PHYTOPHTHORA-FREE PLANT PRODUCTION AND UPDATE ON *HYMENOSCYPHUS FRAXINEUS*

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In order to minimize the risk of spreading *Phytophthora* species to forests and ornamental sites via nursery stock, BFW has been performing checks of plants of Common Alder (*Alnus glutinosa*) and European beech (*Fagus sylvatica*) from forest nurseries for contamination with *Phytophthora* spp. on a service-basis for the past 13 years. Following a scheme developed by BFW, samples (both plants and soil) are taken by BFW-technicians preferably most close to the time of selling. The samples are tested in BFW's lab by direct isolation from symptomatic plant tissues and by soil baiting. Identification of species is performed by morphological and molecular methods. The results (identified species of *Phytophthora*) are delivered to the nurseries and, in case of freedom of the samples from *Phytophthora*, a certificate is issued to state that the tested material was not contaminated. In order to push to a stable production of plants not infested by *Phytophthora*, the nurseries are informed on a range of requirements. To produce an international protocol for both a *Phytophthora*-testing-system and a guideline for nurseries to enable a stable guaranteed freedom of plantstock from *Phytophthora*, a questionnaire was produced in collaboration with nurseries in Austria to define the most essential challenges. The outcome is a list of prerequisites ranked by importance, reliability and practicability. Among the requirements, avoidance of introduction of *Phytophthora's* into the nursery via plant import on the one hand and the need for irrigation of the plants with non infected water turned out the most essential challenges. As a preliminary result we can state that, regarding the spectrum of nurseries in Europe with respect to dimension, financial potential, but also availability of irrigation sources as well as infection-risks by specific environments, an international management guideline will have to comprise a certain flexibility to achieve *Phytophthora*-free plant production.

Ash dieback monitoring has been performed since 2008 on 14 sites distributed throughout Lower Austria. Common ash (*Fraxinus excelsior*) is present on 13 plots while one plot represents a pure stand of Narrow-leaved ash (*Fraxinus angustifolia*). Assessment of the disease performed on a yearly base results in a health status of the trees in a 5 % scale, reaching from 0 % (no dieback symptoms in the crown) to 100 % (crown dead). After ten years of continuous monitoring, data for 186 *F. excelsior* and 17 *F. angustifolia* trees in twelve different sites situated in Lower Austria are available. In the past few years, ash dieback has turned out to be a big problem for forest owners and the risk of trees losing their stability without showing symptoms of a disease in the crown raised the awareness and resulted in massive clear cuts and felling of single ash trees. Therefore, the total number of 280 trees in the year 2008 was reduced to 186 *F. excelsior* trees and 17 *F. angustifolia* trees in 2018. Within this time, mean crown dieback intensity of the remaining *F. excelsior* trees increased from 12% to 31%. Distribution in damage classes is as follows: 38 % (up to 10 %); 21 % (> 10 % - 25 %); 12 % (> 25 % - 50 %); 16 % (> 50 % - 90 %); 5 % (> 90 % < 100%) an 8 % (100 %) of dieback in the crown. However, crown dieback damage varies among the plots at the different sites. While in the healthiest plot all trees show less than 25 % of crown damage, with 79 % even less than 10 %, in the plot with the highest