

Rapid advice 03-2019 of the Scientific Committee established at the FASFC on the risk assessment concerning the presence of the bacterium *Xylella fastidiosa* in Belgium on olive trees imported from Spain

Background and asked questions

Following the detection of *Xylella fastidiosa* on olive trees originating from Spain in autumn 2018, the FASFC and the concerned operator have taken control measures to prevent its spread. The Scientific Committee has been requested to answer the following questions:

1. What is the risk of spreading of *X. fastidiosa* in and around the affected company, given its low concentration detected on imported olive trees, the time of introduction, the information collected about present vectors...?
2. What is the risk of spreading of *X. fastidiosa* through the affected company's customers via the olive trees from the same lot as the infected trees, given that *X. fastidiosa* was not detected in the traced trees, given the time of introduction and given the knowledge about (possible) vectors in Belgium?
3. Can the implemented control measures (e.g. destruction of olive trees, use of sticky yellow traps for vector capture) serve as a model for measures to be included in the contingency plan in the event of a new introduction?
4. Can the Scientific Committee support the surveillance plan proposed by the FASFC during the next two seasons? More specifically, advice is requested on the method, the ideal period and the search for vectors (e.g. capture method, molecular analysis of all leafhoppers or only xylem-feeding piercing-sucking insects, or only certain species) and the relevance or not of sampling standing tall trees.
5. What is the significance of the detection of *X. fastidiosa* with high Cycle threshold (Ct) values and what conclusions can be drawn about the possible spread of the bacterium in light of other research results (vectors, plants in the environment)?

Method

The advice is based : **(i)** on the assessment by experts of the technical dossier prepared by the FASFC, containing the results of the survey carried out following the detection of *X. fastidiosa* in September in Belgium, the description of the implemented control measures following this detection and a proposal of surveillance plan for the following two seasons, **(ii)** on different scientific references as well as **(iii)** on expert opinion.

Answers to the questions

1. Based on the elements listed below, in particular the fact that a small number of olive trees had a positive result for *X. fastidiosa*, that these results were slightly higher than the detection limits (= high Ct-values), that insecticide treatment was regularly applied by the operator concerned (= elimination of insect vectors), that eradication measures were implemented and that the bacteria could not be detected in the immediate environment of the affected company, the Scientific Committee considers that the risk of *X. fastidiosa* spreading in and around the affected company is low (moderate uncertainty).
2. Based on the fact that only 13 olive trees from the three positive lots were sold whereof 11 were found back and were negative, the Scientific Committee considers that the risk of spreading *X. fastidiosa* via customers of the affected company is very low (moderate uncertainty).
3. The Scientific Committee considers that the implemented control measures are adequate and that they can serve as a model for the measures to be included in the emergency plan in the event of a new introduction of *X. fastidiosa* but suggests some modifications, such as the use of sweep nets to sample insects instead of using chromatic traps (sticky yellow plates).

4. The Scientific Committee supports the surveillance plan proposed by the FASFC during the next two seasons, while proposing some adaptations including the installation of myrtle-leaf milkworts (*Polygala myrtifolia*) in the affected company as trap plant. This plant species is very sensitive to *X. fastidiosa*.
5. The Scientific Committee is of the opinion that the high Ct values observed in this case are indicative of a latent presence of *X. fastidiosa* subsp. *multiplex* in olive trees imported from Spain. This suggests a low level of presence without adherence of the bacterium and, consequently, without any real clinical manifestation of the disease.

Uncertainties

The uncertainties in this advice are those inherent to an expert opinion. Other uncertainties deal with the fact that two olive trees from the first positive batch could not be found back and therefore tested, the fact that the subspecies of *X. fastidiosa* could not be determined (lack of DNA to allow sequencing) and the fact that the analytical results were slightly above the detection limits (= high Ct-values) and that at this level the risk of 'false-positives' is considered significant.

Conclusions

Based on the elements of the technical dossier transmitted by the FASFC, in particular the implemented eradication measures, the Scientific Committee assesses the risk of spreading of *X. fastidiosa* in and around the affected company as low.

In addition, the Scientific Committee supports the surveillance plan proposed by the FASFC during the next two seasons, but makes some recommendations.

Recommendations

Regarding the control measures to be implemented in case of a new introduction of *X. fastidiosa*, the Scientific Committee recommends:

- to identify the subspecies in order to refine the hostrange and, consequently, to reduce the number of plants to be destroyed,
- to consider the 200 m area around the affected company as an inspection area for both specified plants and vector insects,
- to use sweep nets to sample insects instead of chromatic traps (yellow sticky plates).

Regarding the proposed surveillance plan during the next two seasons, the Scientific Committee recommends:

- to target areas of greater plant diversity when monitoring specified plants and vector insects in the immediate vicinity of the affected company,
- to capture insects in the 200 m area around the affected company with sweep nets and on two occasions (mid-August and mid-September), and to search for the possible presence of DNA of *X. fastidiosa* in all leafhoppers and all (known and potential) xylem-feeding piercing-sucking vector insects,
- install myrtle-leaf milkworts as trap plants in the affected company and regularly inspect them searching for possible symptoms.

The Scientific Committee recommends further standardization and validation of *X. fastidiosa* detection methods so that the risk of false-positive results is minimized. The cycle cut off and the corresponding detection limit in number of copies of the target DNA should be determined. Based on the current knowledge, the value of 35 should be considered as the cycle cut off.

The full text is available on this website in dutch and in french.