

# fact file: avocados

## PRODUCT NITROSOL

### Application to avocados

#### Foliage

Spray a 1:200 dilution to the drip point on a 14 - 21 day cycle during periods of fruit development and at intervals of up to four weeks at other times. Alternatively, spray 5 - 10 litres per hectare at 21 - 28 day intervals via airborne or ground spray equipment. When Nitrosol is to be applied via rotary or fixed wing aircraft the dilution may be reduced to a minimum of 1:50, however, the more water the better the result will be. Either type of application may be combined with plant protection materials, but be sure to check for compatibility first. Always add Nitrosol as the last ingredient to the spray tank ensuring that it is thoroughly mixed before use.

Foliar application is recommended immediately after a stress event, such as an untimely frost, too much or too little water, or an adverse weather event, where Nitrosol is particularly effective in stress recovery.

If leaf testing reveals a specific nutrient, mineral or trace element deficiency then the addition of the inexpensive soluble form of the element may be added in modest quantities to the spray tank with the usual foliar application of Nitrosol. In this situation Nitrosol will assist the translocation of the deficient element into the foliage to correct the problem and regain the balance. (See note below.)

#### Soil

Apply 15 - 20 litres per hectare (6 - 8 litres per acre) 1 - 3 times per year in spring, summer and/or autumn, in a convenient amount of water to ensure coverage. Nitrosol may be banded and combined with application of a herbicide if desired. Add Nitrosol to the spray tank as the last ingredient when combining with other materials, and whilst filling with water to ensure adequate mixing.

Alternatively, Nitrosol may be applied via under-canopy irrigation systems out to the drip line. Due to the presence of organic material in Nitrosol it will improve the breakdown of leaf litter, adding to the development of soil humus that will in turn, help to increase biological activity in the soil. This results in improved soil structure, drainage, aeration and the release of locked up nutrients.

#### Dilution

For spray application to avocado trees, the desired rate of dilution with water is 1:200. This may be varied down to 1:50 quite safely, to co-ordinate with the volume of total spray applied per hectare.

For application to soil, the dilution rate can be varied to suit the vehicle speed, swath width and spray rate of the application equipment. Groundspeak equipment may use a dilution anywhere between 1:5 and 1:50. To ensure adequate mixing, add Nitrosol to the tank while filling with water.

Note: Nitrosol is a colloidal liquid suspension that has been screened through 60 mesh. It contains finely ground particles up to 250 microns, that may block fine drippers. It is recommended that filters be cleaned regularly and fertigation lines be flushed with plenty of water, after using Nitrosol

#### Specific trace element deficiencies

Where observation or foliar analysis identifies a specific nutrient or trace element deficiency, the deficient element may be supplemented by the addition of small quantities of the relatively inexpensive soluble form. For example, zinc sulphate for a zinc deficiency, Solubor™ or Timbor™ for a boron deficiency. In this situation, Nitrosol acts as the carrier to chelate and convey the additional trace element effectively into the deficient tree.

#### Important user information

- Nitrosol may settle in its container over time. Contents should be agitated before using. This is best accomplished by rolling the 200 litre drums back and forth on a flat surface, several times.
- To decant, place the 200 litre drum on its side with the bung at the 12 o'clock position. Open the bung and pour into a bucket or pail, moving the drum sideways as the level reduces.
- Nitrosol should be stored away from extremes of temperature as the material may expand with heat and cause leakage. Storage in very cold conditions may cause the formation of crystals. Where this is suspected to have occurred, be sure to strain the material as it is added into the spray tank.
- Do not store product that has been mixed with water, as it will not keep.
- Nitrosol is harmless to birds, bees and animals when used as directed.

**Nitrosol**  
*Original*  
**Nitrosol**  
*Oceanic*  
**Nitrosol**  
*Organic*

#### about nitrosol

Nitrosol is a one step colloidal liquid suspension organic based fertiliser containing:

- A balanced NPK (8.3.6) to feed through both foliage and roots.
- A balanced formulation of trace elements and minerals to address deficiencies and imbalances.
- Organic matter including protein, amino acids, albumin, globulin and cholesterol to feed and nurture the organic activity in the soil.
- Two naturally occurring growth promotants to stimulate plants to take up and use all the available nutrients, trace elements and minerals.

#### nitrosol original

Made from ovine (sheep) blood and bone, Nitrosol Original has been widely used since 1971. It has gained an enviable reputation for producing strong, healthy, disease resistance plants as well as top quality flowers, fruit and vegetables.

#### nitrosol oceanic

Nitrosol Oceanic is made from organic material sourced from deep-sea fishing operations. It is ideal for use on pastoral grazing land with no stock withholding period, and in horticulture. Nitrosol Oceanic has the same typical analysis and will produce similar results to Nitrosol Original.

