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**indigo** Ltd.  
Technologies to transform environmental woes to wealth



**Agrizest**<sup>®</sup>


## **In Vineyards**

**A transformational technology that substantially and sustainably increases yield while also increasing quality.**

**An agricultural compound that reduces pest, disease and environmental stress damage by strengthening innate repair, growth, defence (immune) and trophic systems**

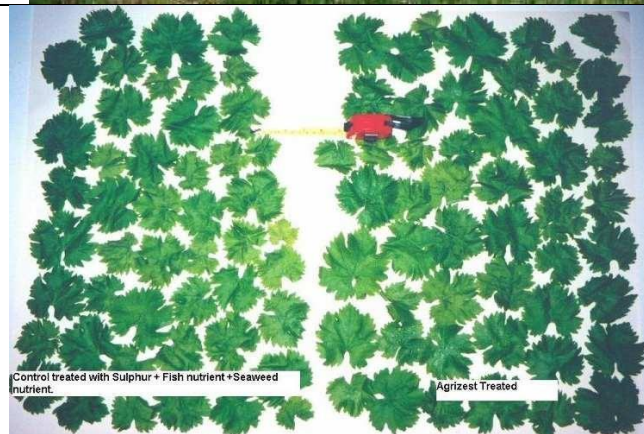
**Agrizest enables the wine industry to substantially increase its returns and the consumer to benefit from the quality and flavour enhanced wine.**

**Agrizest strengthens the vine against pest, disease and other stress damage. Agrizest also results in internal physiological and biochemical improvements that lead to higher quality fruit and wine.**

RESULTS				NOTES & INFERENCEs
				<p>Grape vine infested with blister mite. This Pinot Noir and Viognier varieties vineyard was split into blocks and rows were treated with Agrizest and compared with the control rows which received sulphur + fish nutrient + seaweed sprays.</p>
Blister mites infestation				
<b>Total leaf spots due to blister mite damage</b>				<p>The product induced pest resistance and suppressed pest damage. There was over 40% less mite damage in Agrizest block, compared to the 'control' pesticide plus nutrient treatments.</p>
%	Control	Agrizest	Difference	
Viognier	79	44	<b>-44.30%</b>	



Agrizest enhanced growth. Treated plants had larger leaves and they were greener than the pesticide plus nutrient treated plants.



There is a larger growth benefit between treatments in the mite infested Viognier variety compared to the Pinot Noir (which was relatively free of mites). Compared to the conventional (pesticide plus foliar nutrients) treated 'control' the Agrizest leaves were larger.

The combined effect of repair and growth stimulation by the product resulted in treated plants having larger leaves than the control plants.

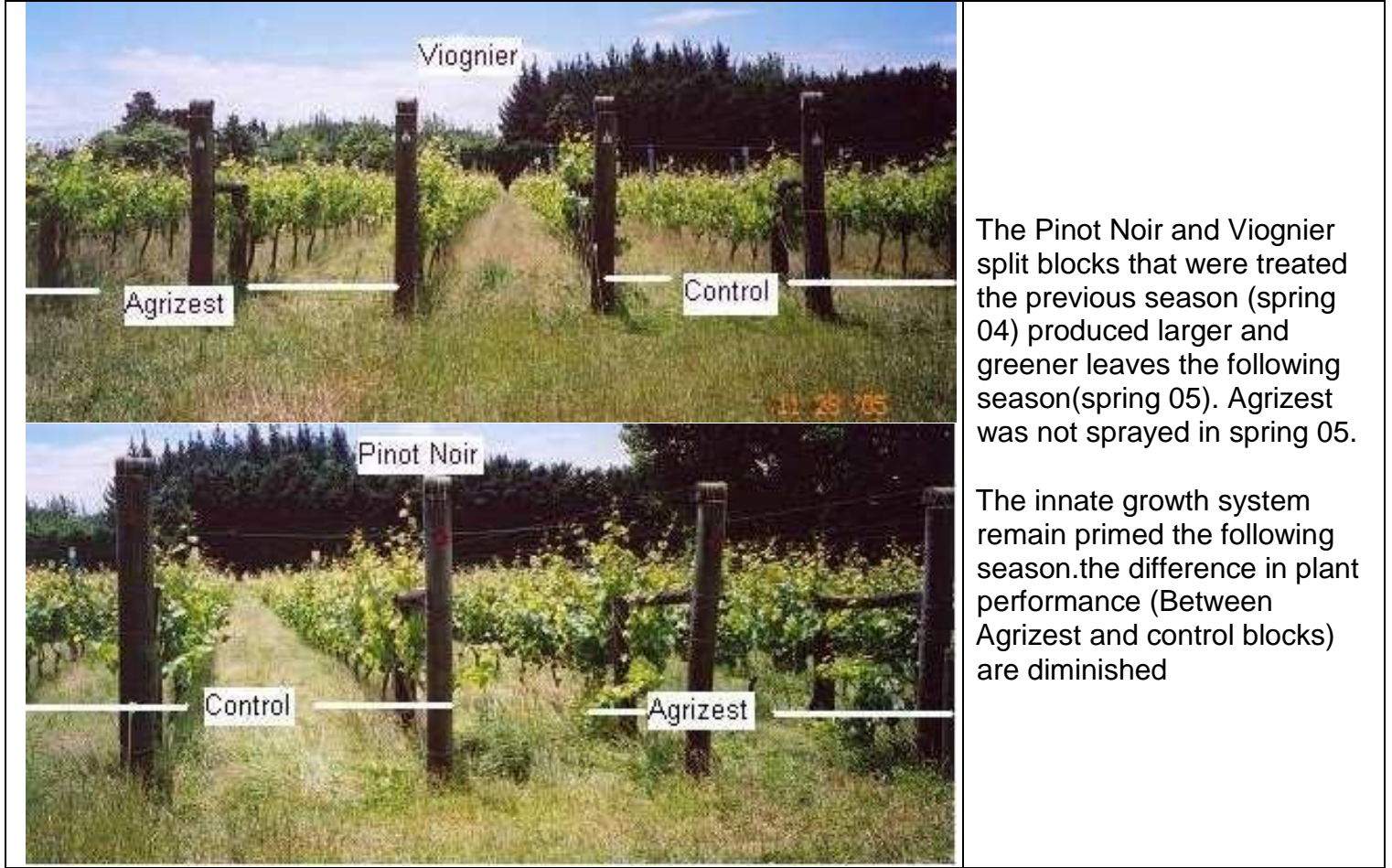
Leaf Width Index			
	Control	Agrizest	Difference
Viognier	7	7.6	8.60%
PinotNoir	8.9	9.1	2.20%

