



# Summer UPDATE 2007

Phone: 0800 735 859  
07 573 5859  
Fax: 07 573 5839  
Email: [bdmax@xtra.co.nz](mailto:bdmax@xtra.co.nz)  
Website: [www.bdmax.co.nz](http://www.bdmax.co.nz)

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## ZeroIn

- To maintain dry matter
- Reduce fruit splitting
- Hold fruit size

## PhotoMax

- Maximise Photosynthesis
- Healthier Plants
- Stronger Plants

Harnessing biological forces for commercial outcomes

## Welcome our Summer newsletter.

It has been a very busy year for us at BdMax, with the addition of some explorations into overseas markets. This spring has seen BdMax products being made available in Australia, Holland and the United Kingdom. This has required trips to these countries during the 'slow times' we have throughout the year in New Zealand.

Part of this development has been funded by a grant from Trade and Enterprise, which, while a blessing, it does mean a certain amount of activity has to take place, within a given period of time.

While Australia is an obvious place to expand to, apart from the drought conditions that has seen very little horticulture actually going forward, my interest in Europe is more focused on making use of the alternate seasons. While this may help even out our cashflow, it also provides a full 12 months of the year, to be used for research.

This research occurs with farmers, experiencing similar problems as here in NZ, and with the students I am able to tutor at Emerson College in England.

Further into the newsletter there are articles on the projects we are working on with Dairy Farmers in the UK and with The Hague city council.

We have continued with research projects in New Zealand, our focus being on how PhotoMax works on dry Matter levels in Kiwifruit. The results of ZeroIn in helping maintain dry matter levels during periods of rain, as well as its effect on fruit splitting with cherries.

New developments this year have been in further trials of our Etherics 7 and Etherics 9 products. Etherics 7 is used against smell and encourages a speedy breakdown with effluent and liquid fertiliser manufacture.

Etherics 9 – Drought Buster, has been on the back boiler for a few years, but with the ongoing drought in Australia and the pending drought in New Zealand, now is the time for it to show us what it can do.

**Speaking of drought**, it looks like we are in for a couple of years of below average rain fall. Peter Bacchus and I have both made studies of the effect planetary combinations have on rainfall. We both see that when there are a lot of 'easy' relationships between the planets, then there is a lot of sunshine and little pressure for rain to occur. We have this condition, bought on mostly by Jupiter and Saturn being 120 degrees to each other, through from now until autumn of 2008. Fore-warned is fore-armed, and erring on the side of caution, is not such a bad thing. Good luck with the coming season.  
Glen Atkinson

## Christmas Break

The office will be closed from Friday December 21<sup>st</sup> to Monday 7<sup>th</sup> of January

We would like to thank everyone for their support and wish you and yours a very merry Christmas and a safe New Year

From the team at BdMax

# ThermoMax Results from 2007 Spring

## General

In this past season, while the great majority of growers have seen ThermoMax work as expected, we have had a few growers disappointed that ThermoMax did not work for them, as well as it has in the past. While this feedback has been from a small number compared to the total usage, any negative feedback is of great concern to us, and very much appreciated.

We have not changed the making process of ThermoMax in any way, and the samples we have had returned, to undergo some plant trials, are from different seasons of production, as well as different batches of production. So it is unlikely that there has been a rogue batch. The results of these plant trials are not yet complete.

## Advection Frosts

Talking with growers and our distributors there are a few possible reasons for this variation of results. This season has seen more advection frosts or air frosts, (windy; no inversion, temperature can be less than 0 C during day) than usual, some of which have been particularly severe and long lasting. Therefore temperatures at the monitoring equipment on support structures, can be lower than the temperature above in the canopy. On average ThermoMax has been shown to work well to -2C, on frosts that reach this temperature for a hour or so. If the frost is greater than this and for longer than this ( as has been the case this season) then the effectiveness of ThermoMax will appear to be less than expected.

