

# Your Solutions To Managing Salinity

## The Impact of Excessive Salinity

High levels of salinity directly affect plant establishment, stunts plant growth, greatly restricts root development, causes the need for increased irrigation, reduces soil health and is a major contributor to compaction.

*In 2000, 5.7 million hectares of Australia were assessed as having a high potential to develop salinity. Predictions indicate that unless effective solutions are implemented, the area affected could increase to 17 million hectares by 2050, most of which is agricultural land (more than 11 million hectares) (NLWRA 2001). In 2002, about 20,000 farms and 2 million hectares of agricultural land showed actual signs of salinity (ABS 2002). For many farms, salinity has meant loss of productivity and income. (Measures of Australia's Progress, 2010 – ABS)*

## The Solution to Excessive Salinity

To considerably reduce salinity levels we utilise soil penetrant technology to cause water to move into the soil and sodium to move out of the root zone. We then replace the sodium with calcium and use organic acids to sequester the sodium.

### 1 REMOVE

**Penmax®** is a true non-ionic penetrant. It moves water horizontally and vertically flushing salts from roots. It lowers the surface tension of the water to allow the water to both penetrate the "hard to wet soils". In heavy soils the water will penetrate more easily. Fertiliser can be carried into the soil along with the water to promote a deeper root system. Excess salts will be carried away from the root zone as the water continues to penetrate.

### 2 REPLACE

**Liqua-Jip** is specifically designed to provide a method of displacing the sodium ion from problem soils and provides an alternative to continuous gypsum applications. The main reason to apply calcium is to displace the sodium ion from negative sites on soil particles. If the calcium ion concentration is increased sufficiently the calcium ion, which has a positive two charge can displace the sodium ion that has a positive one charge. **CalciN can also be used.**

### 3 PROTECT

**Enhance Max™** is a sequestering agent and has the ability to sequester sodium so it is non-reactive. It undertakes the process by breaking the bond of the sodium from the clay colloid and sequestering the sodium ion (Na<sup>+</sup>) into an organic structure. This may be referred to as Sodium Buffering. Enhance Max's humic acid component, **Enhance THA™**, is proven for sodium over the past 30 years.

## Applications

A simple to apply salinity reduction program applying the right product at the right time, the right place and the right rate:

### Irrigation – (Seasonal Crops)

#### Step 1. - Penmax

**Time:** Early Spring Irrigation

**Place:** In Irrigation water – Flood, pivots, sprinklers, drip

**Rate:** 5L/ha

#### Step 2. - Liqua-Jip

**Time:** Irrigation after Penmax

**Place:** In Irrigation water – Flood, pivots, sprinklers, drip

**Rate:** 15-20L/ha

#### Step 3. - Enhance Max

**Time:** Fourth or Fifth Irrigation

**Place:** Sprayed onto soil with water or applied in irrigation water

**Rate:** 15L/ha

#### Step 4. - Penmax

**Time:** Two Irrigations After Enhance Max

**Place:** In Irrigation water – Flood, pivots, sprinklers, drip

**Rate:** 5L/ha

#### Step 5. - Liqua-Jip

**Time:** After Penmax Irrigation

**Place:** In Irrigation water – Flood, pivots, sprinklers, drip

**Rate:** 15-20L/ha

### Irrigation – (Permanent Crops)

#### Step 1. - Enhance Max

**Time:** Planting

**Place:** Injected to as close as possible to seed and or fertiliser

**Rate:** 10L/ha

#### Step 2. - Penmax

**Time:** First Irrigation

**Place:** In Irrigation water – Flood, pivots, sprinklers, drip

**Rate:** 5L/ha

#### Step 3. - Liqua-Jip

**Time:** Second Irrigation

**Place:** In Irrigation water – Flood, pivots, sprinklers, drip

**Rate:** 15-20L/ha

#### Step 4. - Penmax

**Time:** Third Irrigation

**Place:** In Irrigation water – Flood, pivots, sprinklers, drip

**Rate:** 5L/ha

#### Step 5. - Liqua-Jip

**Time:** Fourth Irrigation

**Place:** In Irrigation water – Flood, pivots, sprinklers, drip

**Rate:** 15-20L/ha

## About Advanced Nutrients

Advanced Nutrients is a leader in the development of innovative, environmentally benign fertilisers which cost less and deliver more. For the last 22 years, smart agricultural, horticultural and livestock producers throughout Australia, Africa, Asia and the Middle East have been using our products to cut input costs, boost returns and reduce farming costs.



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