IMPLEMENTATION OF SAMPLING PROCEDURES FOR TESTING COMPOSITE SAMPLES FOR *XYLELLA FASTIDIOSA*

G. LOCONSOLE[1]*, L. MANCA[1], O. POTERE[1], L. SUSCA[1], G. ALTAMURA[2], S. ZICCA[2], D. BOSCIA[2], V. NICOLA SAVINO[1], M. SAPONARI[2]

[1]DIPARTIMENTO DI SCIENZE DEL SUOLO DELLA PIANTA E DEGLI ALIMENTI, UNIVERSITÀ DEGLI STUDI DI BARI ALDO MORO, 70126 BARI, ITALY. [2]ISTITUTO PER LA PROTEZIONE SOSTENIBILE DELLE PIANTE, CNR, 70126 BARI, ITALY.

***Corresponding author: giuliana.loconsole@uniba.it.**

Inspections and controls for *Xylella fastidiosa* are mandatory on consignment and in place of productions for the most susceptible host plants listed in the EU Decision 2017/2352, as well as on the long list of "specified plants" when propagated in nurseries located in the infected, containment and buffer zones. The main constrains for testing samples collected from lots of plants are the large number of units to be sampled and the large amount of materials (n. of leaves or shoots/cuttings) to be processed at laboratory level.

We carried out experiments by simulating composite samples containing different proportions of *Xylella*-infected plant tissues, to verify the diagnostic sensitivity of serological and molecular tests. Petioles recovered from infected leaves of *Polygala myrtifolia*, *Nerium oleander* and *Olea europaea,* and scraped xylem tissue from infected cuttings of *Prunus avium* were pooled at different ratio with healthy materials and processed by ELISA, LAMP and qPCR. Indeed, a protocol based on the extraction of large amount of tissues (40gr of plant material, 100-200 leaves) was also tested.

The results provided preliminary important indications both for sampling and laboratory testing: (i) minimum n. of leaves to be collected from the single unit of the lot; (ii) the maximum n. of units that can be pooled and processed using either the standard extraction procedures or the protocol adapted for large tissue amount. The minimum number of the leaves to be collected from the individual plant of the sample unit, ranged from 2 to 6 according to the host species, allowing to pool up to 10 plants or more in relation to the extraction protocol used.

Composite sampling is increasingly becoming an acceptable practice when a large number of samples have to be selected to satisfy sample size requirements, keeping the number of diagnostic tests affordable.