

STUDIES ON THE EFFICIENCY OF TELENOMUS EGG  
PARASITOIDS ATTACKING THE EGGS OF SPODOPTERA SPP.

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The searching efficiencies of the two parasitoid species, Telenomus remus and Telenomus nawaii were compared on Spodoptera eggs laid on Brussel's sprout and onion plants. The searching efficiencies of these two parasitoids were calculated separately using Nicholsonian equation

$$a = \frac{1}{P} \log_2 \frac{N}{S}$$

The results showed that although the host finding rate of T. remus was significantly ( $F=9.7$ ,  $p < 0.01$ ) lower than that of T. nawaii, within the host eggbatch the searching efficiency (attack rate) was higher in T. remus than that of the latter due to its higher oviposition rate. The two parasitoid species showed no significant ( $F=0.96$ ,  $p > 0.05$ ) difference in attacking host eggs laid on onion and Brussel's sprout plants.

The moths of Spodoptera spp. usually lay their eggs in 1-3 layers and cover them with scales. Therefore the effectiveness of Telenomus egg parasitoids mainly depend on how they exploit the host eggs in the lower layer of the eggmass. This study revealed that, in the Spodoptera spp., the proportion of eggs that were attacked by these two parasitoids on the top layer was significantly ( $F=58.9$ ,  $p < 0.01$ ) higher than that in the lower layers.