Express – PRA for *Burkholderia soli* - Research and Breeding -

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Initiation: Request for an Express-PRA by the Federal State Lower Saxony based on an application for a special authorisation for the movement and use of the organism for research and breeding purposes.

Express-PRA	*Burkholderia soli* sp. nov.		
Phytosanitary risk for Germany	Due to little information available for this potential pest, a differentiated classification of the risk is not possible. There is little reason to assume that the pest might cause considerable damage in Germany or another Member State, but due to the high uncertainty, measures should be met to prevent the release.		
Phytosanitary risk for EU-Member States			
Certainty of assessment	**high** ☐	**medium** ☐	**low** ☒
Conclusion	The bacterium *Burkholderia soli* presumably is endemic in South Korea. So far, it does not occur in Germany and the EU and it is neither listed in the Annexes of Directive 2000/29/EC nor by EPPO. So far, no host plants are known but it cannot be excluded that plants will be infested. *B. soli* can grow at temperatures of 10-40°C. The climate in the region of origin is continentally moderate. Due to suitable climatic conditions, it is assumed that *B. soli* is able to establish outdoors in Germany. An establishment in Southern European Member States cannot be excluded. The establishment in protected cultivation or in tropical greenhouses is conceivable. There is a close relationship to *B. caryophylli* that causes root rot of carnation. Thus, it is assumed that the bacterium represents a phytosanitary risk for Germany and other Member States. Based on this risk analysis, it is assumed that *B. soli* is able to establish in Germany or another Member State and to cause considerable damage. From a technical point of view, a release of the organism is not justifiable until further information on biology, mechanisms for spreading and pathogenicity is available for a new assessment. Thus, measures for the prevention of the release of this potential quarantine pest should be met according to § 4a of the Plant Inspection Order.		
Preconditions for an Express-PRA fulfilled?	Yes. Could be a pest, is not listed, and so far, it is not established in the area covered by the reporting Plant Protection Service.		
Taxonomy, trivial name, synonyms	*Bacteria, Proteobacteria, Betaproteobacteria, Burkholderiales, Burkholderiaceae, Burkholderia, Burkholderia soli*, syn. *Paraburkholderia soli*		

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	The closest relative of *B. soli* is *B. caryophylli* (Yoo et al. 2007), the causal agent of root rot of carnations (listed in Annex II/A2 of Dir. 2000/29/EC).
Does a relevant earlier PRA exist?	No. A risk analysis by EFSA is available for the closest relative *B. caryophylli* (EFSA 2013).
Distribution and biology	So far, the bacterium was only isolated from the soil in the province Chungcheongbuk-do in the Eumseong region in South Korea. Ginseng was cultivated in the area. The bacteria are app. 0.5-0.75 µm broad and 1.6-3.9 µm long. *B. soli* is gram-negative, strictly aerob and immobile (Yoo *et al.* 2007). *B. soli* is closely related to the pest *B. caryophylli.*
Are host plants present in the PRA area? If so, which?	No information on host plants available.
Is a vector/further plant needed for host alternation? Which? Distribution?	No information on vectors or further host plants available. The bacterium is immobile (Yoo *et al.* 2007).
Climate in distribution area comparable to PRA area?	Apart from some sub-tropical valleys, South Korea is located in the moderate climatic zone. The province Chungcheongbuk-do has a moderate Continental climate that generally is comparable to the climate in Germany and large parts of the EU. The bacterium is able to grow at 10-40°C. Thus, a climatic limitation of the spread in Europe cannot be expected.
If no, are host plants present in protected cultivation?	No information on host plants available.
Damage to be expected in the PRA area?	The closely related species *B. caryophylli* might cause considerable damage in the PRA area. Thus, damage in the PRA area caused by *B.soli* cannot be excluded.
Remarks	*B. soli* belongs to the heterogeneous genus *Burkholderia* to which also plant pathogens, endosymbionts and opportunistic human pathogens belong (Coenye, Vandamme 2003; Depoorter et al. 2016; Eberl, Vandamme 2016). *B. soli* is able to grow at 37°C (Yoo *et al.* 2003). This is an essential precondition for the colonisation of the human body. A thorough characterization of the relevant tribe is necessary to assess a *Burkholderia*-species as safe for humans (Eberl, Vandamme 2016). Thus, measures should be met to prevent the release including the application of good laboratory practices like the inactivation of the pathogen after termination of the trials.
Literature	Coenye, T., Vandamme, P. (2003) Diversity and significance of *Burholderia* species occupying diverse ecological niches.

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