Spatial distribution of immature stages of alfalfa seed weevil, Tychius aureolus (Col.: Curculionidae), and alfalfa seed wasp, Brochophagus roddi, (Hym.: Eurytomidae) in alfalfa seed fields
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Alfalfa seed pests, such as alfalfa seed wasp, Brochophagus roddi (Hym. Eurytomidae) and alfalfa seed weevil, Tychius aureolus (Col. Curculionidae), cause high damage in alfalfa seed production, but do not development any sampling program for population estimate and management of them. In during two years (2001 & 2002), the spatial distribution of immature stages of these insects was analyzed using the crowding indices (ID, Cx, X*, Id & 1/k), Taylor’s power law and Iwao’s regression technique. All indices indicated an aggregated distribution of two insects in lucerne seed fields. Compared with Iwao’s regression, Taylor’s power law provided a better description between variance and mean density. The coefficient of Taylor’s power law for alfalfa seed wasp and alfalfa seed weevil were (a= 0.5, b= 1.02 ± 0.06, r² = 0.95) and (a= 0.275, b= 1.06 ± 0.05 r²= 0.82) resp. and these for Iwao’s regression were (a= 0.8, β= 2.95 ± 0.06 r²= 0.5) and (a= 0.9, β= 1.07± 0.14 r²= 0.29) resp.