

Introducing

XylPhi-PD™

Bactericide for use in grapevines.



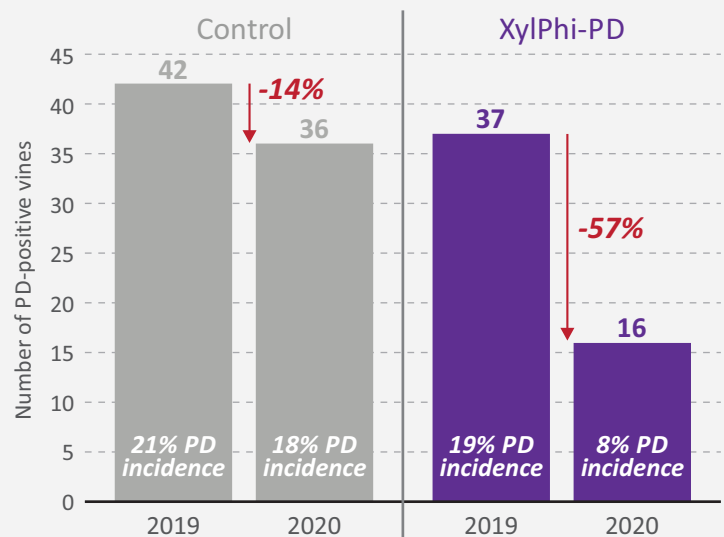
The Proven Treatment and Prevention for Symptoms of Pierce's Disease

- Alternative to costly rogueing and replacement of grapevines.
- Maintains production, efficiency, and uniformity in the block.
- Flexible application timing with durable injection system.
- OMRI-listed for use in organic production.



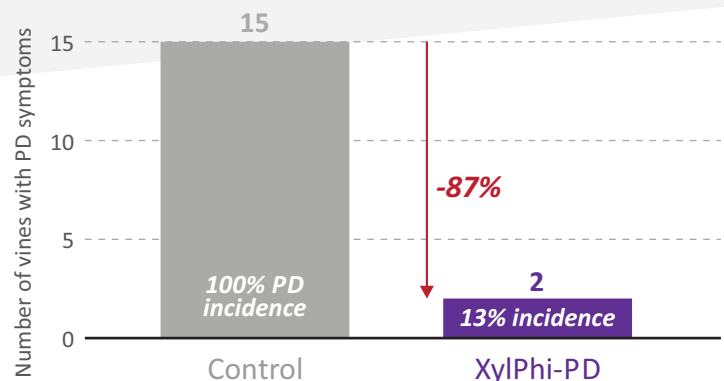
Consistent XylPhi-PD use reduced PD incidence by **57%** year-to-year in a 4-site California field study.¹

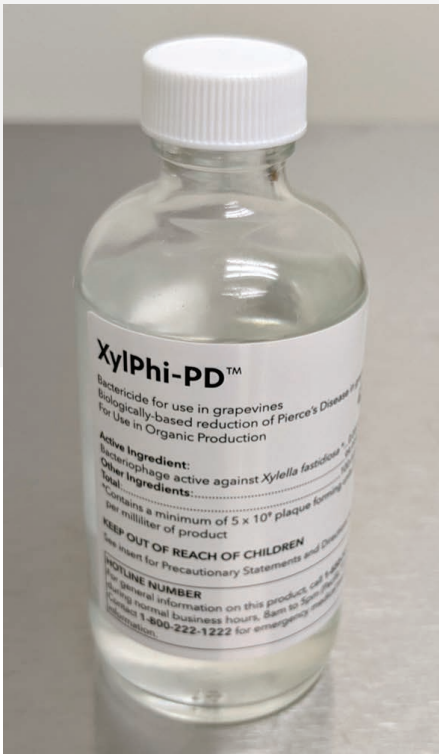
- 400 commercial vines with a history of Pierce's Disease (PD):
 - 200 untreated controls;
 - 200 treated with XylPhi-PD.
- Detection of *Xylella fastidiosa* (bacterium that causes PD) by DNA-based qPCR, performed on petioles collected from vines in the fall of both 2019 and 2020.



XylPhi-PD reduced PD incidence by **87%** in a Texas A&M pilot study.²

- 30 vines challenged with *X. fastidiosa*:
 - 15 controls, treated with buffer at wk 3;
 - 15 treated with XylPhi-PD at wk 3.
- PD assessment at wk 12.





XylPhi-PD™

BIOLOGICALLY BASED reduction of Pierce's Disease in grapevines.

- A cocktail of viral *bacteriophages* (phages) that enter and attack *Xylella fastidiosa* bacteria, the cause of PD.
- Uses the selective activity of phages to destroy targeted bacteria in treated grapevines.
- Apply as a treatment when disease symptoms appear, or as a preventative to protect growing vines, or when conditions may lead to disease.

Flexible application timing. **Easily** integrated into vineyard management.

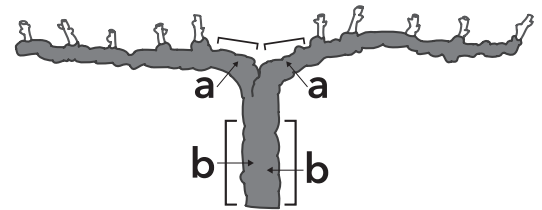
- No REI*
- Minimum PPE*

► How to apply:

- XylPhi-PD is applied by **injection** into the vascular system (xylem) of grapevines.
- Inject using the **Pulse Xyleject™** pressurized injection device (from Pulse Biotech).
- Training available for vineyard staff.



► Application protocol (example):



- 1 application = 1 injection into each cordon (a), plus 1-2 injections into the trunk (b); 40-80 µL per injection.
- Make 2-3 applications of XylPhi-PD per year, at 4- to 6-week intervals.

XylPhi-PD, the phage-based system, is a biologically based treatment for PD-causing bacteria that helps to preserve the health and productivity of your vines.

Contact your local Wilbur-Ellis Sales Representative for more information on XylPhi-PD.  wilburellisagribusiness.com

*Always read and follow product label directions. Registered by California DPR and US-EPA; not registered in all states. EPA Reg. No. 93909-1. Operators of injector must undergo training and be certified by Pulse, and must follow instructions in device manual.

1. Field Trial Report, 2020. Wilbur-Ellis/A&P Inphatec. Data on file.
 2. Texas A&M Research Progress Report, 2014. Data on file.
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