

Research Article

Effect of intercropping on the incidence of Jassid (*Amrasca biguttula biguttula* Ish.) and Whitefly (*Bemisia tabaci* Guen.) in Okra (*Abelmoschus esculentus* L. Moench)

¹Aasma Sharma*, ¹Khem Raj Neupane, ¹Rajendra Regmi and ¹Ram Chandra Neupane

¹Agriculture and Forestry University, Rampur, Chitwan, Nepal

*Correspondence: sharmaasma4@gmail.com, ORCID: <https://orcid.org/0000-0001-5278-2495>

Received: September 03; Accepted: December 01; Published: December 09.

© Copyright: Sharma et al. (2018).



This work is licensed under a [Creative Commons Attribution-NonCommercial 4.0 International License](https://creativecommons.org/licenses/by-nc/4.0/).

ABSTRACT

Okra is one of the most important summer vegetables in South Asian countries including Nepal. However, the damage by insects like Jassid (*Amrasca biguttula* Ish.) and whitefly (*Bemisia tabaci* Guen.) has resulted in significant reduction of its production. An experiment was conducted based on intercropping taking okra (*Abelmoschus esculentus* L. Moench) as the main crop in Arghau, Lekhnath-27, Kaski, Nepal from March 4 to May 24, 2018. The intercrops used were coriander (*Coriander sativum*), carrot (*Daucus carota*), fennel (*Foeniculum vulgare*) and parsley (*Petroselinum crispum*). The population of jassid and whitefly was recorded from three leaves representing the different strata (bottom, middle and top) of the vegetative parts; and related yield parameters were also observed to correlate with the level of population incidence of these pests. Least numbers of jassids (5.50 ± 0.29 , 6.94 ± 0.43 , 8.00 ± 0.41 and 3.69 ± 0.76) were observed respectively at 30, 40, 50 and 60 days after sowing (DAS) in okra + coriander. Likewise, okra + coriander intercropping was effective in inhibiting the population of whitefly (7.50 ± 0.59 , 8.56 ± 0.19 , 10.25 ± 0.66 and 7.06 ± 0.42) at 30, 40, 50 and 60 days after sowing (DAS) respectively. In contrary, the highest number of jassids and whiteflies were observed in okra + parsley and control (okra only). Both pod length (cm) and yield (t/ha) were the highest (17.92 ± 0.57 and 28.20 ± 0.49 respectively) in okra + coriander and were the lowest (16.42 ± 0.21 and 27.58 ± 0.39 respectively) in okra + carrot. The benefit-cost ratio was in order okra + coriander > okra + carrot > okra + fennel > okra + parsley > control (okra only). Among the different intercrop combinations, the okra + coriander was found most effective that could be suggested as one of the alternative strategies to limit the population of pests; jassid and whitefly in okra.

Key words: Okra, Intercropping, Jassid, Whitefly

Correct citation: Sharma, A., Neupane, K.R., Regmi R., & Neupane, R.C. (2018). Effect of intercropping on the incidence of Jassid (*Amrasca biguttula biguttula* Ish.) and Whitefly (*Bemisia tabaci* Guen.) in Okra (*Abelmoschus esculentus* L. Moench) in Kaski, Nepal. *Journal of Agriculture and Natural Resources*, 1(1), 179-188.
