

Introduction

- Grapevine trunk diseases (GTDs) are caused by fungi that infect grapevine wood and reduce vine health, yield, and lifespan.
- Disease-causing fungi respond differently to fungicides, so a product that works on one fungus may not work on another.
- Over time, repeated use of fungicide in the same group may lead to reduced effectiveness as fungi develop resistance.



GTD-affected grapevines showing internal wood damage (left) and vine decline (right).

Objectives

- Test how different fungicides affect the growth of fungi that cause GTDs.
- Identify fungicides that are effective against multiple GTD pathogens.

Methods

- Fungi causing GTDs were isolated from diseased grapevine wood and grown on potato dextrose agar (PDA).
- Fungicides were added to PDA plates at the label-recommended concentration to test their effects on fungal growth.
- Plates without fungicide were used as untreated controls.

Results



Figure 1. Growth of GTD pathogens on agar plates treated with various fungicides. Smaller colonies compared with the control indicate stronger fungicide activity.

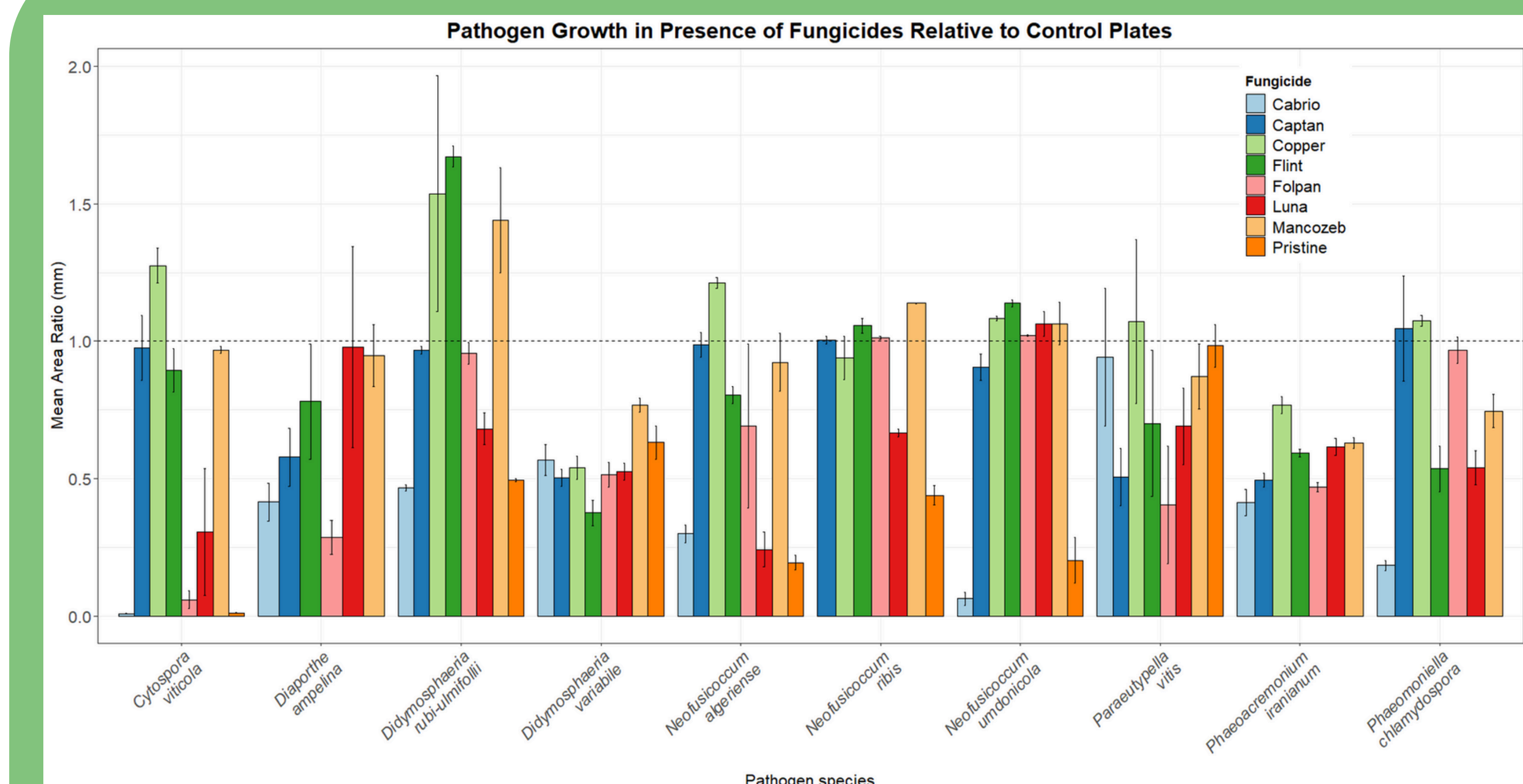


Figure 2. Pathogen growth under different fungicide treatments compared with the untreated control (dashed line). Values show the ratio of colony size on fungicide-treated plates to growth on control plates. Ratios below 1 indicate reduced growth, while ratios above 1 indicate increased growth.

Cabrio and Pristine were the most effective at reducing GTD pathogen growth, showing strong potential for fungicide-based management of grapevine trunk diseases (Figure 1 and 2).

Conclusion

Cabrio and Pristine were the most effective fungicides at reducing the growth of GTD pathogens. Both consistently limited pathogen growth compared with the control and other treatments. These results suggest that Cabrio and Pristine have strong potential for use in fungicide-based management programs for grapevine trunk diseases.

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