



Vinevax

Bio-Dowel

Natural bio-inoculant implant
Long lasting, 4–5 year, treatment for vines.

“Healthier vines, with improved quality, productivity, & longer productive life.”

RECOMMENDED FOR SUPERIOR VINE HEALTH & PRODUCTIVITY

RESULTS FROM AN INDEPENDENT FIELD TRIAL PROVE...

Vinevax Natural Bio-implants colonise and protect the vine resulting in increased yield quality & quantity plus longer vine life.

Vinevax Natural Bio-implants are a cost effective treatment developed to protect

your valuable vines. Vinevax Bio-implants contain proprietary high activity strains of the naturally occurring beneficial fungus *Trichoderma* especially formulated to support colonisation of the vine to

promote healthier, disease free growth. These unique strains of *Trichoderma* have been shown to colonise around the parenchyma

cells of the vine pith where they act as an immunising commensal* protecting the vines from destructive wood invading fungi such as *Eutypa lata* and *Botryosphaeria stevensii*,

promoting healthy thriving vines. Independent research shows that Vinevax is still protecting the vine even after 4–5 years. Acting as a living guard

it continues to prevent harmful pathogens and fungal infections from affecting the vine.

The key benefits as a result of this living guard to the vine are enormous. With Vinevax Bio-implants protecting the vine the

* an immunising commensal lives within a plant enhancing healthy growth & disease protection.

plant's energies and resources can now be used for growing and producing instead of fighting infection. This translates to increased yield quality and quantity which means substantially greater earnings per vine.

This exciting new brand of safe, easy to use, biologically active products for vines and trees is the result of over a decade of laboratory and field research conducted in New Zealand and Australia to produce the most effective vine protection formulation for use by the grapegrower.

Our most recent experimental results, especially those from the PhD study being conducted at Adelaide University by Sharmini John have proven that the formulation is effective in colonising grapevine wood and has clearly shown its protectiveness against *Eutypa lata*, which causes dieback disease of grapevines.

Vinevax Bio-implants are unique to the Viticulture Industry and when used in conjunction with the other members of the Vinevax family of products, is the world's only known prevention and cure solution for *Eutypa* and other equally devastating infections.

Marketed internationally under the TRICHOPROTECTION® brand, this is the quality mark offering growers unparalleled quality and performance.



Vinevax
Bio-Dowel



① The picture left shows one vine untreated (left) and one vine treated (right). The vine treated with the Bio-implant grows more vigorously and produces greater biomass than the untreated vine.

② The silhouette of the picture shows the thinning canopy and failure to thrive in the untreated vine on the left compared to the treated vine on the right.

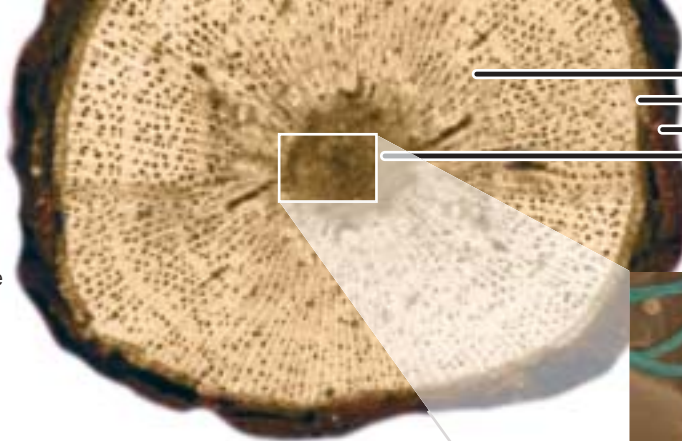
③ This untreated block of vines indicated at one of our test sites in Australia is showing the loss of canopy typical of advanced stages of Eutypa. Our healthy, vigorous test blocks in the middle and foreground are treated with the Vinevax Bio-implant and remain immune to the disease pressure stemming from these vines.





Young vine cane
Actual size

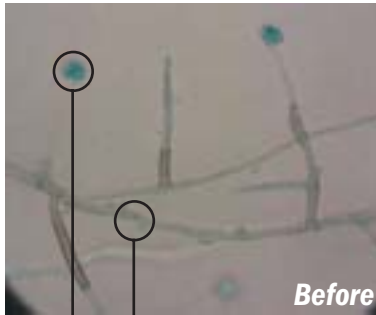
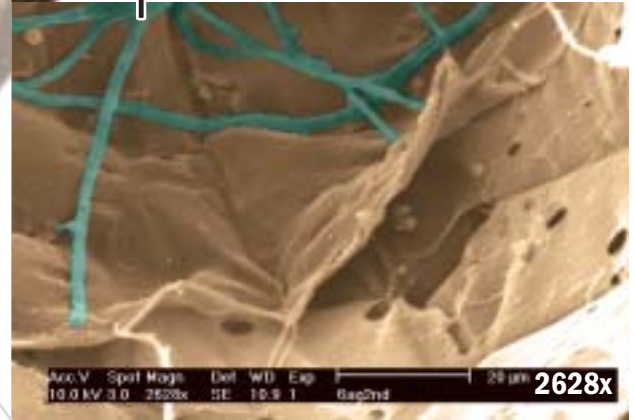
4x size



- _____ vessels
- _____ cambium (growing)
- _____ bark
- _____ pith
- _____ Trichoderma

The image below shows a greatly magnified section of grapevine tissue with the Trichoderma growing between the parenchyma cells in the pith.

