fact file: vegetable crops

PRODUCT NITROSOL

Nitrosol Original
Nitrosol Oceanic
Nitrosol Organic

Application to beans, brassicas, capsicums, carrots, chilli peppers, cucurbits, herbs, kumera, lettuce, peas, potatoes, pumpkin, squash, tomatoes, etc

Mix Nitrosol with water as a 1:200 dilution (5 ml per litre of water) and use as the watering fluid weekly, or add to the spray tank as the last ingredient, in conjunction with crop protection materials, and spray to the drip point. Alternatively, apply 2 - 8 litres per hectare in conjunction with each application of plant protection or disease control materials. When mixing with other materials be sure to check for compatability first and add Nitrosol to the spray tank as the last ingredient.

Irrigation or fertigation systems

As a booster, add Nitrosol to the liquid feed concentrate tank at the rate of 1 litre of Nitrosol per 200 litres of soluble salts concentrate. It may also be used as the primary source of nutrients in liquid feed systems. Nitrosol diluted to 1:200 with water will yield a CF (conductivity factor) of approximately 20. Note: Nitrosol is a colloidal liquid suspension that has been screened through 60 mesh, and therefore it contains finely ground particles up to 250 microns, that could block fine drippers. It is recommended that filters be checked and 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 sulphate form. For example, copper sulphate for a copper deficiency, Solubor™ or Timbor™ for a boron deficiency, zinc sulphate for zinc deficiency etc. In this situation, Nitrosol acts as the carrier to chelate and convey the deficient trace element effectively into the affected plant.

Important user information

- Nitrosol may settle in its container over time. Contents should be agitated before using. This is best accomplished by rolling the drums back and forth several times on a flat surface.
- 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.
- Ask us about the 'Ugly Pump' that uses water pressure from your tank filling hose to pump Nitrosol or PhloLime directly from a 200 litre drum or 125 litre barrel, into the spray tank.
- 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.
- Notice: Nitrosol Original may not be fed to sheep, cattle, deer, alpacas, goats or other ruminant animals in accordance with the ruminant feed ban regulations.

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 the same results as Nitrosol Original.

nitrosol organic

Nitrosol Organic, with an NPK of 3.3.6., has been certified by Bio-Gro for 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 5 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.

CONTINUED OVERLEAF

fact file: vegetable crops

PRODUCT NITROSOL

(continued)

Nitrosol Original
Nitrosol Oceanic
Nitrosol Organic

Typical analysis (elemental w/w) of Original & Oceanic

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 Triacontanol (Tria) growth promotant and organic material

Gibberellins - GA

GA is widely distributed in flowering plants and is shown as $C_{19}H_{22}O_6$. 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.

Triacontanol - 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 United States. 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 vegetables

- Supplies crops with the right combination of nutrients at a rate appropriate to the plant's need.
- Combines with plant protection or herbicide materials where it acts as an effective sticker and spreader to achieve better and more efficient application.
- Helps to produce vibrant healthy plants with good colour and strong root development. They become more resistant to attack from insect pests or disease often resulting in a reduced need for application of plant protection materials.
- Provides an 'organic' input where plants are grown in either soil or a 'non-soil' medium resulting in better quality, better tasting fruit and vegetables with a longer shelf life.
- Rapid recovery for plants stressed by transplanting or adverse weather conditions.
- Maximise the cost effectiveness of fertiliser inputs to feed plants on the basis of 'a little and often' to provide ongoing and balanced growth stimulus.
- The two natural growth promotants will stimulate plants to take up and use all available nutrients.
- It can more effectively address mineral and trace element imbalances and deficiencies because it is a liquid.
- Substantial freight and application cost savings because Nitrosol is shipped in a highly concentrated form, adding water as the carrier at the point of application.

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.

Why should I consider applying Nitrosol?

The liquid efficiency

The timing and placement of fertiliser has always been the goal of extensive research to improve fertiliser efficiency. Nitrosol unquestionably leads the industry in application versatility. To achieve optimum timing and placement, 'Nitrosol solids in suspension' is the product of choice as a product that has stood the test of time. There are several formulations to suit every situation and our informed, friendly and helpful team will always give personal service and advice.