## Gold Kiwifruit in October

Based on this seasons experience, it would appear we need to reduce the expected successful temperature levels on Gold kiwifruit, during October to -1.5C, before some burning will be experienced. It appears the Gold kiwifruit shoots are more tender than green shots and as they get longer through October, they are more susceptible to frost.

## Nutrition

Good plant nutrition is also a necessary component of ThermoMax performing at its peak.

Part of the control of frost is achieved by the ratio of plant solids to the amount of water in the cell. It is this basis upon which products like Urea and seaweed work. By adding more solids there is less water to freeze. This same process is still working with ThermoMax. If the solids ratio is below par, then ThermoMax will have a harder task to perform as well as it might.

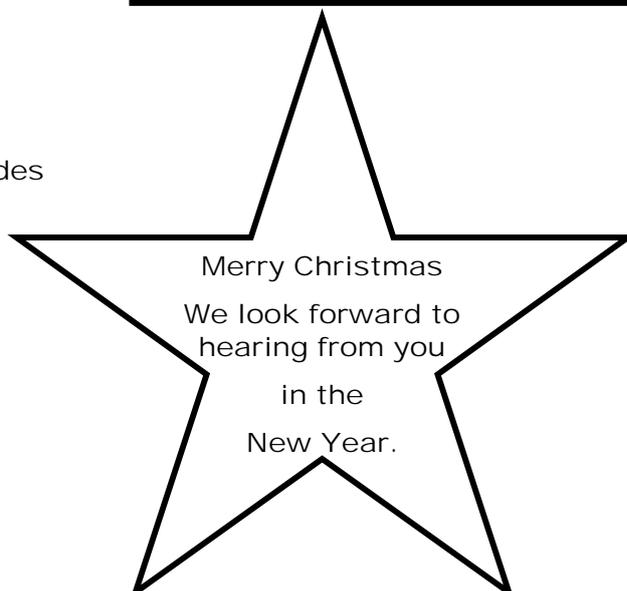
On grapes this season, where ThermoMax only achieved good results to -1.5C, it was obvious from the vine health, that the nutrition was not what it should have been. In all other cases, where vine nutrition was sufficient, protection to the -2C, as achieved.

One grape client has reported repeatedly that with the inclusion of 1lt per hectare of seaweed with his ThermoMax application he has achieved successful control against frost of -4C. This could be a practice that could be adopted more widely. **Should WE market a ThermoMax Seaweed product?**

We rely heavily on growers experience and feedback for us to then be able to give out accurate information. So please let us know your experience. We can only pass on what we know back from you.

We will publish the findings of the plant trials in our next newsletter.

Postcodes



## Postcodes

On 1<sup>st</sup> of July 2008 New Zealand post are changing their addressing standards. All mail will require a postcode.

e.g. AB Sample

123 Somewhere Street

Back of Beyond 1234

In order to comply we are updating our customer addresses. Please check your address has the correct postcode. If a change is required call on 0800 735 859

Thank you for your help.

# Experimental Products

These are products we have in development and so are very eager to trial them in as diverse circumstance as possible. If you would like to help in this process please contact us.

## Etherics 7

Etherics 7 is a product we have developed to help with the control of smells, around areas, such as dog houses, and in effluent treatment circumstances. One fish fertiliser manufacturer has found it has helped reduce the smell of his processing as well as increased the breakdown of the solid matter. This product can be poured into liquid fertiliser tanks or sprayed over bedding or over a kennel area.

Trials in the UK on dairy farm effluent treatment ponds have shown the same result.

*"Since using E7 we have noticed a reduction of crusting on the slurry lagoon of at least 50%. We have also been aware of less odour both from the lagoon and as we spread the slurry onto the ground. In addition to this we have noticed that the field we spread the treated slurry onto looks well even late into the season.*

*Chris & Ken Ede - 29.11.07*

*We have used E7 in our slurry store and noticed various results from using it. One of the first was a definite reduction in odour, then when it came to time to spread it we saw a lot less crusting and found that what crust there was broke up easier than we have previously been used too.*

*Once it had gone onto the pasture and the milk cows were allowed back on we noticed that they seemed to like the area treated with E7 as they ate the grass lower there than the rest of the ground they had access to. We also noticed how well the grass grew.*

*We have also put some onto ground now sown with winter wheat and are already seeing strong plant growth.*

*Nigel Potter - 30 November 2007*

At present lab tests of the nutrient and biological status of the effluent are being done. We are also testing the pasture foliage.

