AquaMate® Increases Dissolved Oxygen (DO) Of Irrigation Water On Raspberry Farm

"Thats a very positive result"

CASE STUDY

Grower	Corporate
Agronomist	
Location	Qld
Crop	Rasberries

Note: AquaMate® Concentrate (applied at 2 - 4ppm) was prediluted at 10:1 (applied at 20 - 40ppm) for ease off application for this grower.

Demonstration Purpose

The company has two Raspberry farms, one where the irrigation water is ozone treated (Farm 1) and the other is not ozone treated (Farm 2). This is the only difference between farms as variety, chemicals and fertiliser applied is all the same management practice, irrigation systems are similar and water source dams are aerated on both farms. Farm 1 has consistently out yielded Farm 2 and management assumption is that the ozone treatment is resulting in the yield increases. The idea for this demonstration was to apply **AquaMate®** on Farm 2 where there was no Ozone to determine if:

1. It lifts the Dissolved Oxygen (DO) of the irrigation water over non-treated irrigation water.
2. And to then compare the DO results to Farm 1 where it was ozone treated but had no AquaMate® applied.

Demonstration Set Up

It was quite and easy set up, on Farm 2 half the farm was treated with AquaMate® and the other half was not, to determine if AquaMate® had any effect on the DO levels of Farm 2's irrigation water. All of Farm 2's irrigation water was sourced from the same aerated dam and all other practices were done as normal across the entire farm. Farm 1 was left as normal management practice including the ozone treatment.

Application Date	Product Applied	Application Rate
Started September 2022 x 1 week	AquaMate®	40ppm
Each Irrigation After 1st Week 2022	AquaMate®	20ppm

Demonstration Results

The results of the demonstration showed a positive response to the application of **AquaMate®** to increase the DO of Farm 2's irrigation water over the control, and again positive in comparison to Farm 1's Ozone treated irrigation water as the table below highlights. The water was tested at the end of the irrigation lines in the treated and un-treated crops, and in the pump/fertigation sheds.

Farm 1	**Crop**	**Ozone Plant**	**Pump Shed**
DO (Sat %) Level	37	285.1	87.5
Farm 2	**Crop Treated**	**Crop Non-Treated**	**Treated Pump Shed**
DO (Sat %) Level	63.4	39.5	64.8

Conclusion

This demonstration has shown that **AquaMate®**, over the non-treated water, has the ability to increase the DO level of irrigation water at the point of application (pump shed), and maintain that level of DO to the end of the irrigation lines of the crop.

It has also highlighted that the Ozone treated irrigation water significantly increased the DO levels at the Ozone plant over the pump shed which was its source. However, the DO significantly drops at the end of the irrigation line in the crop of the Ozone treated water in comparison to the AquaMate® treated water.

With this consistent increase in DO of irrigation water comes additional potting medium and soil health benefits. From increased microbial health and balance, to reduced pathogens, improved water distribution and WUE, while improving overall crop health, yields and quality.

This demonstration has continued based on these results and with additional R&D and analysis to be undertaken on the longer term effect on potting medium health, water, yield and quality of the crops.

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1800 244 009

E: service@advancednutrients.com.au

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