FROST BLANKETS FOR TENDER VINIFERA
WHAT ARE FROST BLANKETS?

Frost Blanket
Polyester material

Floating Row Cover
Polypropylene material
HOW DO THEY WORK?

• Trap geothermal heat
  • Physical barrier

• Vines covered approximately mid-November
  • Couple hard frosts
  • No green vegetation

• Closer to ground better
  • ~36” off the ground
PROS AND CONS

Pros

• Frost blanket retains heat
  • Warmer than ambient
• Improved bud survival
  • Covered vs Uncovered
• Frost protection in spring
  • Pull cover down as needed
• Pile on the snow
  • Creates greater insulation

Cons

• Cost
  • About several thousand/acre
• Labor intensive
  • Fall pruning
  • Laying blanket
• Temp inversion may be less
  • Quebec 20° difference
  • E. Ontario 5°-10° difference
PREVIOUS RESEARCH

- Quebec
  - Alternative to burying vines
  - Increased use, possible higher yields
- Mostly hybrids
  - Vidal, Baco
  - Few vinifera
- Large temp inversion
  - -22F ambient
  - +5F under blankets

- Eastern Ontario
  - Alternative to burying vines
  - Alternative to wind machines
  - Vinifera vines
    - Chardonnay
    - Pinot Noir
  - Moderate temp inversion
    - -4F to – 13F ambient
    - +5F to -4F under blankets
PRELIMINARY WORK IN ENY

- Single site Dutchess County
- 4 rows 3 varieties (Chard, Merlot, Pinot)
  - Plus single row CF
- 6 temp loggers/row
  - 1 soil level, 1 bud level
  - 3 panels (2 ends, 1 middle)
  - Record every 2 hrs (last until March)
- No data yet
  - Remove and download
  - Late Feb early March?
WHAT’S NEXT?

• Evaluate data collected
  • Warm winter
  • Still valuable info
  • Compare to E. Ontario

• Continue this work
  • Apply for grant funding

• Expand study
  • Additional sites
  • Bud mortality
  • Track crop?
SUMMARY

• Potential winter protection
  • 5° to 10° Inversion
• Weigh costs
  • Blankets vs Grape hoe
  • 1°bud crop vs 2°bud crop
  • Improved yields?
• Labor (pruning bad year, laying blankets)

Photo source: Winter Injury, Protection, Recovery for Grapes Goffinet, Martinson (Cornell)
QUESTIONS?