Abstract

An experiment was carried out under nursery conditions during 360 days, from 2006 to 2007, to evaluate the effects of three agricultural bioproducts as carriers of nitrogen fixing bacteria; Azospirillum and Azotobacter, and phosphate solubilizer bacteria in the soil sustainability cultivated with mexican lemon. An experimental factorial design was utilized for three types of agricultural bioproducts (lemon peel, sugarcane waste and poultry manure), doses were 1, 2 and 3% dry weight and the control. The total of treatments with 10 replications, distributed in a completely randomised design. The pH, C, total N, K and P available, population density of bacteria and rhizosphere effect were evaluated. In the plant we evaluated height, stem diameter, aereal, root and total biomass. The results indicated that there were statistical differences (Tukey, P £ 0.05) among the averages evaluated. The agricultural bioproducts promoted the quality of the soil and the population density of bacteria of Azospirillum, Azotobacter and phosphate solubilizers, besides the plants grew better and produced greater quantity of biomass. The poultry manure at 1% dose was the best treatment and the dose 3% induced phytotoxicity effect since the lemon plants died 180 days after transplant. The results obtained showed that the agricultural byproducts can be a sustainable alternative as carriers of vegetable growth property development companies bacteria, they improve the quality of the soil and these promote the growth of the plant.

Keywords
Azospirillum, Azotobacter, fosfathe solubilizers bacteria, poultry manure and phytotoxic.