Application efficiencies

By its very nature, Nitrosol makes possible a number of application efficiencies. For large areas, rotary or fixed wing aircraft are often used as the primary tool of application. At times, or in areas where excessive rainfall prevents the passage of heavy vehicles across land, aerial application prevents damage and soil compaction.

Other growers find that a quad bike, or tractor using one of our purpose designed single orifice nozzles, makes for a convenient and economical tool for applying Nitrosol. Whilst smaller areas or under cover crops lend themselves to convenient application by knapsack sprayer.

Nitrosol users can mix plant protection or herbicide materials into the prescription formulation and apply NPK, organic material, micronutrients, natural growth promotants and herbicide all together in a single pass, saving time, energy, maintenance on equipment and reduce soil compaction. Growers often find a reduction in the amount of chemical required to obtain control, can be achieved when Nitrosol is used in this way.

Because Nitrosol is shipped in a concentrated form, freight savings can be substantial. The carrier, in the form of water, is added at the time of application. Nitrosol acts as a surfactant to break down the surface tension of water on foliage, and this helps to obtain full coverage across the total leaf surface. It contains an organic glue that helps it stick to the plant surface. This means that Nitrosol can be applied before or during rain without the fear of it leaching or washing away.

Uniform distribution

Since every drop of Nitrosol contains exactly the same mixture of all the major and minor nutrients essential for balanced, healthy growth, each blade of grass receives exactly the same mixture of nutrients. Uniform application of trace elements is virtually impossible to achieve with dry bulk solid fertiliser.

Identifying deficiencies

Mild trace element deficiencies may not cause visible deficiency symptoms, but they will reduce yield and ultimately affect the quality of the produce. With more severe deficiencies, visible symptoms may become obvious. However, even experienced observation cannot always identify the correct causes, was it a deficiency, or was it a nutrient imbalance? Nitrosol is a perfect medium for addressing these deficiencies. It is very easy to add soluble trace elements to Nitrosol at the time of application, to address specific deficiencies.

Complete soil and herbage analysis

A soil test will indicate the nutrient status of the soil as well as its requirement for the addition of lime. However, to properly identify nutrient and trace element deficiencies, a foliage analysis should be carried out. The precise analytical procedures and equipment used by leading agricultural testing laboratories provides accurate determination of the nutrient content of plant samples. This will give an excellent indication of any deficiencies within a crop. However, the sample the laboratory receives, must be an accurate representation of the crop from which it came, for the results to be meaningful.

Rural Research can supply free sampling packs and detailed instructions on how to collect samples for analysis. We have trained people to help with the collections if necessary, and assist in the understanding of the test results. The assessment of these will help us to help you make the appropriate fertiliser application to maximise productivity and profitability.

Coping with adverse weather conditions

In any given year conditions like a cool, wet spring, an untimely frost, or adverse weather conditions like a long dry period, creates plant stress conditions that will affect crop growth responses. Because

Why should I apply Nitrosol continued

Environmental reasons

regular application of Nitrosol will help to increase the biological activity in the soil, improved soil structure, with better aeration and drainage will help during wet periods. Nitrosol is particularly effective in helping a crop recover from stress. Growers who apply Nitrosol either with seedling transplants or immediately after, find their seedlings get off to a better start.

Soil must be nurtured, cherished and cared for because if we don't it will soon lose its ability to produce anything at all. There are some glaring examples of this in our traditional vegetable growing areas. Soil is alive and active, or at least it should be. A healthy and plentiful supply of soil organisms is vital to the success of our continued growing activity and in turn, to our very existence. The organisms in the soil must be fed and nurtured in an environment in which they will thrive and multiply. If we ignore the underground livestock, decimate their activity with acidic fertilisers and harmful chemicals, we will destroy the ability of our soil to sustain productive growth.

Nitrosol feeds and builds the soil for now and for the future, it provides a life source to feed and nurture biological activity in the soil. It is natural recycling, what dies feeds new life, nothing is lost. Nitrosol contains no harmful additives, residues or heavy metals, that might poison our soils, our plants and ultimately ourselves.

Nitrosol supplies **ALL** the elements essential for plant growth, about fifteen in total. Most importantly, it provides organic matter as the nourishment required for the soil organisms. It helps to ensure that the land, your soil, will remain fit and healthy for you and for future generations to use. Nothing could be more natural. Give nature a helping hand with NITROSOL.