We hope that the research we are carrying out in conjunction with our UK distributors will eventually be of value to the NZ dairy industry. The UK is facing the same issues of nutrient budgeting due to nitrogen ground water levels, however due to their huge problems with bedding and effluent management they appear to be under more pressured to find solutions.

## Etherics 9

This is the latest development of our 'DroughtBuster' research project. It is designed to help plants make the most of the available water, so helps to overcome the effects of drought stress. We have done a few small scale vegetable trials of this product and in each circumstance the plants in the sprayed area has been markedly larger than the unsprayed area.

This season and the next look to be perfect seasons to trial this product to find the boundaries of its usefulness.

It is a spray on product and could be applied monthly throughout dry periods.

**Please contact us if you would like to participate in this trial.**

### ZeroIn on fruit splitting

ZeroIn has been used over the last four season in several different ways. One of these has been against fruit splitting after rain. Significant results have been achieved on cherries and plums, however we have yet to see how it works on grapes.

We are also running a trial of the 'new improved' version to see if we can make it better.

If fruit splitting is a problem to you we would love to hear from you.

### ZeroIn on Potatoes

ZeroIn sprayed on potatoes after flowering sped up the withdrawal of the tops into the tubers by three weeks. This resulted in an earlier harvest but also a 25% increase in tuber weight for the same period of harvest.

Etherics 7

Etherics 9

## Accreditations

If you need

Material Data Sheets

ACVM exemptions

BioGro Certification

Demeter registration

They are at our website under 'Accreditations' on the left hand column

# European Developments



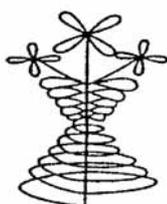
## United Kingdom

On Glens last trip to England in October 2007 he finalised the launch of BdMax products into the United Kingdom market. Our main distributor in the UK is Blue Merle Ltd , which is a company specialising in animal homeopathic solutions. Peter Phillips of Blue Merle has a lifetime association with the UK farming industry, as a farmer, butcher and now animal health product supplier. He and his son Alan have been working with homeopathic animal remedies for the past 12 years and have built an impressive reputation, with a group of agents and significant client base, all over the UK.

Both parties have seen that we have natural synergies. Blue Merle provides Homeopathics for the animals well being, while BdMax provides Homeopathics for the soil and plants well being. Our aim is to provide a range of products to the farmer so that the feed they produce on their farm is of a higher nutritive quality and therefore positively aids the animals health.

Part of this process is to help with their effluent treatment, especially its smell and processing of nitrates. This has already shown benefits with farmers seeing greater palatability and better utilisation of their grass this last autumn. Coupled with this we aim to enhance the plants growth function, and therefore feed quality further, using **PhotoMax**, which makes the most of the low light circumstances found in the far northern hemisphere.

Many of the issues we are addressing for the UK dairy industry, are also present in the NZ industry, and we intend bringing the results of our work in the UK home to NZ in a season or two.



GarudaBD



## Demeter Registration

(Biodynamic Product registration)

As part of our market development in Europe, we have been granted Demeter registration for the whole of the European Union, for all of our product range. We have not been able to get Demeter registration for our products in New Zealand, as the NZ Biodynamic Association do not register inputs. Therefore we have used the BioGro registration in NZ.

Demeter registration is more recognised in Europe than it is here, and now clearly identifies the unique biodynamic basis of our product range, both in Europe and In New Zealand.

