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## Effects of Azomite application on 10 essential mineral elements and 15 rare earth elements in vine leaves

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Azomite, as a mineral fertilizer, was widely applied to fruit production in recent years. The effects of Azomite application on 10 plant essential mineral elements and 15 rare earth elements in vine leaves of three wine grape varieties (Cabernet Sauvignon, Cabernet Gernischt and Italian Riesling) were investigated through the technique of inductively coupled plasma mass spectrometry (ICP-MS) with electric heating board digestion in this study. The results showed that there was significant difference in the levels of essential elements including B, Mo, Mg, K, Mn, Ca, Ni, Cu and Zn, but no visible difference in 15 rare earth elements among three wine grape varieties, which were not treated with Azomite. Azomite application could increase the levels of the essential mineral elements and rare earth elements in vine leaves to different extents. The comparative analysis indicated that there was great difference in absorbing abilities to various essential mineral elements among these varieties, but no significant difference to rare earth elements. This work would provide a theoretic basis for the application of Azomite and the management of vineyard fertilization.

**[Key Words]** : Azomite inductively coupled plasma mass spectrometry (ICP-MS) vine leaves essential mineral elements rare earth elements

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