Exciting new research results give clear understanding of how Vinevax works.



Thick mycelium strands
Spores on the end of the fruiting body of Botryosphaeria



Mycelium showing signs of degradation—see rough edges

The two images (left) show the effect of Vinevax bio-inoculant on Botryosphaeria mycelium. Note the thick mycelium **before** treatment compared to the degradation of mycelium **after** treatment.

Expected Eutypa losses over 5 years per hectare

Prevention Program:

Severity*

Without Vinevax Bio-implants

With Vinevax Bio-implants

*severity 0 = healthy vine
severity 5 = dead vine

1	\$32,928.45	\$7,092.85
2	\$65,856.90	\$10,385.69
3	\$98,785.35	\$13,678.54
4	\$131,713.80	\$16,971.38

Increased yield due to Vinevax Bio-implant Treatment (Over 5 Years per Hectare)



Yield losses associated with Eutypa

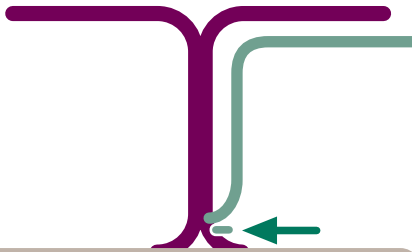
Severity	Yield Per Vine Kg	Yield Per Vine (bunches)	Yield Lost (Kg)	% Yield Lost lost per Hectare	Value of Yield lost per Ha	Value of Yield lost over 5 years
0	10.36	151.95	0	0%	—	—
1	7.99	123.54	2.37	23%	\$6,585.69	\$32,928.45
2	5.62	95.13	4.74	46%	\$13,171.38	\$65,856.90
3	3.25	66.72	7.11	69%	\$19,757.07	\$98,785.35
4	0.88	38.31	9.48	92%	\$26,342.76	\$131,713.80



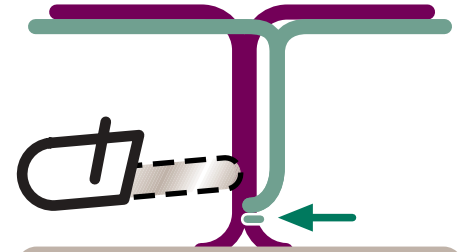
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1. Summer one. Diseased vine is marked to leave water shoot.



2. Winter one. Bio-implant inserted below watershoot, which is trained up and grows vigorously & disease free.



3. Winter two. Remove old diseased canopy, replaced by vigorous, healthy new canopy.

Protective procedure for severely diseased vines



4. Summer three. Bio-implant protected vine with fully productive, protected canopy.

Vinevax product information

Apply to

Grapevines

Method

Protection of healthy vines: Drill a hole at a slight upward angle 28mm deep x 6mm diameter into the trunk below the cordon and insert one Bio-implant.

Treatment of diseased vines.

For mild disease which only affects the cordon: Drill the hole into clean trunk wood below the cordon and insert 1 Bio-implant. Cut-off affected cordon wood.

For severe disease which has spread into the main trunk: (see diagram on page opposite) Drill the hole into clean wood as close as possible to ground level or 25 to 50mm below the position of a water shoot suitable for reconstruction of the vine. Apply 1 Bio-implant per vine.

Comments

Avoid treatment during sap flow in late winter/early spring.

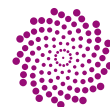
Vinevax Bio-implants contain a naturally occurring fungal control organism. Do not apply when fungicidal preparations and sprays are being used.



Certenz



Biological Farmers
of Australia



Vinevax

Bio-Dowel

Registered as Trichodowel pursuant to the Pesticides Act 1979 No. 2686



Method of application
for Vinevax Bio-implant.



Profile

A biological implant formulation, containing not less than 100 million colony forming units of proprietary natural *Trichoderma* per implant.

Safety

Nontoxic to humans, animals, wildlife and the environment, with **no withholding periods**.

Compatibility

Ensure there is a 24 hour period between applications and the use of any fungicidal spray applications.

Packaging

Vinevax Bio-implants are available in packs of 100, 500 & 1000.

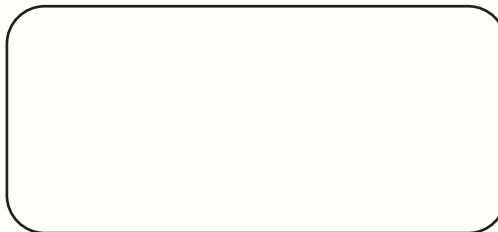
**Always read the label
completely before use**

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BVBI100.01 09/02

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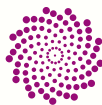
For more information,

Call your local distributor

Or freephone NZ 0800 42 47 46

Or freephone OZ 1800 42 47 46

Or visit our website www.vinevax.com



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