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Effect of methyl jasmonate application to grapevine leaves on grape amino acid content

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Abstract

Over the last few years, considerable attention has been paid to the application of elicitors to vineyard. However, research about the effect of elicitors on grape amino acid content is **scarce**. Therefore, the aim of this study was to evaluate the influence of foliar application of methyl jasmonate on must amino acid content. Results revealed that total amino acid content was not modified by the application of methyl jasmonate. However, the individual content of certain amino acids was increased as consequence of methyl jasmonate foliar application, i.e., histidine, serine, tryptophan, phenylalanine, tyrosine, asparagine, methionine, and lysine. **Among them, phenylalanine content was considerably increased; this amino acid is precursor of phenolic and aromatic compounds.** In conclusion, foliar application of methyl jasmonate improved must nitrogen composition. This finding suggests that methyl jasmonate treatment might be conducive to obtain wines of higher quality since must amino acid composition **could affect** the wine volatile composition and the fermentation kinetics.

Keywords: grape, foliar treatment, amino acids, elicitor, methyl jasmonate