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Some recent fungicide sensitivity concerns

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Legend for next slide

- NLR: no or low risk, no resistance issues detected in Virginia ("low" because no detection doesn't mean it cannot exist)
- MR: moderate risk of resistance issues in Virginia
- HR (and red font): probably a poor bet in Virginia, resistance has become prevalent

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New resistance concerns (FRAC groups)

Powdery arsenal

M. Multi-sites: sulfur, oil, bicarbonates - NLR

1. Topsin M -- HR

3. Rally, Tebuzol, … MR

11. Strobilurins (QoI) - HR

7. Endura, Luna, Aprovia, Kenja, …MR

13. Quintec - MR

50. Vivando, Prolivo - MR

U6. Torino

U13. Gatten

Downy arsenal

M. Multi-sites: copper, captan, mancozeb - NLR

4+M. Ridomil

11. Strobilurins (QoI) - HR

27+11. Tanos (+QoI)

22+M3. Gavel

40. Revus, Forum - MR

21. Ranman

40+45. Zampro

P07. Phosphonates -concern!

Resistance Profile in Virginia: NLR no or low, MR moderate, HR resistance common

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Powdery mildew, 2022-2023 collections

PM on Endura-treated as % of untreated

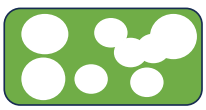
Hist/unexp.	Site 1	Site 2	Site 3	Site 4
0	18	111	0	0
0	7	41	20	0
0	7	68	38	0
0	17	46	11	0
0	12	42	21	
0	0	0	43	
0	0	41	27	
0	8	259	0	
	13	1	0	
	31	31	0	
	35	4		
	21	23		

PM on Vivando-treated as % of untreated

Hist/unexp.	Site 1	Site 2	Site 3	Site 4
0	35	41	0	0
0	1	72	0	71
0	13	12	0	51
0	8	74	0	0
0	11	39	0	1
0	5	68	0	9
	0	15	0	4
	50	16	0	4
	3	59	0	
	9	0	0	
	13	55		
	18	44		
		56		
		28		

0%:

100%:



50%:

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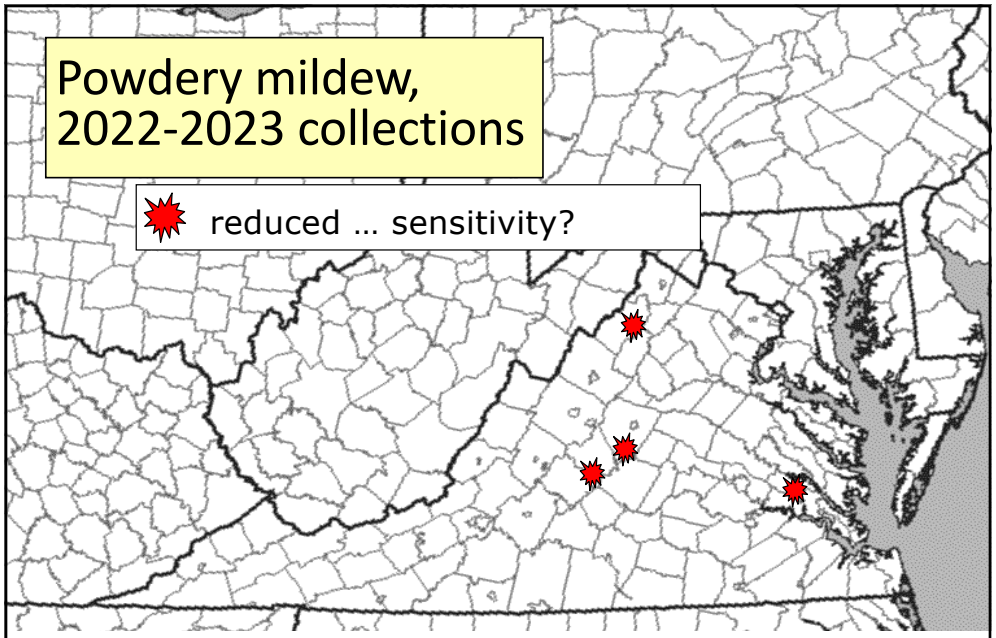

Additional locations in 2024: **molecular tests** at UC Davis confirmed presence of mutations linked to Group-7 resistanc

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Downy mildew, FRAC group P7 Phosphites, phosponates

- Reduced sensitivity – by how much?
- My "traditional" test: 0.3% Prophyt – very little or no downy development -- Example of a historically sensitive isolate (%): 0, 3, 0, 0, 7, 18, 0, 21, 0, 10, 2 …
- A recent isolate (%): 81, 0, 5, 58, 37, 65, 2, 41, 83, 7
- And there have been quite a few of those, that grew well even after treatment with 0.5% (max label conc.) or 1%

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Interested in samples of

- Powdery mildew
- Downy mildew
- Black rot
- Botrytis

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Sample sending – the main ideas

- Collect before spraying again
- Fresh
- Variety (separate subsamples from different blocks, zones, (spray regimes) …
- Prevent crushing
- Minimize transit time
- Prevent overheating (summer)

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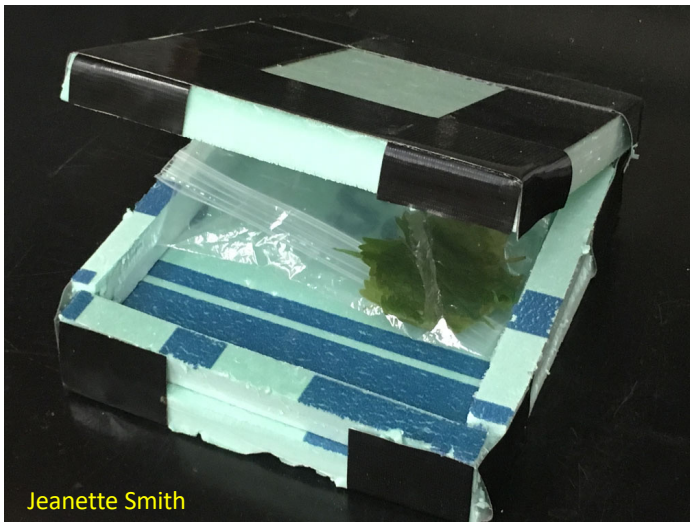
An idea for a custom sample mailer ☺



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