DESCRIPTION FOR THE GENERAL PUBLIC

Research planned in the framework of the project "*Pc*Diag – genomics-informed reliable systems for early detection and better understanding of *Pseudomonas cerasi"* refer to cognition of a novel bacterial species *Pseudomonas cerasi* which has been described by Polish scientists eight years ago. The bacterium is one of the causal agents of the bacterial canker of fruit trees. Until the description of the new species, the disease has been caused so far by pathovars and races of *Pseudomonas syringae*. From the recent literature, it is known that *P. cerasi* can apparently be found in a few different plant species in other countries. However, there is still little knowledge on this subject. Therefore, to broaden the knowledge about *P. cerasi*'s biology its ability to colonize other plants or its possible natural reservoirs the first necessity is to determine the presence and prevalence of this pathogen globally. However, there is still a huge problem concerning the proper identification of this pathogen. In the absence of a *P. cerasi*-specific identification system, the bacterium is often wrongly classified as *Pseudomonas syringae* (the closest relative and one of the top 10 most dangerous plant pathogens published in 2012) thus providing a biased picture of the distribution of natural reservoirs and host range of *P. cerasi*. So, the aim of the project is to develop the proper identification system and improve our knowledge of this pathogen.

The proposed research is of a basic research nature only. They are not intended to achieve any economic benefits, but only to learn about the *Pseudomonas cerasi* bacteria, which is important for science also in the context of the classification of new species of bacteria belonging to the *Pseudomonas* genus. However, the results obtained thanks to this project may constitute a valuable contribution to subsequent projects e.g. to breeding programs, aiming to select plant genotypes resistant or tolerant to disease caused by *P. cerasi*. A better understanding of the bacteria can also in the future be helpful in developing management strategies allowing keep the prevalence of *P. cerasi* as low as possible. Taking into account the need to search for new, environmentally friendly methods of limiting plant pathogens, the results of this project can thereafter in the future, be included with the European Green Deal – Strategy. The proposed research goes beyond the current state of knowledge and is undoubtedly pioneering with great cognitive potential.