



## ***“The Biological Way”***

***The Biological Way is putting the Biology back into the soil and plant to achieve sustainable balance and fruit quality production.***

***Biology determines quality and defines quality***

***Nutouch Viticulture, producer of Beneficial Microbes for sustainable agriculture and horticulture.***

# “The Biological Way” how....

## AERATED COMPOST TEA (ACT)

This is a professional brew of thermal compost or vermicast. Throughout the brewing cycle soluble nutrients and a vast range of beneficial micro-organisms are extracted into the solution. These microbes grow and increase in population which produces a rich microbial diversity, together with saturated microbial life.

Aerated Compost Tea (A.C.T.) application to the soil or directly onto plants means the organisms and soluble foods within this solution are extracted immediately.

### **Why use Aerated Compost Tea?**

Benefits include:

- Disease suppression
- Retention of nutrients through efficient nutrient cycling
- Better nutrient availability and uptake to the roots and foliage of plants.
- Detoxification of many undesirable residues ie fungicides, herbicides, insecticides
- Improvements of soil structure
- Superior end product

**The organisms in tea also perform other beneficial functions for plants besides just suppressing disease. These additional benefits are:**

- a) retain nutrients in the soil around the plants, so additional fertiliser will not be needed, which in turn makes inputs more economical.
- b) make nutrients available to plants at required rates, which eliminates rapid growth and weakened tissue cells. Reduced fertiliser applications can occur if you have a healthy soil with the right sets of organisms for your plants.
- c) build soil structure, so air and water can easily reach your plant's roots, keeping the soil well-aerated, but also holding water in “swimming pools” in the soil. You get healthier plants, with roots that go deeper, and that do not require constant watering.

Aerated Compost Tea aims to extract the full diversity of microbes from compost, and re-inoculate the soil with this diversity.

### **Application to the soil**

- Soil fertility is dependent on the soil food web. Any disturbance (cultivation, concentrated fertiliser, herbicides etc), will disrupt the soil food web, and may significantly deplete functional groups from the food web (e.g. Protozoa, worms).
- A soil biology analysis will provide a measure of the condition of the soil food web.
- Applying high quality A.C.T. can re-establish the soil food web. It is extremely useful to apply Aerated Compost Tea (A.C.T.) @ 150-200lt / ha to plants during the growing season. Where establishing an annual crop a pre-plant and post-harvest application is good practise.

## **Application to plant foliage**

- Many foliar diseases can be suppressed with planned applications of high quality ACT. Potato Target Spot or Early Blight is one such disease in potatoes. Downy Mildew in grapevines can also be suppressed with a good preventative program.
- An added benefit is that many insect pests are repelled from plants that have high levels of beneficial microbes colonising their leaf surfaces.
- Conventional viticulture fungicide spray carts are most suitable for foliar use in vineyards; however, the spray tank must be very clean with no conventional” fungicide, or pesticide residues in the tank. The presence of such residues would completely defeat the purpose of applying A.C.T.

## **Contract Biological Horticulture Spraying**

Nutouch Viticulture is pleased to offer a Contract Biological spraying service for those who do not have their own equipment. We understand we are the first to offer such a specialized service. So the whole process is taken care of for you, without any stress to you.

Farmers fertilise – it is part of the job description. But many farmers believe that it is better for your crop in the long run to “feed the soil first” and then let the soil feed the plants. In other words, by boosting the soil’s micro - organisms, which occur naturally in the soil, you will spend less time and money adding chemical fertilisers. Micro -organisms are the soil’s digestive system of the soil. They help decompose organic matter, and unlock minerals, making them useful for plants.

## **Aerated Compost Tea (A.C.T.) helps create a balanced soil food web.**

A balanced **Soil Food Web** will:

1. Suppress disease-causing micro - organisms.
2. Improve the nutritional quality of the plants / crops, and subsequently the nutritional health of grazing animals.
3. Produce good soil structure, improving water infiltration, oxygen diffusion, and water-holding capacity.
4. Retain nitrogen and other nutrients such as calcium, iron, potassium, phosphorous.

5. Make nutrients available for plant growth when required, and at the appropriate rates. The plants feed the beneficial microbes, and in turn, the microbes feed the plants. This allows the plants to be in charge.
6. Decompose plant residues rapidly.

## **MICROBE FOODS**

Microbe foods are essential for the soil biology and the soil food web. Quite simply, they are a living specie therefore they require a food source. **Fungi** micro-organisms grow on **protein** foods such as fish and kelp. Whilst **Bacteria** micro-organisms grow on **simple carbohydrates** such as molasses, green manure, sugar.

The microbes may be present in the soil, but may not be “active”, alive and working. The microbe foods provide the microbes to give the energy required to live, grow, and reproduce.

So the right set of microbe foods are added with the prescribed Aerated Compost Tea during application and during the brewing cycle to suit the desired crop produced.

### **Fulvic Acid – Kelp – Fish (F/K/F)**

The combination of Fulvic acid, fish and kelp provides a unique, multipurpose combination for plant health management. This is an excellent food source for a fungal preferred environment in the instance of grapevines, olive, pome fruit and other woody crops.

Fulvic Acid – unique capacity to dissolve minerals and trace elements and provides a natural chelating agent to convert minerals into readily absorbable nutrients for the plant.

Kelp – Contributes nutrients, as well as complexing agents and growth promoting substances.

Fish – Contributes N:P:K and trace elements, as well as amino acids and oils.

**Bio Fish / Kelp / Fulvic – is available from Nutouch Viticulture, Naracoorte & Eden Valley, as it is not available from other rural outlets.**

***For Biological vineyard & horticulture suggestions,  
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