

- Home
- Journals
 - Browse by subject
 - A to Z Journals
- Aims & Scope
- Online First
- Current Issue
- Previous Issues
- Editorial Board
- Guide to Authors

Journals > American Journal of Food Technology > Abstract

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Impact of Magnesium Sulphate on Biochemical and Quality Constituents of Black
S. Jayaganesh and S. Venkatesan

Abstract: Field experiment was laid out in Randomized Block Design (RBD) at UP/ experimental farm, with eight treatments and three replications. Amino acid content of tea leaves increased due to soil application of magnesium, but the 50% potassium reduction treatments reduced the amino acid content. The amino acid content significantly increased with the application of magnesium when compared to the standard practices. The blocks which received foliar application of micronutrient along with magnesium decreased the amino acid content when compared to the standard practices and control. The externally added magnesium increased the formation of 2-oxoglutarate and simultaneously another product aspartate/alanine was increased. The catechins content increased in 300 kg soil applied magnesium treatment and then decreased in 50% reduction of potassium fertilizer treatments. The TF value of made tea increased in 300 kg magnesium application but decreased in the case of 50% reduction of potassium fertilizer. The control block had lower TF value when compared to the standard practices, because the K fertilizer is important to increase the TF value. The maximum quantity of TF value obtained was in the case of 300 kg soil applied blocks. The similar kind of trend was observed in TR values. The index value of made tea was higher in magnesium treated blocks, when compared to standard practices and NPK application. The magnesium content of tea leaves positively correlated with the activity of aspartate aminotransferase and amino acid transferase enzymes. This study further confirmed that antagonism exists between K and Mg and synergism existing between P and Mg.

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