Spatial Distribution of Greenhouse Whitefly, *Trialeurodes vaporariorum* (Westwood) in Tomato Under Protected Environment in North-Western Indian Himalaya

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Abstract: Spatial distribution of greenhouse whitefly, *Trialeurodes vaporariorum* (Westwood) was determined in summer and autumn crop of tomato under naturally ventilated polyhouse. The population varied from 0.18 to 4.98 adults per leaf in summer crop and was relatively low in autumn crop (0.26 to 1.92 adults per leaf). The dispersion indices namely, variance to mean ratio, David and Moore index of clumping and Iwao's patchiness regression index revealed the population of *T. vaporariorum* in summer crop to have negative binomial distribution, whereas, in autumn crop it followed binomial series. Lewis index, index of dispersion and Morisita's coefficient of dispersion fitted to determine dispersion of greenhouse whitefly showed that in vegetative stage (pre-flowering) in both the cropping seasons, greenhouse whitefly was distributed randomly. However, in reproductive stage (flowering and fruiting stage), distribution was aggregated/ clumped in summer crop and regular/ uniform in autumn crop. Taylor's power law also proved the hypothesis of population dispersion to be aggregated in summer and regular/ uniform in autumn cropping season. The index of patchiness revealed the clumping in greenhouse whitefly being influenced by the environmental factors greatly.

Key Words: Spatial Distribution, *Trialeurodes vaporariorum,* Protected Cultivation, Tomato