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## Climate change in the vineyard: perspectives for pest species in the region of Neuchatel

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Global warming increases the need for local climatic studies in wine-producing areas. Winegrowers have to develop strategies to adapt their activities to new climatic conditions and to their various effects on vine culture. Among them, distribution and population dynamics of pest species are likely to change. New species could reach the temperate regions, and some native species could create more damages than previously in the vineyards. In Western Europe, the distribution of the American grapevine leafhopper *Scaphoideus titanus* has been observed to shift northwards during the last decades (Boudon and Maixner 2007). Plurivoltin species such as the European grapevine moth *Lobesia botrana* could produce more generations per year (Gutierrez et al. 2018), creating potentially more damages on grapes. To help winegrowers, it is crucial to lead research at local scale, taking into account microclimatic specificities of the vineyards (Mozell and Thach 2014).

In this study, we examine temperature trends during the growing season in the region of Neuchatel and their potential impacts on major vine pest species. We focus on the American grapevine leafhopper and on the European grapevine moth. The American grapevine leafhopper is already established in the Lake Geneva area and could soon reach the Neuchatel area, while the European grapevine moth is already present in the Neuchatel vineyard. We use temperature data over the last 40 years (1980-2019) and two climatic scenarios to assess present suitability for pest development and the perspectives for the next decades.

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