SELECTION OF TETRANYCHID MITE SPECIES FOR MASS MULTIPLICATION OF THE PREDATORY MITE PHYTOSEULUS MACROPILIS

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Abstract

Applied biological control is defined as the production of beneficial arthropods to be released on a large scale in crops under attack by pests. This technique is an alternative to minimize the conventional use of insecticides. For the production of these beneficial organisms to be economically viable, they must be multiplied in large numbers with low cost and time. In the production of phytoseiid predatory mites, it is also necessary to multiply the pest in host plants, thus requiring the establishment of a tritrophic production system, which can burden the production process in a biofactory. One way to optimize the production of predatory mites is to select the best prey species (those that are most efficient for the predator to multiply with less cost and production time). In this sense, the objective of this work was to select the best species of phytophagous mites to be used in the production of the predatory mite Phytoseiulus macropilis. The selection criterion was the oviposition rate of two phytophagous mite species: the two-spotted spider mite Tetranychus urticae and the red mite Tetranychus ludeni, on leaves of Canavalia ensiformis (jack bean) during 4 days. There was a significant difference between phytophagous oviposition ($z=17.89$; $DF=1$; $p<0.05$) and the number of eggs laid by the two-spotted spider mite was 3 times higher than that of the red spider mite.These results indicate that the two-spotted spider mite has greater potential and multiplication efficiency in a biofactory for the production of predatory mites.

Keywords

Biological control, Mass rearing, Predator mite.