

OziVerm in Macadamias

Throughout the Macadamia industry there has been increasing concern about the loss of the humic layer in soils resulting from the practice of ground litter removal prior to harvest. The ramifications of this practice are only beginning to be understood in the light of measurable soil ecology. Leaf litter removal not only affects the carbon cycle, it reduces plant food availability, destroys the environment for soil organisms and advances desiccation of the surface soil layer, interrupting and reversing processes critical to plant and soil health. The bare soil syndrome not only favours downstream pollution from erosion, it reduces the plants capacity to buffer moisture fluctuations, introducing further stress to the orchard that often results in early nut fall, following poor flowering and setting.

Compounding the problem, the orchard floor also receives runoff from fungal and insect control programs that further debilitate the trees by attacking micro-organisms in the root zone. Out in the rows of the orchard, soil compaction often exceeded 300-400psi in the first 25mm of the soil, due to the steady decline of soil biomass. This severely impacts on root regeneration and nutrient uptake, as well as creating an excellent environment for pathogenic activity, which in turn encourages a weaker tree, subject to disease and pest attack.

Chris Moloney MacLean's Ridges

Chris has been applying OziVerm in his orchard for 2 years @ 2 tonne per hectare, with applications being broadcast on the soil surface. Chris says that he has observed noticeable improvements in flowering and nut set. His kernel recovery has increased from 35% to 39% in his Hawaiian varieties over this period and soil texture, drainage and compaction have also improved noticeably.

Chris has also noticed some of his older trees, which were in decline, recover and show increased vigour after special attention with OziVerm at 20 kg per tree. Some 15 out of 18 trees that were infected with phytophthora have fully recovered, and although OziVerm wasn't the only disease control strategy that Chris had been using, other products were simply not bringing about any change until he started his OziVerm applications.

David Phillips Thora

David began using OziVerm with an initial application in Spring 2001 at 4 tonnes per hectare, following the 2001 harvest which was the worst on record for the farm. In comparison the 2002 harvest has been the best. Seasonality aside, David reports softer soil, darker colour, more earthworm activity and excellent kernel recovery in his Hawaiian varieties, with an overall increase in kernel recovery on the farm. Significant increases in leaf levels of zinc, copper, and boron have also been evident, and given that existing nutrient management has not changed significantly, the improvement in nutrient uptake is believed to be largely the result of improving soil biological activity.



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 eco-system, 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.