

## Accepted Manuscript

Levels of terpenoids, mangiferin and phenolic acids in the pulp and peel of ripe mango fruit influenced by pre-harvest spray application of  $\text{FeSO}_4$  ( $\text{Fe}^{2+}$ ),  $\text{MgSO}_4$  ( $\text{Mg}^{2+}$ ) and  $\text{MnSO}_4$  ( $\text{Mn}^{2+}$ )

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PII: S0308-8146(18)30323-6

DOI: <https://doi.org/10.1016/j.foodchem.2018.02.087>

Reference: FOCH 22471

To appear in: *Food Chemistry*

Received Date: 17 November 2017

Revised Date: 15 February 2018

Accepted Date: 15 February 2018



Please cite this article as: Vithana, M.D.K., Singh, Z., Johnson, S.K., Levels of terpenoids, mangiferin and phenolic acids in the pulp and peel of ripe mango fruit influenced by pre-harvest spray application of  $\text{FeSO}_4$  ( $\text{Fe}^{2+}$ ),  $\text{MgSO}_4$  ( $\text{Mg}^{2+}$ ) and  $\text{MnSO}_4$  ( $\text{Mn}^{2+}$ ), *Food Chemistry* (2018), doi: <https://doi.org/10.1016/j.foodchem.2018.02.087>

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**ABSTRACT**

$\text{Fe}^{2+}$ ,  $\text{Mg}^{2+}$  and  $\text{Mn}^{2+}$  are enzyme cofactors in terpenoids biosynthesis. Effects of pre-harvest spray of  $\text{FeSO}_4$ ,  $\text{MgSO}_4$  and  $\text{MnSO}_4$  (0.2 % and 0.3 %) 30 d prior to harvest on the levels of terpenoids and phenolic compounds in ripe mango fruit were investigated. All treatments significantly increased lupeol in the peel compared to control and it was highest in pulp of 0.3 %  $\text{FeSO}_4$ -treated fruit. Spray of each nutrient (0.3 %) increased total carotenoids in the pulp. Mangiferin in pulp was significantly higher in the fruit treated with 0.2 %  $\text{FeSO}_4$ ,  $\text{MgSO}_4$  and  $\text{MnSO}_4$  compared to control and 0.3%. Concentrations of gallic, ferulic and caffeic acids in the peel and chlorogenic acid in pulp and peel were highest in fruit sprayed with 0.2 %  $\text{FeSO}_4$ . In conclusion, pre-harvest spray of  $\text{FeSO}_4$ ,  $\text{MgSO}_4$  and  $\text{MnSO}_4$  regulates

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