#### nitrosol organic

Nitrosol Organic has been certified by AsureQuality for permitted use in agriculture and horticulture by certified organic growers. With a higher organic content, Nitrosol Organic will help to produce healthy biologically active soil as well as highly nutritious and flavoursome fruit and vegetables. It will also help to produce healthy feed for grazing animals.

**PHLOLIME™**

#### about phlolime

PhloLime sprayable rapid action lime will help to raise the pH and sweeten the soil adding calcium, one of the most important minerals for healthy soil, plants, animals and humans. PhloLime contains 98% calcium carbonate on a dry matter basis. With an average particle size of only 9 microns, PhloLime will move into the soil profile rapidly where it can begin to raise the pH. It can be applied in conjunction with Nitrosol.

Telephone 0800 80 30 60 for more information

CONTINUED OVERLEAF



NITROSOL LIQUID FERTILISERS AND PHLOLIME ARE MANUFACTURED AND MARKETING BY RURAL RESEARCH LIMITED

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(continued)

### Typical analysis (elemental w/w)

Nitrogen - N	8%	Manganese - Mn	193 ppm
Phosphorus - P	3%	Zinc - Zn	67 ppm
Potassium - K	6%	Copper - Cu	90 ppm
Sulphur - S	1.7%	Boron - B	192 ppm
Calcium - Ca	1.3%	Molybdenum - Mo	119 ppm
Magnesium - Mg	0.2%	Cobalt - Co	10 ppm
Sodium - Na	0.3%	Selenium - Se	60 ppm
Iron - Fe	883 ppm	Gibberellins	0.01 ppm

Plus Triacantanol (Tria) growth promotant and organic material

### Gibberellins - GA

GA is widely distributed in flowering plants and is shown as  $C_{19}H_{32}O_6$ . It is often used by horticulturists on its own, to assist with the development and improvement of specific aspects of growing, for example stimulation of flowering, and fruit quality improvements. As a contribution to the efficacy of Nitrosol, its broad action is to aid in the growth of cell size and to stimulate the plant to take up and use the available nutrients.

### Triacantanol - Tria

Tria is a 30 carbon straight-chain fatty alcohol and occurs in certain waxes and the foliage of some plants. It is shown as  $CH_3(CH_2)_{28}CH_2O$ . Its effects on stimulating plant growth and crop yields, by increasing the growth in the number of cells, have been studied extensively in China, India, Japan and the USA. Tria has been shown to have beneficial effects towards improving the quality of fruit and flowers, in fruiting and flowering plants as well as enhancing plant health, vigour and root development. It has been demonstrated to stimulate photosynthesis within seven minutes of application. Tria is known to promote development of carbohydrates (sugars and energy) in plants. It will help stress recovery after adverse weather conditions, transplanting or application of a selective herbicide.

### What Nitrosol will achieve for avocados

- Promotion of a strong, hardy and compact growth habit.
- Helps to produce healthy trees, that become more resistant to attack from insect pests or disease. This can result in a reduced need for application of plant protection materials.
- Healthy trees, vines or plants will produce yields closer to their potential.
- Expect better fruit quality and size with great tasting fruit that will have a longer shelf life. Better quality means higher returns.
- Improved organic activity in the soil, evidenced by increased earthworm numbers. This leads to improved soil structure and aeration, better drainage, more drought resistance and the release of locked up nutrients.
- Rapid recovery for stressed trees.
- Maximise the cost effectiveness of fertiliser inputs to feed crops on 'a little and often' basis to provide ongoing and balanced growth stimulus.
- It can more effectively address mineral and trace element imbalances and deficiencies because it is a liquid.
- Substantial freight and application cost savings because it is shipped in a highly concentrated form, adding water as the carrier at the point of application.

Nitrosol  
Original  
Nitrosol  
Oceanic  
Nitrosol  
Organic

### did you know

- Nitrosol has a specific gravity of about 1.24 so one litre weighs 1.24 kgs.
- Because Nitrosol is a colloidal suspension containing organic material, it will not leach or wash away even under heavy rain or irrigation.
- Nitrosol feeds via foliage and roots meaning that it can be applied directly to plants and the surrounding soil with excellent results.
- The natural growth promotants in Nitrosol help plants to use the available nitrogen more efficiently with less waste.
- Nitrosol acts as an effective sticker and spreader and may help to improve the effectiveness of plant protection materials when they are applied together.
- Nitrosol is widely accepted as an important part of integrated fertiliser programmes to improve soil sustainability.
- Nitrosol is exported from New Zealand to Europe, Asia, North America, Australia and South Pacific Islands.

Telephone 0800 80 30 60 for more information

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