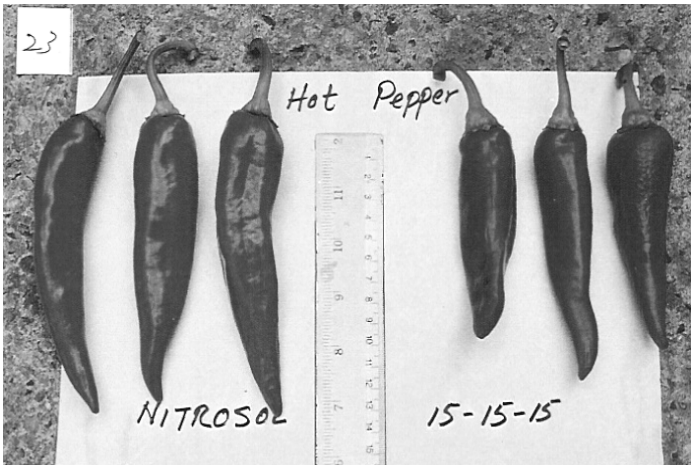
Success on seedlings

There are two major advantages in using Nitrosol as the main feed source for seedlings and cells plants in the nursery. Firstly, Nitrosol is very safe, we have heard of no cases of Nitrosol burning or harming sensitive seedlings and trial data supports this. Secondly, because Nitrosol is a fully balanced fertiliser that contains all the major nutrients and trace minerals needed to grow healthy plants with good root development, they can go straight out into the field. In addition if the seedlings have been dressed with Nitrosol just prior to, or just after transplanting, they are well equipped to overcome transplant shock. For many growers giving their vegetable cell plants a feed of Nitrosol, or even a good soaking overnight in a 1:200 solution before planting out, is essential to ensure a fast start to a good crop.

During a visit to a cell plant grower in South Auckland, we noticed a line of lettuces laid out ready for planting out . A dozen trays were obviously in bad shape and we asked why. We were told that, due to a faulty batch of potting mix, none of the cells had grown as expected and they had all looked very sad and deficient. One week prior to our visit they had been given a dressing of Nitrosol. Unfortunately the cells in one corner of the shade-house were accidentally missed. The difference after just one week, and only one dressing, is readily apparent in the accompanying photographs. The treated plants had fully recovered and are now quite ready for planting out with good root. All of these cells will receive a dipping in a 1:200 dilution of Nitrosol solution immediately before planting to get them over transplant shock and off to a good start.

Trials in Thailand

Nitrosol has been exported to Thailand for several years and recently it has been used in a series of trials on various vegetable crops with very impressive results. The East-West Seed Company in Thailand ran the trials. This Company is a multinational seed producer headquartered in Holland with branches in Pakistan, the Philippines, Bangladesh and Indonesia. They are regarded as one of the top seed producers in Asia.



The trials of Nitrosol fertiliser were conducted over a two-year period. The Nitrosol distributor in Thailand said that getting such a major customer on board further cements New Zealand's reputation for quality and expertise in the Horticulture industry in Thailand where top quality vegetable are such an important part of the population's daily diet.

Mr Heng Kuan Tioh of East-West Seed Company in Thailand said that he knows that when plants have proper and sufficient nutrients during their growth to maturity, it has a very positive effect on their final product – the seeds. They wanted to see the effect that Nitrosol had on seedlings, crops in clay pots, plants in the greenhouse as well as in their breeding programme in the field, compared to their traditional fertiliser regime. He considers that a combination of both inorganic and organic fertiliser application is the best for cultivated soils.

The East-West Seed Company report on the trials had the following points to make:

Seedlings

Nitrosol treated seedlings grew better than those treated with their current organic product, a seaweed product.

Clay pots

About 300 ml of Nitrosol at the recommended dilution of 1:200 was added to several crops in clay pots. Zinnia and Eggplant were much greener, larger and far less affected by disease that attacked the control plants. Cauliflower seedlings emerged 2 weeks earlier than the control. Sky Rocket Melon plants grew 3-4 times the size in the same time frame as the control that had been dressed with NPK 15.15.15.

