Express – PRA[1)] on *Liberibacter crescens* – research and breeding-

Prepared by: Julius Kühn-Institute, Institute for Plant Health, on 02 February, 2017: Dr. Gritta Schrader, Dr. Petra Müller; (translated by Elke Vogt-Arndt)

Initiation: Express PRA requested by the Federal State Brandenburg based on an application for a special authorization for the transport and use of the bacterium for research and breeding purposes

Express-Risk Analysis (PRA)	***Liberibacter crescens* gen. nov., sp.nov**		
Phytosanitary risk for Germany **Phytosanitary risk for EU-MS**	Due to sparse information available on this pest no differentiated risk classification is possible. Although there is little reason to believe that the pest could cause substantial damage in Germany or other MS measures for preventing the release should be taken because of the considerable uncertainty.		
Certainty of assessment	**high** ☐	**medium** ☐	**low** ☒
Conclusion	The bacterium *Liberibacter crescens* that presumably is native to Costa Rica does not yet occur in Germany and the EU. Up to now it is neither listed in the Annexes of Dir. 2000/29/EC nor at EPPO. *Liberibacter crescens* infests papaya. Up to now no further host plants are known. Nevertheless, the infestation of other plants cannot be excluded.		
Precondition for Express-PRA fulfilled?	Yes. It is apparently a pest, not listed, up to now not established in the area of responsibility of the notifying plant protection service.		
Taxonomy, trivial name, synonyms	*Bacteria, Proteobacteria, Alphaproteobacteria, Rhizobiales, Rhizobiaceae, Candidatus* Liberibacter The pest belongs to a species of phloematic, mostly tropical and sub-tropical bacteria of the genus Candidatus *Liberibacter*. This genus comprises pathogens that damage plants of economic importance as for example potatoes, tomatoes and citrus (see citation in Fagen et al. 2014). This is the first species of this genus that can be cultivated in a laboratory (Fagen et al. 2014).		
Does a relevant earlier PRA exist?	No		
Spread and biology	Up to now only one finding in Costa Rica. Strong genetical congruence with Ca. *Liberibacter americanus*, Ca. *Liberibacter asiaticus*, Ca. *Liberibacter solanacearum* and Ca. *Liberibacter africanus*.		
Presence of host plants in the PRA area? If so, which?	At the moment the only identified host plant is papaya which does not occur in Germany and the EU.		
Is a vector needed/ further plants for host alternation? Which? Distribution?	Possibly the bacterium is transmitted by the cicada *Empoasca papayae*. No details and information are available whether other insects could serve as a vector.		
Climate in the distribution area comparable with PRA-area?	Up to now the bacterium has only been found in the tropics. However, the question is whether the bacterium could survive at cooler temperatures as it is contained in the phloem of the host plants.		
If no, are there host plants in protected cultivation?	In tropical glasshouses, in protected cultivation and in southern MS host plants possibly could be present.		
Damage to be expected in the PRA-area	Closely related species as Ca. *Liberibacter americanus*, Ca. *Liberibacter asiaticus*, Ca. *Liberibacter solanacearum* and Ca. *Liberibacter africanus* are able to cause considerable damage in the PRA-region. Thus, damage in the PRA-region caused by *L. crescens* cannot be excluded.		

Express-Risk Analysis (PRA)	*Liberibacter crescens* gen. nov., sp.nov
Remarks	In case of transporting and using the bacterium a release must be prevented.
Literature	Fagen, J., Leonhard, M.T.., McCullough, C.M., Triplett, E.W., Davis, M.J. (2012). *Liberibacter crescens* gen. nov.; sp. Nov. first cultured member of the *Liberibacter* genus. International Journal of Systematic and Evolutionary Bacteriology, 64, 2461-2466.