

Improving Soil Biology in Cucumbers

Joe Samaha – Wedderburn NSW - Winter 2001

Treatment: 1) OziVerm added to planting media at 5% by volume.

Control: 2) No OziVerm.

Two identical glasshouses were selected for the trial and the same Cucumber variety was planted in each at the beginning of Winter 2001. Joe has his glasshouses set up in a trough system (each trough is 50 metres in length and 375 mm wide). The existing planting media was left in place and was already two years old and becoming unresponsive, the objective being to see if increasing the beneficial biology would 'freshen up' the planting media and extend its life. OziVerm was added to the top 100mm at 5% by volume.

All other inputs were identical for both greenhouses, including water and fertilizer management.

Observations

The first thing Joe noticed was the superior establishment within the treated glasshouse, which began picking 2 weeks ahead of the untreated house. Plants were visibly stronger with better roots systems extending throughout the troughs.

Joe also noted the improved water retention and lack of runoff in the treated house, more water and nutrient was being retained and utilised following irrigation events.

Of course the most significant benefit that Joe realised was the increase in production, much of which occurred early in the season when prices were at their best.

Extra Production from treated greenhouse over the 14 week harvest window was 168 boxes.

The economic advantage 168 boxes, at an average of \$24 each = \$4032, less OziVerm costs of \$120 gave Joe a impressive \$3912 increase in profit.



Untreated plants 3 weeks after planting.



Treated plants 3 weeks after planting

Soilsmart products and technical services are specifically designed to help manage one of the most complex and diverse eco-systems on earth - the interface between the soil and the plants we grow.

Soilsmart products will help you to build a strong and balanced biological soil ecosystem, maintain aerobic soil conditions and develop a disease suppressive environment in the root zone.

Biological Diversity

The plants we rely on to grow quality crops, turf surfaces and landscapes all evolved in the presence of, and rely on, a strong and symbiotic relationship with beneficial soil organisms which play a significant role in regulating the health of the entire plant/soil eco-system.

The key to success however is diversity - nature is built on it — consequently we have developed a range of products and programs that have a broad bio-diversity and offer long term benefit. They are also based around indigenous Australian biological species which are suited to our climatic and soil conditions.

Even small changes to your existing programs can improve biology and quickly translate into improved aerobic soil conditions and healthier and more resilient plants. These advances also result in more extensive and vigorous root systems and an increase in water use efficiency. Maintaining bio-diversity and balance also encourages the conversion and retention of minerals, increasing fertilizer efficiency and minimising the need for repeated applications.

Soilsmart products and programs allow you to stay ahead of pests and disease and offer a truly preventative approach to soil and plant health by:

- Building Organic Carbon reserves in your soil.
- Establishing a natural defensive network against disease and pests.
- Strengthening plant health and stress tolerance.
- Increasing fertilizer efficiency.
- Sustaining soil Oxygen levels.
- Reducing costs and improving risk management.

The science that enables us to measure and manipulate the soils' biological properties has advanced rapidly in the past decade, bringing about a much better understanding of how we can influence this very complex bio-system to our advantage. Soilsmart have maintained an association with and are accreditation with organisations like The Soil Foodweb Institute USA, who are at the forefront of research and technology development in this important area of environmental management.