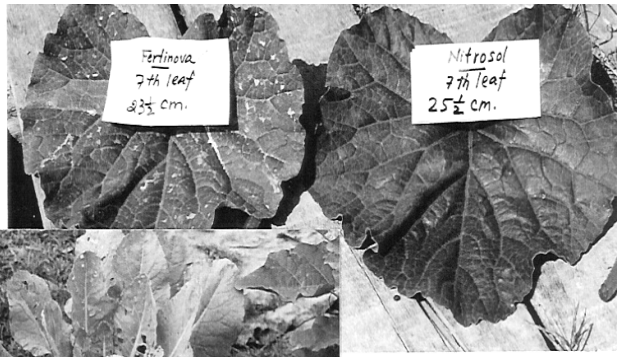
Greenhouse crop

Greenhouse grown Chinese Radish was affected by chlorosis. Within 12 days it was gone when plants were sprayed with Nitrosol at a dilution of 1:200.

Field conditions

Papaya plants in the field were also affected by chlorosis (yellowish leaves) which was unable to be remedied with cow-manure, compressed chicken manure and 15.0.0. With only 4 applications of Nitrosol at a dilution of 1:400, new leaves on the Papaya plants turned green within 20 days of the first Nitrosol application.

In the field study, the size of Hot Peppers was more uniform with a shinier appearance on the outer skin compared to the standard method of 15.15.15 or 15.0.0. with lime and chicken manure. The Nitrosol plants were also bushier and the leaves were



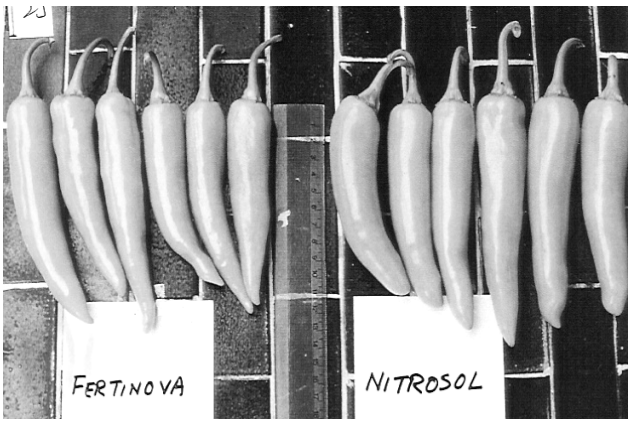
Sky Rocket Melon
Nitrosol vs Fertinova
Leaf 8.5% larger
greener with no damage

Cauliflower
Nitrosol treated plants
were two weeks ahead
of control plants

Thailand trials continued

smoother. In a separate trial, the Hot Peppers were of a more uniform size with Nitrosol treatment compared to a liquid foliar fertiliser, 'Fertinova.'

In the past, even though the soil had been drenched with fungicide, about 5% of Sky Rocket Melon seedlings wilted and had to be replanted. **Over a planting of 800 square metres not one Nitrosol treated seedling required replacement.** The plants had recovered well from transplant shock and a healthy green colour was observed three days after transplant.



On the 27th day after transplant, Fertinova and Nitrosol were compared on Sky Rocket Melons in the field. The green pigment of Nitrosol treated plants was more evenly distributed, the leaves were smoother, broader and thicker. The weight of the largest melon towards the end of the season is normally about 1.8kg. This Nitrosol treated melon weighed in at 2.4 kg – a 33% increase!

In a watermelon breeding programme covering 11 hectares, Nitrosol was drenched into the holes a few days before transplant at 1:400. Thereafter, two applications of the same dilution by foliar feed. The standard side dressing of 15.15.15 at 14 day intervals was applied. Watermelon breeder Mr Arjan Van Donk said the plants grew much faster then previous crops in the same season and he was able to pollinate about 2 weeks earlier and harvest between 2 and 3 weeks earlier.

Success in the South

Despite abnormally adverse weather conditions in Southland, an Invercargill grower is really delighted with the results he is finding from the use of Nitrosol in his vegetable operation. He grows cabbage, caulis, carrots, parsnip, broccoli, silver beet, beetroot and plans to add leeks to the list! This grower says that he has never seen healthier and better looking vegetables, and he is committed to extending his use of Nitrosol in future.

