your drip emitter and ensure a better water distribution for better root development and distribution of fertilizer through the soil profile.

Did you know?

Poor distribution of water under the drip emitter can leave the soil too wet directly under the drip emitter thereby reducing oxygen levels and preventing root growth.



The droplets indicate percentage volumetric soil water content at 30, 60 and 90 cm from irrigation line.
 * Readings were taken with a Diviner 2000 probe (Sentek, Australia)



A Soil Conditioner with OROWET®

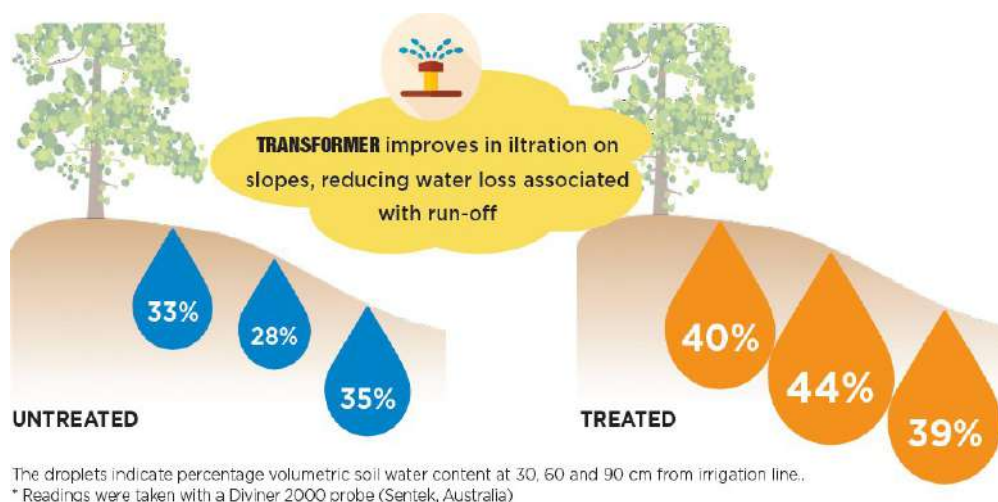
Benefits of Transformer in Drip Irrigation

Run-off of irrigation water from ridges or slopes is often a problem in orchards or vineyards under micro-irrigation.

Transformer was applied at 5L/ha through the micro-irrigation system on a ridged peach orchard with sandy loam soil. Soil water content was measured at 30, 60 and 90 cm from the irrigation line to observe whether the Transformer has improved penetration of water in the ridge. Measurements were taken 3 months after treatment shortly after an irrigation event.

Did you know?

A 5% change in volumetric soil water content is equal to 25 000 litres water per hectare



Benefits of Transformer in Pivot Irrigation

With high volumes of water applied to the soil surface, optimal infiltration is key to limit water losses through run-off or puddling. By increasing infiltration rates with the application of Transformer, water loss can be limited and water can be used more efficiently as demonstrated in pictures of carrot fields below.

Untreated



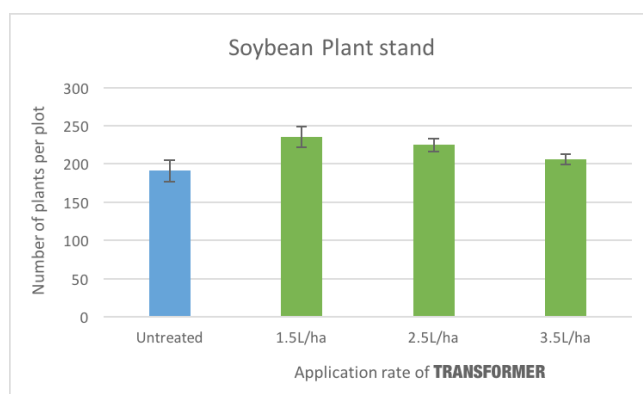
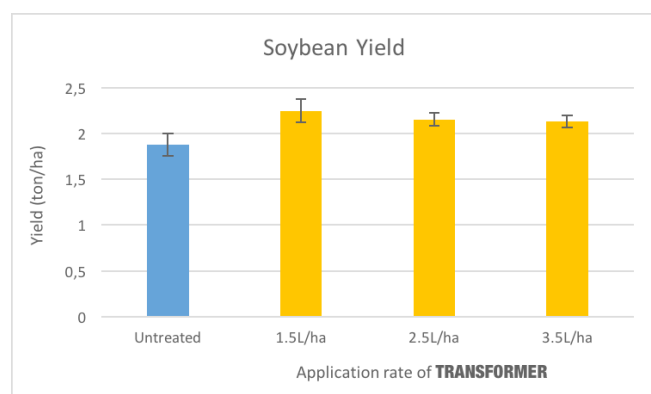
Treated



