Title Integrated production of roses: influence of the soil management in the occurrence of pests and natural enemies

Author L.M. Carvalho Silva, E.F.A. Almeida, K. de Almeida, M.A. Lessa, T.C. Taques, S.N. Reis, I.C.S. Curvelo and S.S. Barbosa

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Abstract

The integrated production proposes the adoption of adequate practices in the use of agrochemicals and concerned with the sustainability of the agroecosystem. Pest control is one of the challenges faced by producers of roses, because the chemicals are harmful to the environment and are not always efficient. The fertilizer management can influence the incidence of pests. This study aimed to evaluate the influence of the soil management over the occurrence of pests and natural enemies in the cultivation of the rose plants under the Integrated Production System. The experiment was carried out at the Agricultural Research Enterprise of the State of Minas Gerais, Brazil. Rose cuttings of the 'Carolla' cultivar were used. The design was in randomized blocks with 8 treatments constituted of 4 percentages of chemical fertilization recommended for the rose plant in Minas Gerais, Brazil (25%, 50%, 75% and 100%) versus presence and absence of combination with green fertilizer (*Calopogonium mucunoides*) and four replications each. The samplings of the phytophagous arthropods and natural enemies were made weekly from February to November, 2010, in three leaflets/plant in four plants/treatment, chosen randomly. The occurrence of mites (*Tetranychus urticae*), aphids (*Macrosiphum rosae* e *Macrosiphum euphorbiae*), whitefly (*Bemisia* sp.), coleoptera (*Diabrotica speciosa*), parasitoids (*Praon* sp., *Pimpla croceiventris*) and predators (*Chrysoperla externa*, *Cycloneda sanguinea*, *Hippodamia convergens*, *Hyaliodes beckeri*, *Toxomerus* sp.) was observed. In the area without the presence of the green manure were observed a greater number of mites (5.1-7.2±0.06 mites/leaflet) and aphids (2.2-2.6±0.06 aphids/leaflet), compared with the area with green manure (1.1-1.3±0.06 aphids/leaflet and 3.3-4.8±0.06 mites/leaflet). In all of the treatments, floral buds of high quality with long stems (average length of 50-100 cm) were obtained. These results demonstrate that it is possible to conduct the rose plantation in a sustainable way, without excess of application of fertilizers and agrochemicals.