



POPULATION PROJECTION OF *Tetranychus ogmophallos* (ACARI: TETRANYCHIDAE) ON PEANUT PLANTS (*Arachis hypogaea* L.)

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Tetranychus ogmophallos Ferreira and Flechtmann (Acari: Tetranychidae) is considered the major emerging pest of peanut crops (*Arachis hypogaea* L.) in Brazil. Direct feeding injury caused by *T. ogmophallos* causes a loss of leaf chlorophyll reducing the net photosynthetic rate, resulting in a decrease in crop production (85 to 100%), and, ultimately, decline and death of the host plants. In this study, we estimated the potential rate of growth of *T. ogmophallos* on peanut cultivar and breeding line. The population projection were evaluated on IAC 503 and breeding line L.322. Based on data from the age-stage, two-sex life table (survival rate, developmental and fecundity) we projected the population growth of *T. ogmophallos* to simulate the population size and stage structure by assuming an unlimited growth from an initial population of 10 eggs during 100 days. The computer program TIMING-MSChart was used in the projections. It was assumed that the population would undergo eight generations on IAC 503 and L. 322 within a 100-d period. The population projection suggested that *T. ogmophallos* will grow much faster on IAC 503 cultivar than on L. 322 breeding line, with the predicted total population size reaching 5.80×10^7 on IAC 503 but only 3.15×10^5 on L 322. Population projections based on life table data for survival rate, developmental rate, and fecundity can predict the changes of stage structure during population growth. By using population projection, valuable information on the trends and emergence timing of egg, larva, and nymph, female and male stages can be predicted. Population projection is an important and promising tool that can be used to plan and time pest control strategies. The present study demonstrated that the growth of the *T. ogmophallos* population would be the fastest on the IAC 503 peanut cultivar.

Keywords: peanut red mite, two-sex life table, population projection, fecundity.

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