

Express – PRA for *Eutypella parasitica* – Occurrence –

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Initiation: Occurrence on maple trees in the state forest (June 2017) in Bavaria

Express PRA	<i>Eutypella parasitica</i> R.W. Davidson & R.C. Lorenz		
Phytosanitary risk for Germany	high <input type="checkbox"/>	medium <input type="checkbox"/>	low <input checked="" type="checkbox"/>
Phytosanitary risk for EU-Member States	high <input type="checkbox"/>	medium <input type="checkbox"/>	low <input checked="" type="checkbox"/>
Certainty of assessment	high <input type="checkbox"/>	medium <input checked="" type="checkbox"/>	low <input type="checkbox"/>
Conclusion	<p>The fungus <i>Eutypella parasitica</i> is endemic in the USA and Canada and does already occur in the EU and Germany. So far, it is listed neither in the Annexes of Directive 2000/29/EC nor by EPPO. The fungus was included in the EPPO Alert-List in 2005. In 2008, it was removed from the list because of its fast and wide spread in the EU, as well as causing only minor economical damage.</p> <p><i>E. parasitica</i> exclusively infests <i>Acer</i> spp. (maple).</p> <p>Due to suitable climatic conditions, it is assumed that <i>E. parasitica</i> is able to establish outdoors in Germany. An establishment in southern European EU-Member States is also to be expected.</p> <p>According to actual knowledge, <i>E. parasitica</i> does already occur in the urban area of Munich (Bavaria). Due to its low damage potential for <i>Acer</i> spp., it does not present a significant phytosanitary risk for Germany and other EU-Member States. Thus, the fungus is not classified as a quarantine pest and § 4a of the Plant Inspection Order does not apply.</p>		
Preconditions for Express PRA fulfilled?	<p>Yes, <i>E. parasitica</i> could be a pest. The fungus is listed neither in the Annexes of Directive 2000/29/EC nor by EPPO. So far, in the area covered by the reporting plant protection service it was detected only in the city area of Munich. Until now, the pest was not detected in the other Federal States.</p>		
Taxonomy, trivial name, synonyms	<p>Fungi, Ascomycota, Pezizomycotina, Sordariomycetes, Xylariomycetidae, Xylariales, Diatrypaceae, <i>E. parasitica</i> R.W. Davidson & R.C. Lorenz</p> <p><i>Eutypella</i> Canker of Maple, <i>Eutypella</i>-Ahornstammkrebs</p>		
Does a relevant earlier PRA exist?	<p>Yes. PRA and Datasheet (Jurc und Ogris 2005) Pest risk analysis for <i>Eutypella parasitica</i>. https://www.google.de/search?q=PEST+RISK+ANALYSIS+F+OR+Eutypella+parasitica&ie=utf-8&oe=utf-8&client=firefox-b&gfe_rd=cr&dcr=0&ei=0ayiWrD_K9uCgAe5n7KQCA</p>		

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Distribution and biology	The fungus is endemic in North America (Davidson und Lorenz 1938, French 1969) and widely distributed in parts of the USA and Canada. In the EU, it is present in Austria, Croatia, Czech Republic, Slovenia, Hungary, Poland and Germany (Cech 2007, Cech et al. 2016). Spores of <i>E. parasitica</i> infest maple stems via present wounds and broken branches. The spores germinate and the mycelium enters into the wood and bark. At first, the growing mycelium causes lenticular shaped bark lesions that spread app. 1-2 cm per year. In the course of the disease, the lesions remain closed for a longer period, the dead bark areas being proliferated by the whitish fungal mycelium growing beneath. Later the development of callus leads to the growth of the stem cancer with large-areas of bark tissue falling off. At an advanced stage, distinct proliferations develop which often lead to a crooked stem growing in one direction (Cech 2007). Only 5 to 8 years after the infection fruit-bodies of <i>E. parasitica</i> develop and the bark surface then appears black. Already at low rainfall and a temperature of above 4 ° C the spore production begins. The distribution via wind and rain is limited to a distance of 25 m (Johnson und Kuntz 1979).
Are host plants present in the PRA area? If so, which?	Yes, <i>Acer</i> spp. are widely distributed in Germany and in the EU in forests and urban plantings.
Pathways	The introduction may happen via <i>Acer</i> spp. (plants for planting, raw wood).
Transfer pest consignment → host plant	Yes, in the case of an import of infested maple plants and wooden material further maple trees can be infested.
Is a vector/further plant needed for host alternation? Which? Distribution?	No
Climate in the distribution area comparable to PRA area?	Yes, the climatic conditions in Germany and in the EU are comparable to those in the USA.
If no, are host plants present in protected cultivation?	Not relevant.
Damage to be expected in the PRA area?	Yes. Damage in respect to the crop and the quality in maple stands has to be expected. App. 2.5 % of the maple trees in the USA and Canada are infested, but there are also stands with an infection of up to 40 %. A comparable disease incidence is to be expected in Germany and other EU-Member States (Ogris et al. 2006). The estimated economical damage caused by <i>E. parasitica</i> according to the Slovenian PRA was minor at app. 42,412 Euro per year.
Is an infestation easy to eradicate?	No. An eradication is not feasible because it is impossible to detect the disease in the early development stages. According to Cech et al. (2016) the disease was detected on

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	<p>6 different Acer-species in Munich - unfortunately without information on the possible actual infestation area.</p> <p>A reduction of infestation sources via felling and disposal of infested trees can help to slow down the distribution of the disease. An early detection of the disease before the production of fruit bodies and spores is possible by increased attention on the symptoms on maple stems.</p>
Detection and diagnosis	The detection is carried out via PCR with species-specific primers for <i>E. parasitica</i> (Piškur et al. 2007)
Remarks	The infestation of <i>E. parasitica</i> could be much more widespread than revealed by the actual findings.
Literature	<p>Cech TL, 2007. First record of <i>Eutypella parasitica</i> in Austria. Forstschutz Aktuell 40, 10–13 (in German).</p> <p>Cech TL, Schwanda K, Klosterhuber M, Straßer L, Kirisits T, 2016. <i>Eutypella</i> canker of maple: first report from Germany and situation in Austria. Forest Pathology 46, 336–340. doi:10.1111/efp.12268</p> <p>Davidson RW, Lorenz RC, 1938. Species of <i>Eutypella</i> and <i>Schizoxylon</i> associated with cankers of maple. Phytopathology 28, 733–45.</p> <p>French WJ, 1969. <i>Eutypella</i> canker on Acer in New York. Technical Publication, 94: 56</p> <p>Johnson DW, Kuntz JE, 1979. <i>Eutypella</i> canker of maple: ascospore discharge and dissemination. Phytopathol. 69, 130–135.</p> <p>Ogris N, Jurc D, Jurc, M, 2006. Spread risk of <i>Eutypella</i> canker of maple in Europe. EPPO Bull. 36, 475–485.</p> <p>NPPO of Slovenia, 2005-07 – PRA and datasheet (in Slovenian), 2006-05.</p> <p>Piškur B, Ogris N, Jurc D, 2007. Species-specific primers for <i>Eutypella parasitica</i>, the causal agent of <i>Eutypella</i> canker of maple. Plant Dis., 91, 1579-1584, http://dx.doi.org/10.1094/PDIS-91-12-1579</p>