

Field trials to study the efficiency of weed control in reducing the density of adult *Hyalesthes obsoletus*

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The principal vector of bois noir of grapevine (BN) and other diseases caused by stolbur phytoplasmas is *Hyalesthes obsoletus*, a polyphagous planthopper living on wild herbaceous plants. Two major hosts of both, the vector and the pathogen are *Convolvulus arvensis* (bindweed) and *Urtica dioica* (nettle). *H. obsoletus* is not affected by insecticide sprays on vines, because it lacks a close association with grapevine but occurs on its wild plant hosts inside and outside of vineyards as well. Control strategies should focus on larval instars that are rather immobile and constrained to their host plants. While bindweed grows in a dispersed pattern throughout the vineyards and in abandoned fields, nettle is more common along the vineyard borders. Within the plots it grows along terraces or in small stands. An obstacle to all field trials with *H. obsoletus* is its extremely uneven distribution. This study aimed at the assessment of methods for estimating the numbers of *H. obsoletus* and at the evaluation of the efficiency of herbicide treatments against host plants as a measure to decrease *H. obsoletus* density by depriving the immature vectors of their food source.

Individual stands of nettle were treated selectively with herbicides within an experimental plot, while at the vineyard's border herbicides and an insecticide were applied with two replications each on continuous plots. All treatments were carried out in April approximately two month before the emergence of adults. Inside the vineyard the planthoppers were caught by sticky traps exposed directly above the host plants, while emergence traps were used at the border. Although the numbers of caught vectors varied strongly between traps, a significant decrease of emerging vectors could be achieved with all methods. The data show that weed control is an efficient measure to significantly decrease *H. obsoletus* population density and thereby to reduce the infection pressure on grapevine.