

SUMMARY

Organic fertilization on tomato production (*Solanum lycopersicum* L.) under greenhouse conditions

Tomato is one of the vegetables with highest production and consumption worldwide. Greenhouse cultivation ensures greater production, quality, consistency of the product in the market, high commercial value and efficiency of resources among many other advantages. New trends in food production demand safe organic farming products obtained under sustainable practices where environmental protection is a priority. In the state of Veracruz there are raw materials that after a decomposition process can be used into friendly production systems. In this study, response of tomato plants, under greenhouse conditions, to the following treatments was evaluated: 1) coffee pulp and bagasse vermicompost, 2) Bokashi of horse manure, 3) sugarcane cachaza compost, 4) Bokashi of cattle manure, 5) Bokashi of chicken manure, all applied at 5 ton / ha, 6) nutrient solution formula for tomato, according to Sanchez (2010) and 7) Absolute control. The response variables evaluated were stem thickness, plant height, total yield, yield quality, fruit firmness, brix, pH, titratable acidity and shelf life. The ANOVA results showed that treatment six was the highest for stem thickness and plant height. Highest yield (64.94 ton/ha) was found with treatment five. For top quality fruit production, treatment five was significantly higher with 74.5%. For physico-chemical characteristics, more firmly fruits were found with treatment six, higher Brix grade with treatment two, higher pH with treatment one, with titratable acidity no significant difference was observed. The shelf life analysis showed that fruits under treatment three lost less weight after 15 days of harvest and treatment six had higher shelf life. It can be concluded that the incorporation of organic fertilizers proved to have positive effect on performance, quality, lost weight, Brix values and pH. Chemical nutrition highlighted development, firmness and shelf life.

Key words: *Solanum lycopersicum*, green house production, fruit quality, postharvest.