

Improved wine flavour and structure with the ground application of biostimulant Mycorrcin

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Key words

Phosphate uptake, wine flavour and structure, Mycorrcin, Gimblett Gravels

Overview

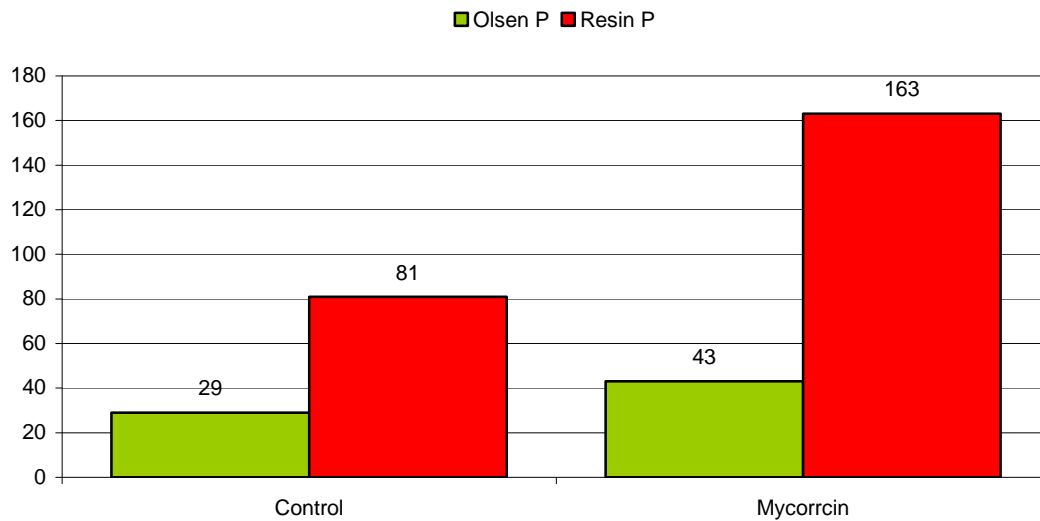
- The Gimblett Gravels soils are unique in that they are 90% gravel, have very low organic matter levels, low CEC are in a low rainfall region. As a result of these characteristics they suffer from low phosphate retention.
- This trial was set up to investigate whether applying Mycorrcin by itself or in combination with reduced fertigation NPK had any impact on soil and tissue phosphate levels
- The trial has run on the same block for 4 years. The block was divided into groups of 3 rows (averaging 600m²) which were then assigned as either Standard fertigation which received the standard fertigation NPK program, or Mycorrcin at the rate of 4lt/ha for the first fertigation in early spring and then at the rate of 400ml/ha once a fortnight for the rest of the growing season or Mycorrcin at the previous rate plus ¾ of the standard fertigation program
- Soil samples were taken analysed for phosphate using both an Olsen and Mehlich phosphate test. The Mehlich test was used, as it is more sensitive extraction and would give a better indication of available phosphate in the gravels



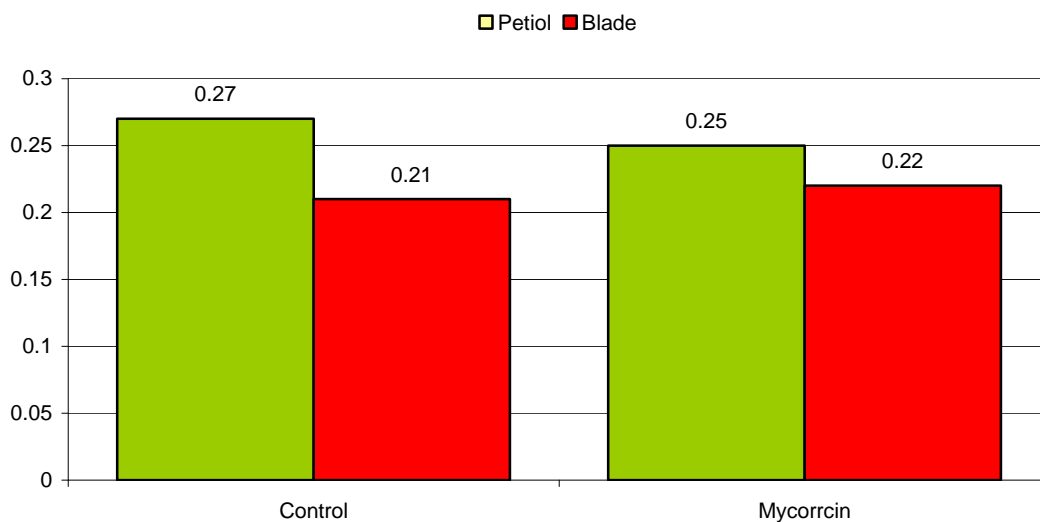
- Root samples were taken and analysed for mycorrhizal colonisation. An increase in colonisation has been shown to increase phosphate uptake in the literature.
- Blade and petiole samples were take at flowering and veraison and analysed for phosphate levels.
- The rows were individually harvested and microvinted at EIT.
- The wine was tasted by Bob Campbell MW

