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Mango crop production features under organic compost cultivation in the semiarid region, Brazil

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Abstract

Mango (*Mangifera indica* L.) is one of the most important fruit crops that are cultivated under irrigation at the São Francisco River Valley, in the Brazilian semiarid region. Although there has been achieved a great advance to fruit production in this environment, it relies on technological improvements that require the usage of intensive agricultural practices to soil, such as irrigation, fertilizers application and flowering management of mango tree, it also increased the risks of environmental resources degradation. In this context, an organic crop system perhaps becomes an alternative to guarantee the sustainability of mango crop in the region. However, the organic production has been a great challenge, even higher in tropical soils poor in organic matter. This work aimed to evaluate the effect of different organic compost on soil chemical characteristics, production and quality of mangoes fruit cultivated in an organic system in the Brazilian semiarid region. One long term experiment was implemented and consisted in applying five composts with different compositions and one control treatment (without compost), using a randomized block design. Grafted mango seedlings of the variety Tommy Atkins were planted in 2005 and they received a base fertilization of 40 dm³ of the different composts per plant. The same doses were applied at 2008 and 2009 as complementary fertilization. The treatments applied do not affected significantly fruit production; however they increased quality parameters such as the color of the fruit skin and pulp. Such results corroborate the importance of organic fertilization as a strategy to improve and maintain the plant production and soil quality.

Keywords: *Mangifera indica*, organic fertilizer, soil chemical analysis, fruit color