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Khalid¹, S. A. N. and M. N. Mohamad Roff³, A. B. Idris³

¹ Department of Biology, Faculty of Education ?Thamar, Thamar University, Republic of Yemen, P.O. Box 2614 Sana'a, Yemen.²Deputy Director/ Senior Principal Research Officer, Pest and Disease Management Programme, Horticulture Research Centre, MARDI HQ, P.O. Box 12301, GPO, 50774 Kuala Lumpur, Malaysia. ³Centre for Insect Systematics, School of Environmental & Natural Resource Sciences, Faculty of Science & technology, National University Malaysia, 43600 Bangi Selangor Malaysia.

Correspondence author: idrisgh@ukm.my, idrissyatie@yahoo.com.my

Abstract

This study was carried out to determine the diurnal abundant pattern of adult whitefly, *Bemisia tabaci* on chilli cv. Kulai ecosystem. A total of 16 yellow sticky traps (YST) were used to determine the whitefly, *B. tabaci* in chilli field in RCBD design. Abundance of adult whiteflies varied at different times in a day. Abundance of adult whiteflies was significantly ($p < 0.05$) lower at early morning hour (0700 h) and gradually increased until 1100 h. After 1100 h, the abundance of adult whiteflies declined gradually until evening 1900 h. Stepwise multiple regressions of environmental factors suggested that temporal variation were the significant ($P < 0.05$) predictors of abundance followed by evaporation at all trap levels. At canopy level, wind speed was found to affect the abundance whilst DAT was the strongest significant predictor of diurnal pattern variations of adult WF ($P < 0.05$) except at 1700h. Evaporation and sunshine significantly affect the population at 0700h and 0900h respectively, while wind speed seemed to significantly affect at noon (1300h). We suggest that placing YST bellow canopy level could attract more adults WF and that spraying selective insecticide between 0900 and 1200 h and be directed towards the lower levels of the leaves and at the ground level could effectively control of WF population in chilli ecosystem.

Keywords: *Bemisia tabaci*, chilli, abundance, trap level, time in a day.