# Article information:

Surfactin and fengycin contribute to the protection of a Bacillus subtilis strain against grape downy mildew by both direct effect and defence stimulation - Li - 2019 - Molecular Plant Pathology - Wiley Online Library
<https://bsppjournals.onlinelibrary.wiley.com/doi/full/10.1111/mpp.12809>

# Article summary:

1. Grapevine is susceptible to many cryptogamic diseases, such as downy mildew, powdery mildew and grey mould, which can cause severe economic losses in both wine and table grape production.

2. Biological control agents (BCAs) are an alternative/complementary strategy to chemicals for crop disease management. Bacillus is a versatile weapon against plant pathogens due to its ability to form endospores and its ubiquity in different environmental conditions.

3. B. subtilis produces various bioactive compounds against a broad spectrum of pathogens, including the surfactin, iturin and fengycin families of cyclic lipopeptides (CLPs). These CLPs have different activities, such as direct antagonistic effect and/or activation of plant defences.

# Article rating:

May be slightly imbalanced: The article presents the information in a generally reliable way, but there are minor points of consideration that could be explored further or claims that are not fully backed by appropriate evidence. Some perspectives may also be omitted, and you are encouraged to use the research topics section to explore the topic further.

# Article analysis:

The article is overall reliable and trustworthy in terms of its content. It provides a comprehensive overview of the use of Bacillus subtilis as a biological control agent for crop protection against various plant pathogens, with particular focus on the role of cyclic lipopeptides (CLPs) produced by this bacterium in providing protection against grape downy mildew. The article is well-referenced throughout, citing relevant studies that support the claims made in the text. Furthermore, it provides an unbiased view on the potential benefits and limitations of using B. subtilis as a biocontrol agent for crop protection, noting that different strains produce different types of CLPs with varying activities against certain plant pathogens.

The only potential bias present in the article is that it does not explore any counterarguments or possible risks associated with using B. subtilis as a biocontrol agent for crop protection; however, this does not detract from its overall reliability or trustworthiness since these points are outside the scope of this particular article's focus on CLP activity against grape downy mildew specifically.

# Topics for further research:

* Alternatives to Bacillus subtilis for crop protection
* Risks associated with using biocontrol agents
* Biological control agents for other plant pathogens
* Effects of Bacillus subtilis on soil health
* Regulation of Bacillus subtilis biocontrol agents
* Economic benefits of using biocontrol agents

# Report location:

<https://www.fullpicture.app/item/5f1809eaa7e2b48da926d9b517466c96>