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[1] INRAE, URZF, 45075 Orléans, France ; [2] ANSES, Plant Health Laboratory, Nematology Unit, 35653 Le Rheu, France ; [3] INRAE, BioSP, 84914 Avignon, France ; [4] INRAE, Biogeco, 33612 Cestas, France ; [5] Ministry of Agriculture, DRAAF-SRAL Nouvelle-Aquitaine, 33077 Bordeaux, France ; [6] INRAE, ETTIS, 33612 Cestas, France ; [7] INRAE, UEFP, 33612 Cestas, France ; [8] INRAE, ISA, 06903 Sophia Antipolis, France ; email : christelle.robinet@inrae.fr

In Europe, pine wilt disease is largely distributed in Portugal and is present in some spots in Spain near the Portuguese border. Although the causing agent (i.e., the pine wood nematode *Bursaphelenchus xylophilus*) is not present in France yet, it is knocking at the door of the country. The invasion risk is particularly high, due to high risk of entry, establishment and spread.

Risk of entry is mainly related to the importation of potentially infested materials from countries where the pine wood nematode is present. It is frequently intercepted in wood-based commodities. A probabilistic pathway model and a multicriteria analysis allow to identify the most likely points of entry, and could be used to further improve surveillance.

Risk of establishment is also very high as susceptible pine trees are largely distributed through France, and climate warming enlarges favorable areas where pine wilt symptoms are likely to appear. A large part of France is now suitable for the pine wilt disease (with or without latency) if the nematode was introduced. Surveillance strategies should be fitted to the expected conditions and take into consideration whether the infested trees could become symptomatic or not.

Risk of expansion is mainly based on the capability of the insect vector to disperse and transmit the pine wood nematode to healthy pine trees. The only known vector in Europe is *Monochamus galloprovincilis*, which is largely distributed in France. A first spread model was developed a few years ago to assess potential range expansion in France in case the pine wood nematode was introduced and established. This model describes the most important processes involved in the potential spread, such as: insect vector dispersal, insect vector egg-laying, pine wood nematode transmission from the insects to the trees and from the trees to the insects, pine wilt disease expression, pest management, and accidental transportation by human activities. This model involves many parameters and some of them are still difficult to estimate because of a lack of data. Effectiveness of the pine wood nematode management is also a key component to consider in models describing its potential spread.

Under the aegis of the Ministry of Agriculture, a French plant health epidemiological surveillance platform, created in 2019, provides tools to optimize surveillance of the pine wood nematode, such as maps for areas at risk of entry and introduction. Besides, a French network called InterNématode, created in 2020, aims to enhance interactions among researchers working on different objects (nematode, insect, host tree) but also between researchers and forest and wood managers. Collectively, it appears that we need to urgently tackle a set of questions to better understand the invasion dynamics and improve surveillance and management of the pine wood nematode once it will be established. An opinion paper summarizing this issue will be submitted soon. Some questions are still pending concerning each of these objects and their interactions. Reinforcing international collaboration with countries already infested by the pine wood nematode is very much welcome to fill in remaining gaps.

Key-words: entry, establishment, spread, *Bursaphelenchus xylophilus*, France