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Horticultural Science

Diminished UV radiation reduces the spread and population density of *Macrosiphum euphorbiae* (Thomas) [Hemiptera: Aphididae] in lettuce crops

Legarrea S., Diaz B.M., Plaza M., Barrios L., Morales I., Viñuela E., Fereres A.:

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[fulltext]

UV-absorbing covers reduce the incidence of injurious insect pests and viruses in protected crops. In the present study, the effect of a UV-absorbing net (Bionet) on the spatio-temporal dynamics of the potato aphid on lettuce plants was evaluated. A field experiment was conducted during three seasons in two

identical tunnels divided in four plots. A set of lettuce plants were artificially infested with *Macrosiphum euphorbiae* adults and the population was estimated by counting aphids on every plant over 7 to 9 weeks. Insect population grew exponentially but a significantly lower aphid density was present on plants grown under the UV-absorbing cover compared to a standard 50 mesh net. Similarly, in laboratory conditions, life table parameters were significantly reduced under the Bionet. Moreover, SADIE analysis showed that the spatial distribution of aphids was effectively limited under the UV-absorbing nets. Our results indicate that UV-absorbing nets should be considered as an important component of lettuce indoor cropping systems preventing pesticide applications and reducing the risk of spread of aphid-borne virus diseases.

Keywords:

potato aphid; UV-absorbing net; IPM; SADIE; life table parameters

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