The colonization of phytoseiid mites (Acari: Phytoseiidae) in a vineyard and the surrounding hedgerows.

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Abstract

Mite populations occurring in a vineyard and the contiguous hedgerows, located in an experimental farm of northeastern Italy, were monitored for 7 years (1994-2000). Hedgerows were constituted by modules (pure or mixed) of five plant species (Acer campestre, Carpinus betulus, Cornus sanguinea, Corylus avellana and Sambucus nigra). Natural hedgerows constituted by the same plant species were also surveyed. Phytophagous mites (e.g. belonging to the Tetranychoidea and Eriophyoidea) were seldom abundant in the vineyard and in hedgerows. The Tydeoidea were more common and their population densities reached moderate levels on the grapevine as well on hedgerow plants. The Winterschmidtiidae were frequent on some plant species but rare in the vineyard. The Phytoseiidae were frequently recorded in the vineyard and in hedgerows. In the vineyard, Amblyseius andersoni and Typhlodromus pyri were more common than other species (e.g. Euseius finlandicus [Seiulus finlandicus] and Paraseiulus talbii) but the importance of Kampimodromus aberrans increased in the last seasons. In the first experimental years the colonization of secondary hedgerows was dominated by A. andersoni. Later, the species more frequent on natural hedgerows (e.g. E. finlandicus and K. aberrans) increased in importance even on secondary hedgerows.