## The Hague Horse Chestnut project

The three year trial of our remedies for this bacterial problem has come to an end. While we have had some impact on the diseases development ( see graph), especially in the rate of decline of many of the trees, the practicality of 'horticultural' spraying large trees in urban areas , with small streets, is just not a goer. One of the interesting outcomes of the trial was that as the trees were losing their leaves this autumn, there was a clear line in the trees of the sprayed and unsprayed areas. The sprayed parts of the tree lost their leaves more slowly than the unsprayed parts. ( see colour pictures page).

At present, Elementree, (our partner organisation in the Hague) is reorganising itself to carry on the next phase in their plans to help the Horse Chestnuts. This will be a more 'grass roots' program, in which it is intended our remedies will be included as part of a community based endeavor. Local communities will be worked with to help trees in their local areas.

The **BactMin** product, that has come out of this research project is now being trialed on stone fruit trees for Bacterial blast. While this is still early, the results so far are very encouraging.

## Etherics Update

In an effort to simplify the use of our products, you will notice that we have standardised the instructions for the use of Etherics 1000.

Etherics 1000 is applied one week before every fourth application of BdMax spray.

## PhotoMax



Capsicums without PhotoMax



Capsicums with PhotoMax

## The Hague Bacterial Control Project



Trees at the Parliament Buildings  
In The Hague



The 'King' Tree  
In The Hague

**Both these photos show the unusual phenomena of the unsprayed parts of the trees losing their leaves in Autumn well before the sprayed areas of the trees. This was not seen on any other trees throughout The Hague**

# ZeroIn Results from 2007

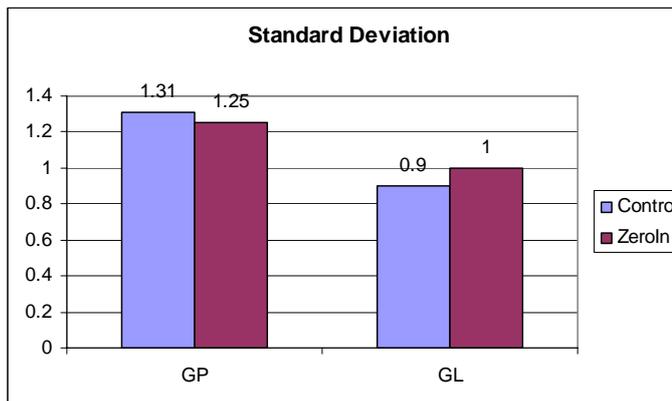
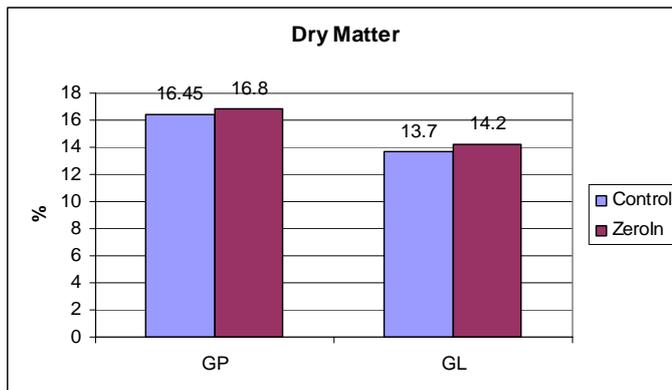
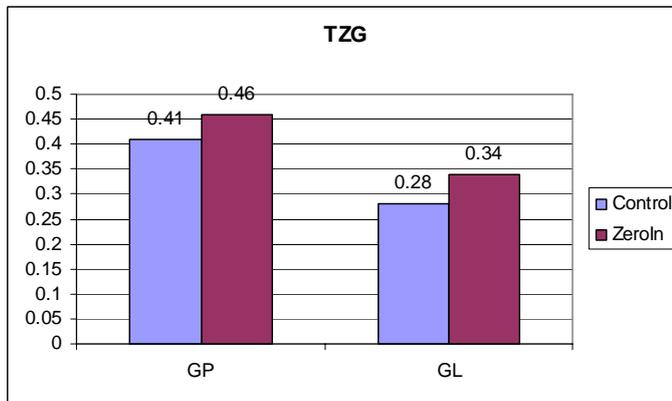
## Kiwifruit

Various results from ZeroIn on kiwifruit have reasserted our experience that ZeroIn is useful to kiwifruit, when used in the last two weeks before harvest, when there is a rain event that will adversely effect your dry matter readings. If there is rain during this period, then using ZeroIn will help in achieving a higher TZG and thus higher fruit band.

