Agricultural Research Service TEKTRAN

# COMPARATIVE RESPONSE OF SELECTED GRAPEVINE ROOTSTOCKS AND VARIETALS TO INOCULATION WITH DIFFERENT VA MYCORRHIZAL FUNGI

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***Interpretive Summary:***
Grapevines are being planted extensively into new vineyards or as replants into old vineyards in the Pacific Northwest. Frequently these young vines are planted into land fumigated to eliminate phylloxera insect pests or root pathogens, or onto terraced land where subsoils are the planting zones. In either case, beneficial microbes such as VA mycorrhizae may be lacking. Grapes are highly dependent on mycorrhizae to acquire nutrients (especially P) and water for normal growth. New vineyards must be planted with phylloxera-resistant rootstocks as the only means to control this insect pest. In this study, we addressed the question of whether different rootstocks or varietals of grapes would respond differently to a range of VA mycorrhizal fungi when grown under P-limiting conditions. We showed that whereas there were some growth differences between rootstocks and varietals, all responded strongly to inoculation, regardless of the fungal inoculum. Non-inoculated plants were clearly stunted and showed visual signs in the foliage of nutrient deficiencies. These results confirm the high dependence of grapes on mycorrhizae, and underscore the need to inoculate transplants before or at planting in the field.

***Keywords:***
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