A Soil Conditioner with OROWET®

Yield & Plant Stand under pivot irrigation

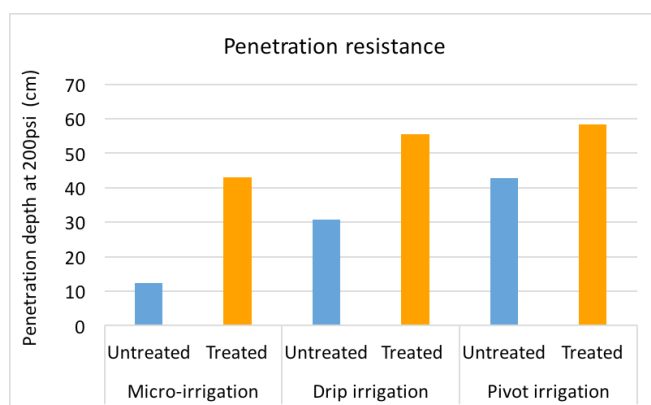
The large droplets from pivot irrigation impacts on the soil surface and can cause a crust to form. This crust also limits emergence as the new shoots from germinating seed need to push through the crust to reach the surface. The application of Transformer has increased the percentage emergence and improved yields on pivot irrigated row crops like soybean (graphs below), maize and potatoes.



Benefits of Transformer in compact soils

Run-off, puddling and water logged conditions are often evidence of compaction layers preventing proper infiltration. Root growth is often restricted in such soils because of high penetration resistance, poor oxygen levels and poor water infiltration rates in compact layers.

Through measurement of penetration resistance, it was found that Transformer improved penetration depth (see graph), thus allowing roots to overcome the limitations brought on by compaction as indicated in the pictures below.



Untreated



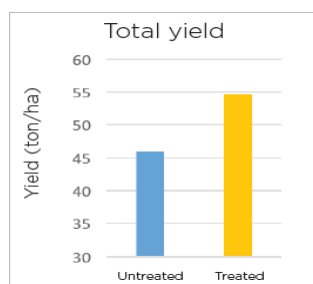
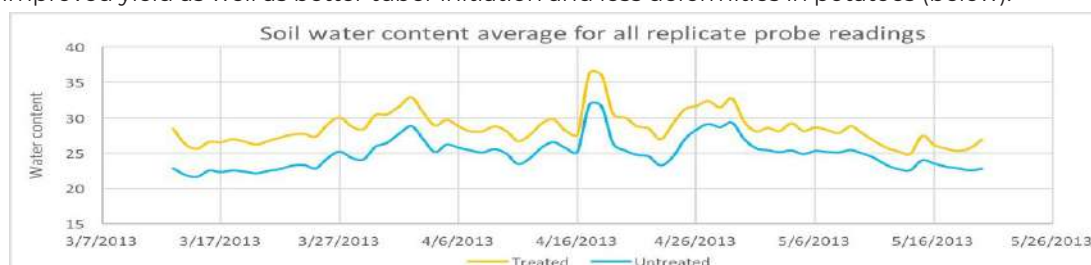
Treated



A Soil Conditioner with OROWET®

Benefits of Transformer on Hydrophobic soils

Soils often contain organic compounds that coat soil particles and impart water repellent properties to the soil. These soils are referred to as hydrophobic soils. Hydrophobicity can be localised to only certain areas in your fields and orchards or it can be widespread across the whole field. Hydrophobicity can be alleviated with the application of Transformer resulting in higher, more uniform water content in hydrophobic soils (graph left). Various studies showed improved yield as well as better tuber initiation and less deformities in potatoes (below).



Untreated



Dry pockets in hydrophobic soil as result of channeling and poor water distribution



Arrows indicate dry soil which is lighter in colour.

Treated



More even water distribution after **TRANSFORMER** treatment



Knobby potatoes resulting from water stress is reduced with application of Tra



Transformer



Rovensa
Next

Phone: 1300 595 000
Info.au@rovensanext.com w
www.rovensanext-au-nz.com

 **Rovensa
Next**