

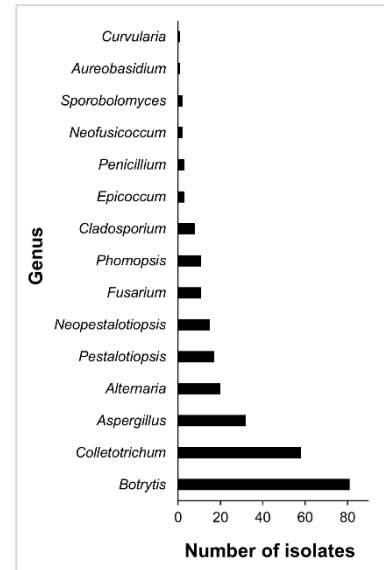
Investigation of Fungi Causing Late Season Bunch Rots in the Mid-Atlantic
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Introduction

- Late season bunch rots are diseases that occur just before harvest, such as ripe rot or Botrytis bunch rot
- These diseases are typically caused by fungi, which may vary in pathogenicity and fungicide sensitivity

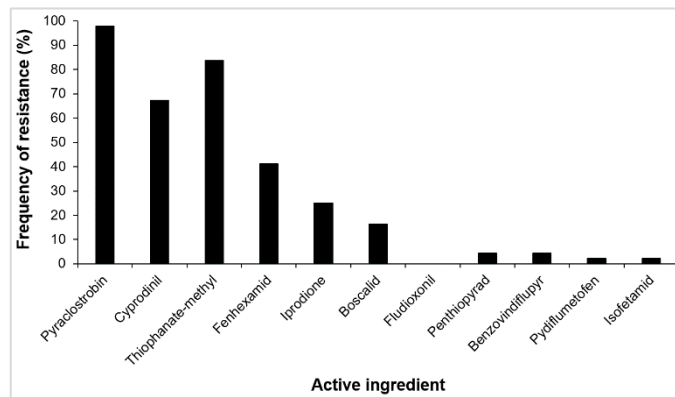
Identification of pathogens

- 265 fungal isolates were collected from rotten fruit from Virginia, Maryland, and Pennsylvania and 15 groups (genera) of fungi were identified:
- The most prevalent fungi were studied further



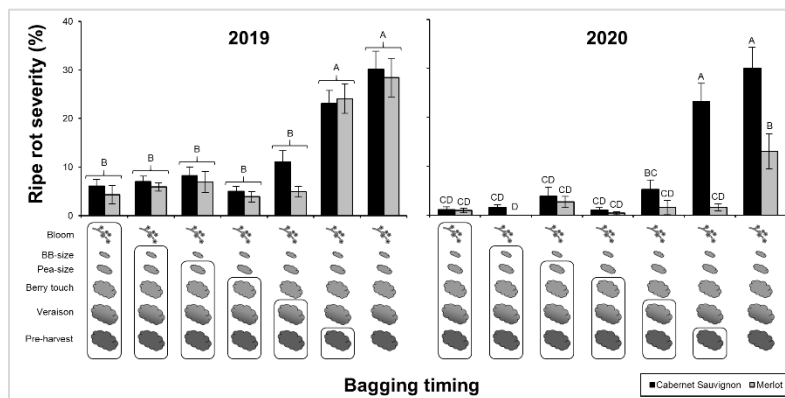
Botrytis and fungicide sensitivity

- 92 isolates from grape were tested for sensitivity to commonly used fungicides
- Most isolates were resistant to pyraclostrobin (FRAC 11; one ingredient in Pristine), cyprodinil (FRAC 9; one ingredient in Switch), thiophanate-methyl (FRAC 1; Topsin)
- Moderate frequencies of resistance to fenhexamid (FRAC 17; Elevate), iprodione (FRAC 2; Rovral), and boscalid (FRAC 7; Endura; one ingredient in Pristine)
- Low frequencies to fludioxonil (FRAC 12; one ingredient in Switch), and newly registered FRAC 7 fungicides (penthioopyrad, benzovindiflupyr, pydiflumetofen, and isofetamid)