During dry periods, just before harvest, ZeroIn will have very little effect on dry matter.

Below are two orchards results. GP orchard achieved, a T band on the treated block, while the untreated achieved R band

ZeroIn



## ZeroIn Usage

### Kiwifruit

Applied in the last two weeks prior to harvest, if rain is likely.

Apply a day or two before the rain event if possible. Applications one week apart can be used if there is consistent rain during this harvest period.

If ZeroIn is applied and no rain is experienced the Etherics 1000 can be applied a day or so before any picking tests.

### Fruit Splitting

For use on Stone Fruit and Grapes

Apply ZeroIn a week prior to harvest if rain is expected during that period.

If the rain is likely to be heavy eg 2 inches or more, apply a second application, just prior to the rain.

If the rain is likely to be more than 2 inches add SilicaMax to your ZeroIn applications.

### Potatoes and Kumura

To speed up top die off and tuber filling.

One application three weeks prior to your desired harvest time. A further application can be made ten days later if you wish.

### Transplanting

#### Trees

A few days prior to wrenching, use one application followed by a second application immediately after transplanting.

#### General

Use one application immediately after transplanting

## Vineyard Spray Program

For Autumn, Winter and Spring

This program is designed to enhance ripening & brix levels (RipeMax), balance and soil development (Etherics 1000), photosynthesis enhancement (PhotoMax) and Frost Protection (ThermoMax)

June

July

August Etherics 1000

September

October ThermoMax

ThermoMax

PhotoMax

Etherics 1000

November

PhotoMax

December

PhotoMax

Etherics 1000

January

February

RipeMax 2x one month before harvest two weeks apart.

ZeroIn

March

RipeMax 2x one month before harvest two weeks apart.

ZeroIn

April

RipeMax 2x one month before harvest two weeks apart.

ZeroIn

**RipeMax** is used twice one month before harvest two weeks apart.

## BdMax products on Grapes

### ThermoMax

ThermoMax has been used on grapes successfully, against frost, for the past four seasons. Protection to  $-2^{\circ}\text{C}$  is generally been experienced, however poor nutrition sees burning at  $-1.5^{\circ}\text{C}$

Grapes

**Andreas Welte**, the principal from grape consultancy company 'Sustain-Ability' in Motueka reports "Trials with ThermoMax during 2003-2006 in Marlborough, Canterbury and Central Otago have shown good results of frost protection of grape buds (Chardonnay and PinotNoir) in temperatures down to  $-2^{\circ}\text{C}$  degrees. No tips were burnt, no buds were damaged."

### PhotoMax

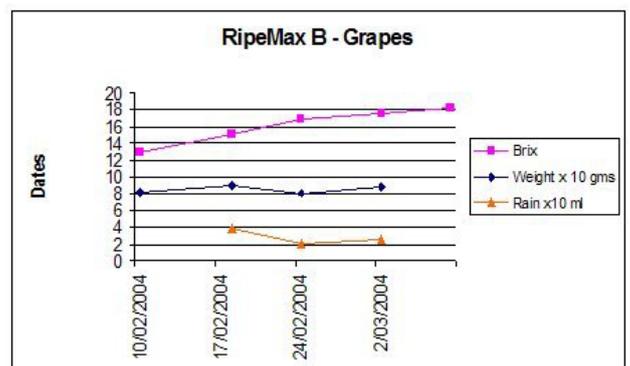
In 2003 PhotoMax was trialed, by HortResearch, on Cabernet Sauvignon grapes.

