445/D

Distinguishing larval instars of leafminer, *Liriomyza sativae* (Diptera: Agromycidae), infesting tomato

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Identifying and distinguishing the larval instars is an important prerequisite for effective management. The number of larval instars of *Liriomyza sativae* was determined by using the frequency distribution pattern and by regressed the logarithms of the length of mouth hook and the cephalopharyngeal skeleton against instar numbers. Both measurements showed clear separation between larval instars. Three larval instars were found in *L. sativae*. Morphologically body size and colouration showed clear distinct between the larval instars. First instar larvae were nearly colourless, second instar larvae were pale yellow and third instar larvae were range from yellow to yellowish orange. Significant correlation was observed when length of cephalopharngeal skeleton regressed against length of mouth hook(r=0.8887). Body length of first, second and third instar larvae was 0.357±0.12mm, 0.909±0.19mm and 1.747±0.241mm respectively. Mean length of cephalopharyngeal skeleton for first, second and third instar larvae was 0.075±0.013mm, 0.145±0.013mm, 0.219±0.012mm respectively. Mean length of mouth hook of first, second and third instar larvae was 0.0111±0.004mm, 0.0374±0.006mm, 0.0628±0.004mm respectively. The growth ratio of cephalopharyngeal skeleton between first and second larval instars was higher(1.93) than between second and third instar larvae (1.51) likewise the growth ratio of mouth hook between first and second larval instars was higher(3.36) than between second and third instar larvae (1.6).

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