This grower makes up a mixture of four litres of Nitrosol into 200 litres of water and pumps it into the ground right alongside each cell as it is transplanted. At approximately 6000-7000 plants to the acre this system applies around 20 litres of Nitrosol per acre (50 litres per hectare) as a base dressing. This has worked out to his tractor revs of 1000 in low gear, and the PTO in high speed. **No other fertiliser was used on these vegetables.**

After transplanting, the crop was sprayed with Nitrosol about every three weeks depending upon the weather, using 3-4 litres of Nitrosol per acre (7.5-10 litres per hectare).

This works out to a total of around 40 litres per acre (100 litres per hectare) which in Invercargill is a total cost of $170 per acre including the freight cost but excluding GST (a cost of $425 per hectare). The fertiliser regime previously used, comprised about 6 cwt of Potash super at planting followed by a side dressing of the same material and a couple of foliar feeds using a chemical NPK and trace elements. This grower calculates the cost of the Nitrosol to be very similar to the cost of his previous solid fertiliser regime, comprising largely of superphosphate, but says, "The results are very much improved in what is a cold and wet climate."

Nelson grower shows the Nitrosol difference!

Market gardeners growing lettuce, zucchinis and cucumbers at Richmond near Nelson. They have found that they can grow a successful lettuce crop with 120 litres of Nitrosol per hectare at about $480 per hectare. This is rather less than their previous fertiliser costs of about $1,300 per hectare of high analysis fertiliser. They still use some solid fertiliser where necessary, but considerably less than previously.

Most interesting, is the marked difference in the leaf test analyses between two groups of lettuce plants. The first analysis is from lettuce plants grown in the usual cell plant mix of nutrients and media, but each tray was dipped for about a minute, in a 2% dilution of Nitrosol (i.e 4 litres of Nitrosol in 200 litres of

Nelson Grower continued

water), 9 days prior to the leaf sampling. The second analysis is from plant grown in the same way at the same time, but not treated with Nitrosol prior to sampling. Whilst the difference in the results is quite apparent, the effects on young plants about to be transplanted is a huge difference, in the time it takes to grow to maturity, and the quality of the produce. No longer can the results simply be attributed to 'a good season' or 'different seed' or better management.' These test results prove that Nitrosol will produce a great result because it is well balanced and can be taken up and used by plants quickly and effectively.

Sample type: Lettuce - Nitrosol + base mix

	Level Found	Low	Medium	High	Normal Range
Nitrogen	3.70				3.50 - 4.50
Phosphorus	0.45				0.40 - 0.60
Potassium	4.90				4.50 - 6.00
Sulphur	0.31				0.25 - 0.50
Calcium	0.88				1.00 - 1.70
Magnesium	0.37				0.14 - 0.27
Sodium	0.20				0.00 - 0.20
Iron	206				100 - 200
Manganese	97				40 - 150
Zinc	56				25 - 40
Copper	6				5 - 15
Boron	20				30 - 50

Sample type: Lettuce - Base mix only

	Level Found	Low	Medium	High	Normal Range
Nitrogen	1.80				3.50 - 4.50
Phosphorus	0.25				0.40 - 0.60
Potassium	4.00				4.50 - 6.00
Sulphur	0.17				0.25 - 0.50
Calcium	0.63				1.00 - 1.70
Magnesium	0.25				0.14 - 0.27
Sodium	0.19				0.00 - 0.20
Iron	146				100 - 200
Manganese	69				40 - 150
Zinc	32				25 - 40
Copper	4				5 - 15
Boron	17				30 - 50

Sample analysis by Analytical Services Laboratory
a division of R J Hill Laboratories Limited

Their cucumber crop has also improved with a crop of over 58 cucumbers per square metre of glasshouse. Here they use the 2% dilution weekly, as a foliar spray. They believe that their soil structure has improved and they have less disease that in turn requires less controlling chemical application. Their zucchinis have also produced a great crop with a longer picking season. In summary these growers are delighted that they have reduced their fertiliser cost which has helped them to improve the returns from their market gardening operations. Furthermore, since they are only too well aware of the problems with excessive application of chemical fertilisers to soil they are really pleased to see their soil health and structure improving along with there better quality and yields.