Those trials concluded that their was a 20% increase in photosynthesis and stomatal conductance was increased by 30%

### ZeroIn

Spray Program

In 2004, while trialing the effect of ZeroIn on ripening it was noticed that while their where three rain events in the month prior to harvest the bunch size over that period stayed at 80 grams indicating ZeroIn kept the water out of the plant. Suggesting a benefit against fruit splitting.



# PhotoMax

PhotoMax is a product that helps with the plants utilisation of the available light. It is especially useful in early spring and during periods of low light and overcast conditions, during the growing season.

PhotoMax was trialed with Hort Research (client report No 11255) in 2003 and was found to increase photosynthesis on grapes by 20%.

Increased photosynthesis means the plant is working harder and therefore manufactures more dry matter for a given amount of light energy.

In subsequent seasons we have trialed it on vegetables in spring, which have consistently shown better early growth, which has then lead to better yields. (See the photo page)

On kiwifruit, PhotoMax has been used monthly, throughout the whole season. In the 2006 season both fruit size and TZG payout were greater than the control.

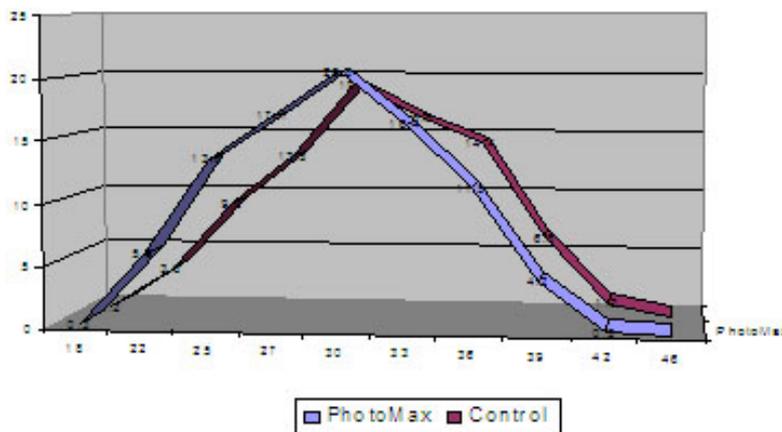
During the 2007 season, when we had a particularly dull early summer the PhotoMax area had a significantly increased dry matter and therefore TZG reading.

On pasture Peter Bacchus has reported "a significant jump in the brix reading after PhotoMax applications".

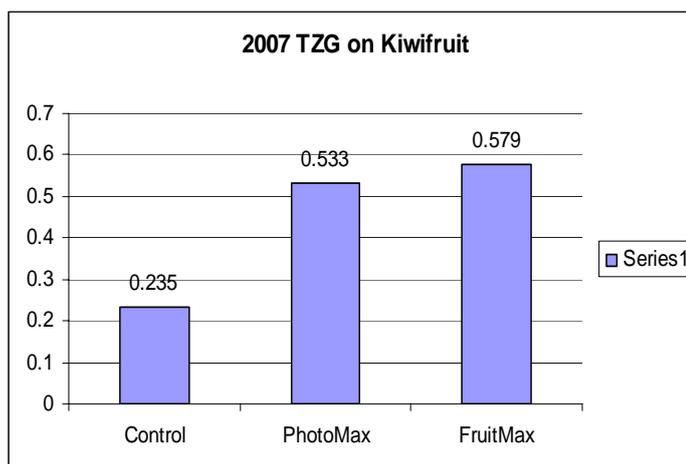
## FruitMax

FruitMax is a product in development, which is aimed at increasing fruit size and quality. In 2007 it produced the best TZG outcome of all our trial areas. We did not take any fruit size samples in 2007, due to the amount of fruit thinning we did. ( poor pollination)

PhotoMax on Fruit Size



2007 TZG on Kiwifruit



## Rate of Decline of treated and Untreated Horse Chestnuts