Brix Level		
Control	Agrizest	Difference
19.8	21.2	7.10%
20	20.7	3.50%

Agrizest improved the sugar levels (Brix) in the berries, as well as enhancing the quality of grapes at harvest.

**CONCLUSION: Agrizest was able to suppress pests, repair damage, stimulate growth and enhanced quality in this vineyard.**

## Agrizest treated plants remain primed



## Grapes – Growth and Stress Tolerance



In spring, part of the Pinot Noir grape block was treated (0.57 hectare) 4 times with Agrizest at the recommended rate of 1 litre in 1000 litres of water per hectare. The rest of the block was used as the control.

Observations after harvest –

1. The Agrizest treated plants had larger leaves and they were darker green.
2. The control plants had suffered more from the mechanical harvest operations and the leaf damage symptoms (senescence) were more pronounced and covered a broader band along the rows.
3. The Agrizest treated plants had thicker canes.
4. There were more secondary set fruit in the Agrizest treated plants.

**CONCLUSION:** Agrizest was able to stimulate growth and strengthen the plants ability to withstand stress.



## **AGRIZEST INCREASED PRODUCTION POTENTIAL**

### **Clive River Vineyard Agrizest Trial Pruning 2006 Analysis**

#### AVERAGE BAY WEIGHT

(Bundle and weigh prunings from every 6th bay per row, Calculate average pruning weight per plant)

	Control Plants	Agrizest Treated Plants
Pinot Noir 10-5	6.07	6.29
Chardonnay clone 6	5.17	5.20
Chardonnay clone 15 - 2001 plants	5.89	6.46
Chardonnay clone 15 - 2002 plants	2.14	2.46

Mike Lane who conducted the above assessment in his vinery  
“You will see in all cases the pruning weights were higher in the Agrizest treated plots as opposed to the control.”



## **AGRIZEST INCREASED FRUIT QUALITY, YIELD, JUICE AND WINE QUALITY**

One of New Zealand's Leading Wine Companies conducted a duplicated split block design (each block size 1.5 plus hectares) assessment of Agrizest.

The recommended spray application programme was followed

1st spray 7 days before start of flowering.

2nd spray 3 days after the 1st

3rd spray at end of flowering (14 days later)

4th spray 7 days later (was delayed to 14 days.)

The results reported here are for the combined crop from the duplicates.

### **SUMMARY:**

**Agrizest produced better juice quality characteristics.**

**Agrizest increased yield by 12%**

**Agrizest produced better wine quality characteristics.**

### **Juice Analysis**

	Control Block	Agrizest Treated Block
Juice in tank Brix	22.8	22.5
Juice in tank pH	3.19	3.2
Juice in tank TA	8.8	9.9
YAN (ppm)	399	338

**CONCLUSION: Agrizest produced better juice quality characteristics.**

## Yield and Yield Components

	Control Block	Agrizest Treated Block	% Difference
Berry weight (g)	1.2	1.5	25% heavier
Berries/bunch	56.0	51.0	9% less
Bunch weight (g)	64.9	74.2	14% heavier
Yield t/ha	5.9	6.6	12% more

The yield increase is due to larger berries rather than higher bunch or berries load. Agrizest appears to increase yield through improved quality production rather than through higher bunch or berry loads.

**CONCLUSION: Agrizest increased yield by 12%.**

## Wine Quality



Three thiols (4MMP, 3MHA, & 3MH) were analysed as flavour characteristics indicators.

4MMP sample was affected during the test period and no result was obtained.

Agrizest increased thiols (about 10%.)

**CONCLUSION: Agrizest produced better wine quality characteristics.**