Express – PRA for *Amycosphaerella africana* – Research and Breeding –

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Initiation: Request for an Express-PRA by the Federal State Lower Saxony resulting from an application for a special permit for the movement and use of the organism for research and breeding purposes

Express PRA	***Amycosphaerella africana*** (Crous & M. J. Wingf.) Quaedvl. & Crous		
Phytosanitary risk for Germany	**high** ☐	**medium** ☐	**low** ☒
Phytosanitary risk for EU-Member States	**high** ☐	**medium** ☐	**low** ☒
Certainty of assessment	**high** ☐	**medium** ☒	**low** ☐
Conclusion	For the first time, *Amycosphaerella africana* (synonym: *Mycosphaerella africana*) was described in South Africa. The fungus does not occur in Germany. *A. africana* was detected in Spain. So far, it is neither listed in the Annexes of Directive 2000/29/EC nor by EPPO. *A. africana* infests plants of the genus *Citrus* and is associated with a defoliation disease on *Eucalyptus* spp. After a latency period of several months, *Citrus* plants develop leaf spots. Defoliation is possible. So far, no crop loss and damage on the fruits is known. Due to unsuitable climatic conditions, it is assumed that the fungus is not able to establish outdoors in Germany. An establishment in southern EU-Member States in semiarid areas with *Citrus*-cultivation is possible and has already taken place in Spain. For plants in protected cultivation no damage is expected. Due to its low damage potential and the low availability of host plants as well as the unsuitable climatic conditions, *A. africana* does not present any phytosanitary risk for Germany. The current effects known in Spain indicate a low risk for other Member States. Thus, *A. africana* is not classified as a potential quarantine pest and § 4a of the Plant Inspection Order does not apply.		
Preconditions for an Express PRA fulfilled?	Could be a pest, is not listed. So far, it is not established in the area covered by the reporting plant protection service.		
Taxonomy, trivial name, synonyms	Fungi; Ascomycota; Dothideomycetidae; Mycosphaerellales; Mycosphaerellaceae; *Amycosphaerella africana* (Crous & M. J. Wingf.) Quaedvl. & Crous;		

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	Synonyms: *Mycosphaerella africana* Crous & M. J. Wingf.; *Teratosphaeria africana* (Crous & M.J. Wingf.) Crous & U. Braun
Does a relevant earlier PRA exist?	No
Distribution and biology	Until today, the fungus has been detected in Spain, Morocco, Australia (West Australia) and South Africa (Western Cape) (AGUILERA-COGLEY, 2017). The fungus propagates via ascospores that survive in the ground litter. Leaves of the host plant are colonized during rain and at sufficiently warm temperatures via the air (in Spain during spring and autumn). For months, the fungus is latently present on the host plant. Leaf spots develop in the subsequent year after the colonization (GENERALITAT VALENCIA, 2016).
Are host plants present in the PRA area? If so, which?	Known host plants are *Eucalyptus viminalis*, *E. globulus*, *E. cladocalyx, E. deanei, E. grandis, E. radiata*, *Citrus sinensis*, *C. reticulata*, *C. reticulata* x *C. sinensis*, *C. unshiu* (AGUILERA-COGLEY, 2017; CROUS & WINGFIELD, 1996) In Germany, citrus plants and eucalyptus are maintained in private gardens and in public green space from spring to autumn and all year in greenhouses or winter gardens as ornamentals. In Mediterranean regions in the EU, citrus plants are intensively cultivated for fruit production. Citrus fruits are an important economical factor in the EU. On the Iberian peninsula, eucalyptus was introduced as fast growing supplier for raw material for the pulp production.
Is a vector/further plant needed for host alternation?	No, the ascospores reach their host plants in the rain through the air.
Climate in distribution area comparable to PRA area?	The fungus thrives under Mediterranean, semi-arid conditions with winter months below 18°C. These conditions are not given outdoors in Germany. In Europe, large areas in Spain and a small region in southern Italy as well as in western Greece seem climatically suitable.
If no, are host plants present in protected cultivation?	Cultivation in greenhouses and private interiors as ornamentals.
Damage to be expected in the	The fungus is associated with leaf spots and defoliation of

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PRA area?	*Eucalyptus* spp. The pathogenicity (the ability to cause pathological mutations) for *Eucalyptus* spp., however, has not been proven until today. The cause for the „Mycospaerella Leaf Blotch"-disease of eucalyptus presumably is the related fungus species *Mycosphaerella nubilosa* (HUNTER *et al.*, 2004). In Spain, necrotic spots („greasy spot") were detected on *Citrus* spp. on the leaves of oranges, mandarin and their hybrids that were associated with *A. africana* (AGUILERA-COGLEY, 2017). In addition to leaf spots, also leaf fall may occur on infested plants (GENERALITAT VALENCIA, 2016). In its current distribution area in Spain, the fungus is not very aggressive. An infestation could be observed mostly on citrus plants that are not well maintained (low winter temperatures, insufficient fertilization, compacted soil, insufficient pruning, overaged plantings). Crop loss that can be associated with the infection as well as damage on fruits is not known from Spain (GENERALITAT VALENCIA, 2016). Aesthetic damage on ornamentals is possible.
Remarks	So far, there is very little information on *A. africana* and current knowledge indicates a low damage potential.
Literature	AGUILERA-COGLEY, V. A., M. BERBEGAL, S. CATALÀ, F. C. BRENTU, J. ARMENGOL, A. VINCENT, 2017: Characterization of Mycosphaerellaceae species associated with citrus greasy spot in Panama and Spain. PLoS ONE 12(12): e0189585, 19 S. https://doi.org/10.1371/journal.pone.0189585 (accessed on: 29-10-2018) CROUS, P. W., M. J. WINGFIELD, 1996: Species of Mycosphaerella and theri anamorphs associated with leaf blotch disease of *Eucalyptus* in South Africa. Mycologia, 88(**3**), 441-458. GENERALITAT VALENCIA, 2016: Manchas foliares y caída de hojas en cítricos. Conselleria d'agricultura, medi ambient, canvi climàtic i desenvolupament rural, 2 S. http://www.agroambient.gva.es/documents/163214705/163899367/C%C3%ADtricos%2C%20manchas+foliares+y+ca%C3%ADda+de+hojas%2C%20abril+2016.pdf/2758fb6f-8fa5-4b57-8914-4a995b45d3cc (accessed on: 29-10-2018) HUNTER, G. C., J. ROUX, B. D. WINGFIELD, P. W. CROUS, M. J. WINGFIELD, 2004: *Mycosphaerella* species causing leaf disease in South African *Eucalyptus* plantations. Mycol. Res. 108 (**6**), 672-681. DOI: 10.1017/S0953756204009864