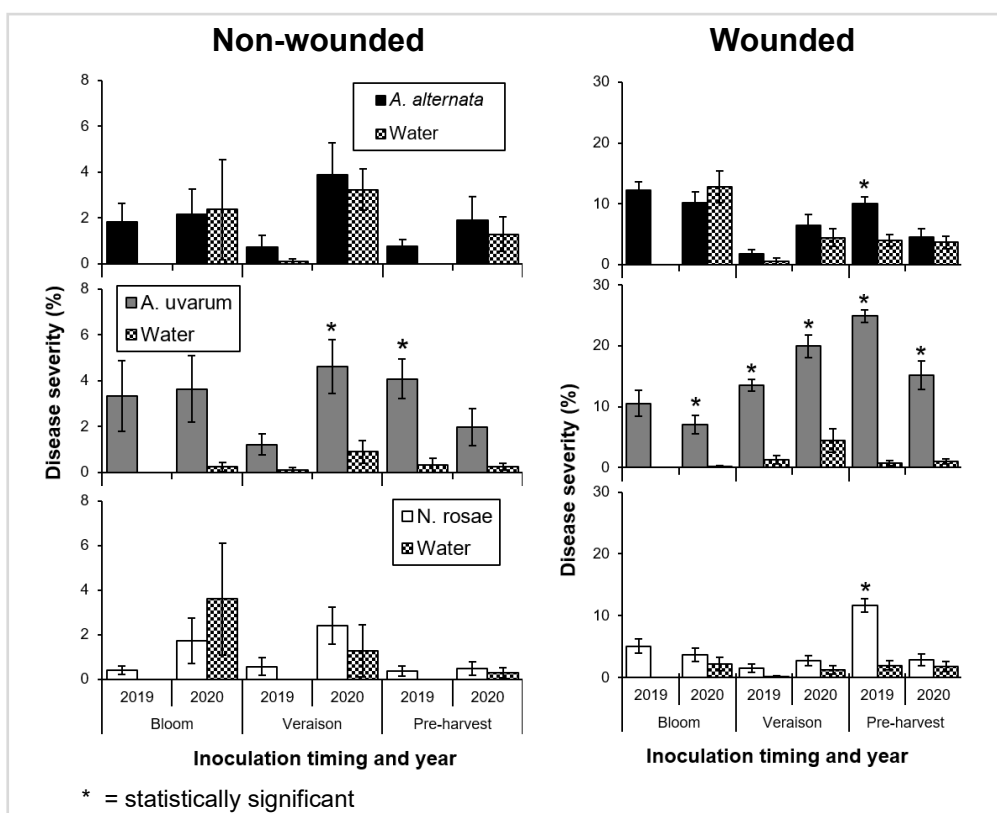
Ripe rot (*Colletotrichum* spp.) infection timing

- Paper bags were used to protect grape clusters for various durations of the season
- Spore traps were used to detect inoculum throughout the season
- Clusters exposed to the environment after veraison had significantly more ripe rot than those protected during this period
- Spore traps detected inoculum throughout the season



Aspergillus uvarum, Alternaria alternata, and Neopestalotiopsis rosae pathogenicity

- These three fungi were commonly isolated from rotten fruit; however, it is unclear if they are primary or secondary pathogens
- In a research vineyard, grapes were inoculated with these three fungi or with water at bloom, veraison, and pre-harvest. Clusters were also wounded or non-wounded
- Disease severity was evaluated at harvest:



- *Aspergillus uvarum* caused severe disease on non-wounded fruit, indicating its role as a primary pathogen.
- It's possible that the other two fungi could be primary pathogens in different conditions, but *Aspergillus* appears to be more of a threat in the Mid-Atlantic.