

## Modelling and Management of Vegetal Pest Based On Case of Xylella Fastidiosa in Alicante

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**Abstract :** Our proposal provides suitable modelling to the spread of plant pest and particularly to the propagation of Xylella fastidiosa in the almond trees. We compared the impact of temperature and humidity on the propagation of Xylella fastidiosa in various subspecies. Comparison between Balearic Islands and Alicante (Spain). Most sharpshooter and spittlebug species showed peaks in population density during the month of higher mean temperature and relative humidity (April-October), except for the spittlebug Clastoptera sp.1, whose adult population peaked from September-October (late summer and early autumn). The critical season is from when they hatch from the eggs until they are in the pre-reproductive season (January - April) to expand. We focused on winters in the egg state, which normally hatches in early March. The nymphs secrete a foam (mucilage) in which they live and that protects them from natural enemies of temperature changes and prevents dry as long as the humidity is above 75%. The interaction between the life cycles of vectors and vegetation influences the food preferences of vectors and is responsible for the general seasonal shift of the population from vegetation to trees and vice versa, In addition to the temperature maps, we have observed humidity as it affects the spread of the pest Xylella fastidiosa (Xf).

**Keywords :** xylella fastidiosa, almond tree, temperature, humidity, environmental model

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