Top quality produce is demanded by Auckland Supermarkets

This South Auckland grower says that Nitrosol plays a vital role in helping him to meet his customers' high quality standards. As well as ensuring good general plant health Nitrosol promotes a dark green colouring which really pleases the buyers. A key point is the convenient way Nitrosol fits into his regular spray programme. The crop is sprayed every 14 days with a 1:200 solution in conjunction with his other plant protection sprays.

He has also found that by including Nitrosol in with his herbicide sprays he gets a better 'kill' of the weeds and this has been the case when unexpected rain has followed application of the herbicide within a comparatively short time. As happens so often around Auckland! He also feels that he is making some amends to his soil by applying Nitrosol at the same time as a weed spray.

This grower finds Nitrosol adds real value to his crop and helps market his produce in the tough Auckland supermarket trade where premium quality is the name of the game.

A familiar story

These growers near New Plymouth grow cucumbers in 2000 sq ft of glasshouse as well as cabbages, caulis and lettuce. They have been using our product for four years and has used Nitrosol as the sole replacement fertiliser on his cucumbers for the last three years. They only use about one litre of Nitrosol, per spray, over the whole cucumber crop, but they do this twice each week – a good example of the benefit of feeding 'a little and often'.

At first they did a series of trials over half of the crop and found that after the cucumbers flower, and get to about 3-4 inches long, they were observing much better results off the Nitrosol dressed area. They now find that they get an extended three to four

A familiar story continued

weeks production out of them too. They said that the quality is really good and that people come from all over to get these cucumbers.

Then we were told something that had a very familiar ring to it. That is, when the local MAF person heard what was being done here, they laughed and said it couldn't be done. The MAF recommendation was for mono ammonium phosphate, urea and potassium nitrate. As a result, these growers went back to this recommendation for a while, but they soon found that they were terminating fruit and dying off much earlier than they had before. So they went back to using Nitrosol and their results quickly improved.

Using Nitrosol with fertigation and hydroponics

Nitrosol can be used in fertigation and/or hydroponic systems as an additive or booster with excellent effect. It must be remembered that Nitrosol is a colloidal liquid suspension, and not a solution, like sugar dissolved in tea. This means that Nitrosol contains solids in suspension and although it has been screened through 60 mesh, it may contain particles up to 250 microns in size. These particles could block fine drippers. If it is used in fertigation type systems it may be necessary to pre-filter the fine particles or alternatively be sure to flush fertigation lines with plenty of water after using Nitrosol. **Where the fertigation system is comprised of fine drippers we recommend that Nitrosol not be used.**

Because Nitrosol contains a carefully calculated balance of all the important nutrients and trace minerals necessary for healthy plant growth and development, it can make a significant contribution to the yield, quality, flavour and keeping qualities of hydroponic crops. Nitrosol can sustain growth on its own, but in situations where regular and frequent fertigation is used, especially where this is done to waste, We suggest it be used as a booster to the bulk source of nutrients.

For fertigation and hydroponics it is recommended that Nitrosol be added into the concentrate tank as a booster. For every 20 kgs of dry material used in preparation of the normal liquid feed concentrate, we suggest the addition of one litre of Nitrosol into the concentrate tank in with the dissolved nutrients. Where a CF meter is used, a 1:200 dilution of Nitrosol will yield a CF of approximately 20.

In the event that the crop requires spraying with plant protection materials, be sure to add Nitrosol into the spray tank, as the last ingredient, in the ratio of one litre per 200 litres of total mix.

Kumaras and squash in the North

We have recently become aware of a number of growers in the Dargaville area who are experiencing great results using Nitrosol on their kumaras. Squash is another crop grown in this area that responds particularly well to Nitrosol.

As a fairly competitive group of growers, not too many were keen to share their secrets with us however, it was mentioned that Nitrosol was producing good results because it was a well balanced and complete fertiliser. Nitrosol has also proven to produce exceptional results with stressed plants during a Northland dry spell.

Furthermore Nitrosol supplies an even and controlled release of nitrogen, which promotes good hardy growth – it will not 'force' overly lush foliar growth, as can be the case with urea. This balanced growth in turn puts the plant in a good healthy state to combat attack from insect pest and disease. However, when plant protection materials are required, adding Nitrosol to the spray tank as the last ingredient not only does two jobs at one time, Nitrosol acts as a sticker and spreader helping the chemicals do their job.