

viticulture tech data UPDATE

XylPhi-PD[®] Bactericide for use in grapevines.



Efficacy of XYLPHI-PD[®] for Control of Pierce's Disease in Georgia Vineyard

Pierce's Disease (PD), caused by *Xylella fastidiosa* bacteria, is a challenging disease to control for vineyard managers throughout the US. Fruit output of an infected vine typically erodes over time until it ultimately dies. PD thus imposes significant economic damages via reduced and/or lost productivity and costs associated with vine replacements and labor/overhead.

PD has become increasingly common in the eastern US, particularly for susceptible cultivars (e.g., popular hybrid bunch grapes such as Vidal blanc and Chambourcin) planted in northern Georgia and low-altitude North Carolina and Virginia vineyards.¹ XYLPHI-PD,[®] an organic biological bactericide for grapevines, is a new product that has been shown to act as a preventative and a curative for early stage PD.²

EXPERIMENT DESIGN

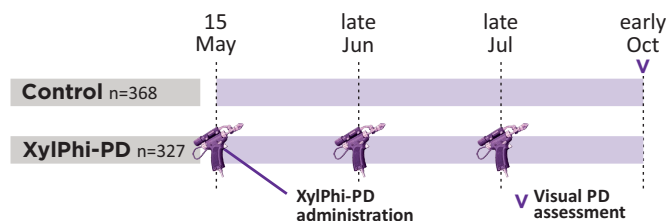
A field study was conducted by University of Georgia researchers at a prominent commercial winery in northern Georgia to evaluate the efficacy of XYLPHI-PD for preventing and moderating PD in healthy vines naturally exposed to the disease.³ Several PD-susceptible varieties were grown at the 20-acre vineyard, where PD incidence of Vidal blanc grapes was estimated at about 8%. The study involved 695 vines enrolled in a Vidal blanc block. Vines were originally planted in 1995, but most replants were about 3 to 5 years old, with a few very recent replants. Thus, 409 'young' vines and 286 'mature' vines were randomly assigned to either of 2 treatment groups:

KEY POINTS

- A University of Georgia field study investigated the efficacy of XYLPHI-PD for preventing and moderating Pierce's Disease (PD) at a Vidal blanc vineyard in northern Georgia.
- Rates of PD were compared for 327 vines treated with XYLPHI-PD during a production season (3 applications, May, June, July) vs 368 vines that received no intervention.
- XYLPHI-PD cut PD incidence by nearly half (46% reduction, $P < 0.001$) compared to untreated control vines. PD reduction averaged 52% ($P < 0.001$) and 41% ($P = 0.01$) for young and mature vines, respectively, compared to controls.
- XYLPHI-PD was clearly useful as a preventative to help protect both young and mature vines from PD spread and severity.

- Control (no intervention), n=368 (young 218, mature 150);
- XYLPHI-PD, n=327 (young 191, mature 136).

For the XYLPHI-PD group, 3 applications were administered at approximately 4-week intervals (May, June, July), with 1 treatment consisting of injections twice into each trunk and once into each cordon.



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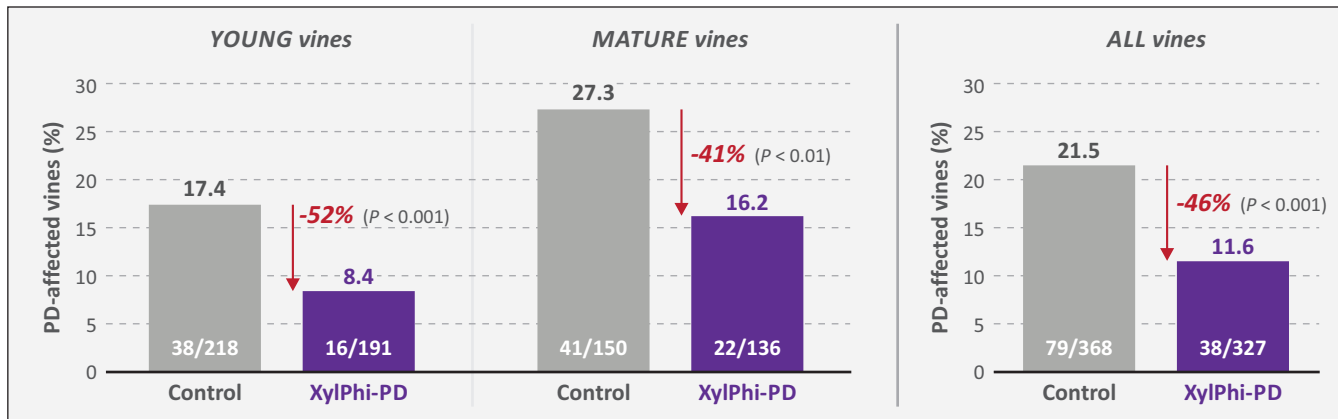


FIGURE 1: Percent of PD-affected vines (>5% PD damage), by vine age and overall, and relative percent improvement resulting from use of XYLPHI-PD (3 applications) during 1 production season at a commercial vineyard in Georgia.

Visual assessments of all vines were conducted in early October. Overall PD incidence was computed by declaring any vine showing over 5% PD symptoms (marginal chlorosis and other symptoms) as 'PD-affected.'

RESULTS

Outcomes summarized in Figure 1 show that treatment with XYLPHI-PD reduced PD incidence by **52%** ($P < 0.001$) and **41%** ($P = 0.01$) for young and mature vines, respectively, compared to untreated control vines. Overall, PD incidence fell **46%** ($P < 0.001$) for vines that received the XYLPHI-PD regimen, regardless of vine age. XYLPHI-PD was clearly useful as a preventative to help protect both young and mature vines from PD spread and severity.

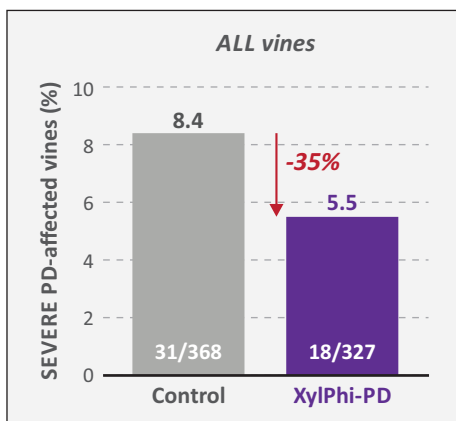


FIGURE 2: SEVERELY PD-affected vines (>30% PD damage).

A secondary analysis (Figure 2) examined efficacy in regard to 'severely affected' vines (>30% of vine leaves

showing PD symptoms). Use of XYLPHI-PD again showed excellent utility, reducing the incidence of such severe cases by **35%** vs controls (39% and 31% reduction for young and mature vines, respectively).

CONCLUSIONS

Consistent season-long application of XYLPHI-PD helped reduce PD incidence and damage by nearly half for Vidal blanc grapevines at a north-Georgia commercial vineyard. As a result of these study results, vineyard managers expressed interest in continuing the trial for an additional year, to determine if vines treated with the XYLPHI-PD program for 2 sequential years might realize further protective benefits that could help preserve the valued Vidal blanc block (the source of their most in-demand wine).

Study outcomes support use of XYLPHI-PD for prevention of PD when used in accordance with label Directions for Use, even under conditions of substantial PD pressure.

REFERENCES

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