Results

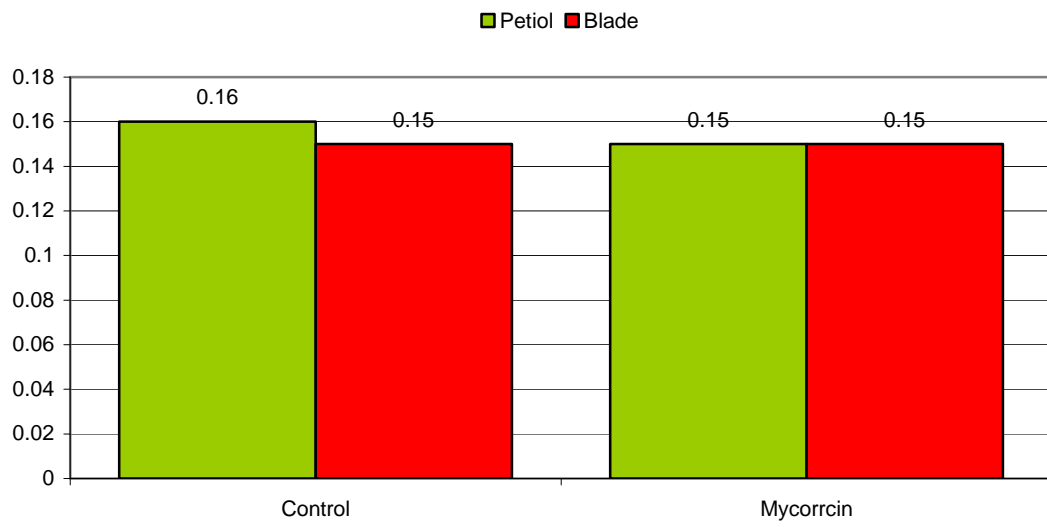
SOIL PHOSPHATE LEVELS



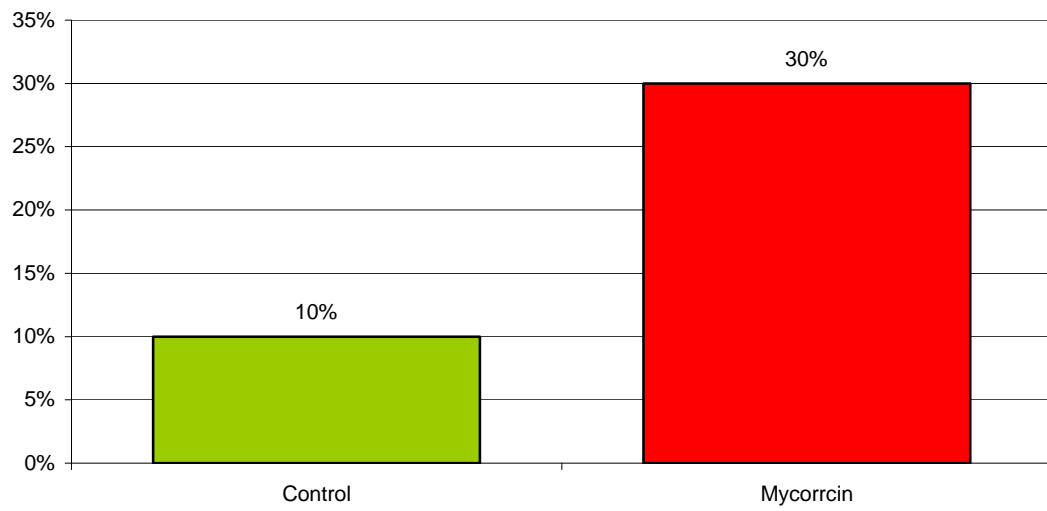
FLOWERING PHOSPHATE LEVELS



VERAISON PHOSPHATE LEVELS



ECTO MYCORRHIZAL COLONISATION



Wine tasting notes



The wine was tasted in a random order. The wines have been filtered but not exposed to any oak.

	Comments	Score
Control	Deep ruby. The flavours are ripe; in the plum, berry spectrum without any excessive green or vegetal influence; but the wine has a slight musty/woody character that builds on the finish. The tannic structure is appropriate and not excessive.	5
Mycorrcin	Deep ruby. Again ripe plum and berry flavours – very similar to sample #1 – but with slightly less musty/woody influence. Well-structured – like #1.	7

Conclusion

- The Mycorrcin treatment increased soil phosphate levels in both the Olsen and Resin test
- The increase in phosphate levels correlated with an increase in Ecto Mycorrhizal colonisation. An increase in Mycorrhizal activity has been shown to increase phosphate uptake.
- Both petiole and blade sampling at flowering and veraison showed no differences between the control and Mycorrcin treatment. The Mycorrcin treatment has had no additional phosphate applied to it. The levels recorded have been etched out of the small reserves in the gravel by the mycorrhizal fungi.
- The Mycorrcin treatment has increased the wine's structure and scored higher than the control.