

***Neopestalotiopsis* spp. in Strawberry and Recovery of Other Pathogens in Strawberry Samples**

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Fumigants and Non-Fumigant Alternatives Meeting:
Regulatory and Research updates

5.19.23



Cal Poly Strawberry Center Diagnostic Service

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Comparison of Disease Identification with Past Years

Disease/pest/disorder	Number of samples			
	2020	2021	2022	2023 (Up to May)
Abiotic/pest problems	39	16	25	10
Macrophomina crown rot	37	25	35	0
Phytophthora crown rot	10	12	28	1
Fusarium wilt	31	11	32	2
Verticillium wilt	17	7	11	0
Zythia dry calyx, leaf blotch, crown infection	9	0	4	0
<i>Rhizoctonia</i> spp.	5	8	2	2
<i>Pythium</i> spp.	NA	29	35	1
<i>Botrytis</i> spp. (box rot)	NA	2	0	1
<i>Meloidogyne hapla</i>	NA	NA	4	0
<i>Neopestalotiopsis rosae</i>	2	0	1	0
Total number of samples	164	96	168	17

Neopestalotiopsis spp. Reports in the US



N. rosae ?

Neopestalotiopsis spp.

Neopestalotiopsis spp.

Neopestalotiopsis spp.

Strawberry Diseases-Leaf Symptoms

Common Leaf Spot



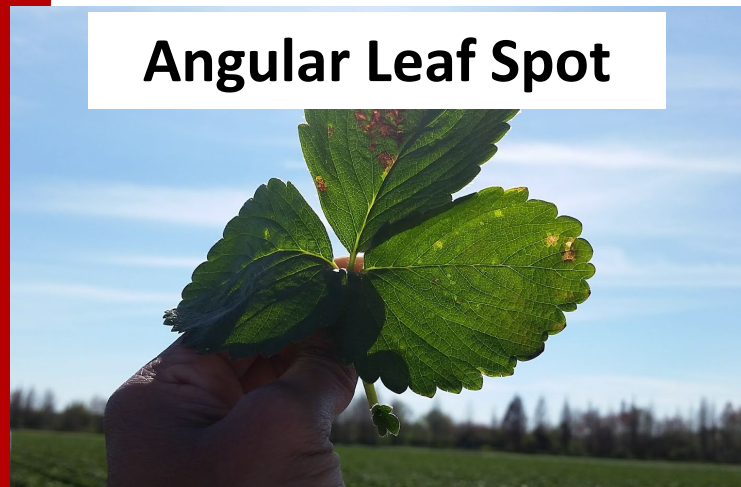
Zythia Leaf Blotch



Phomopsis Leaf Blight



Angular Leaf Spot



Leaf Scorch



Neopestalotiopsis Leaf Spot



New *Neopestalotiopsis* sp. Leaf Symptoms



Symptoms of Fruit rot, Stunting and Leaf Spot- New *Neopestalotiopsis* sp. in Florida



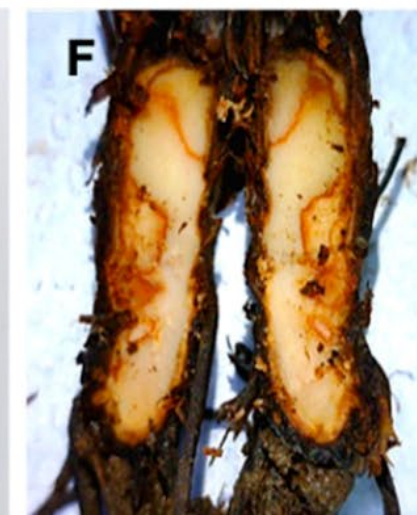
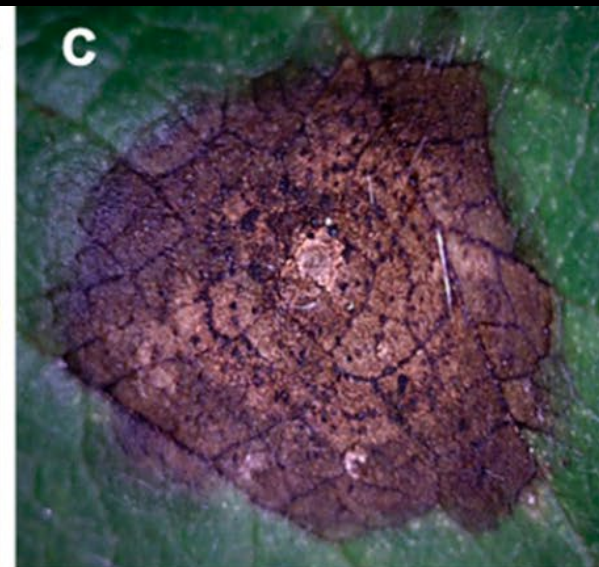
New *Neospestalotiopsis* sp. Culture



Gerald Holmes



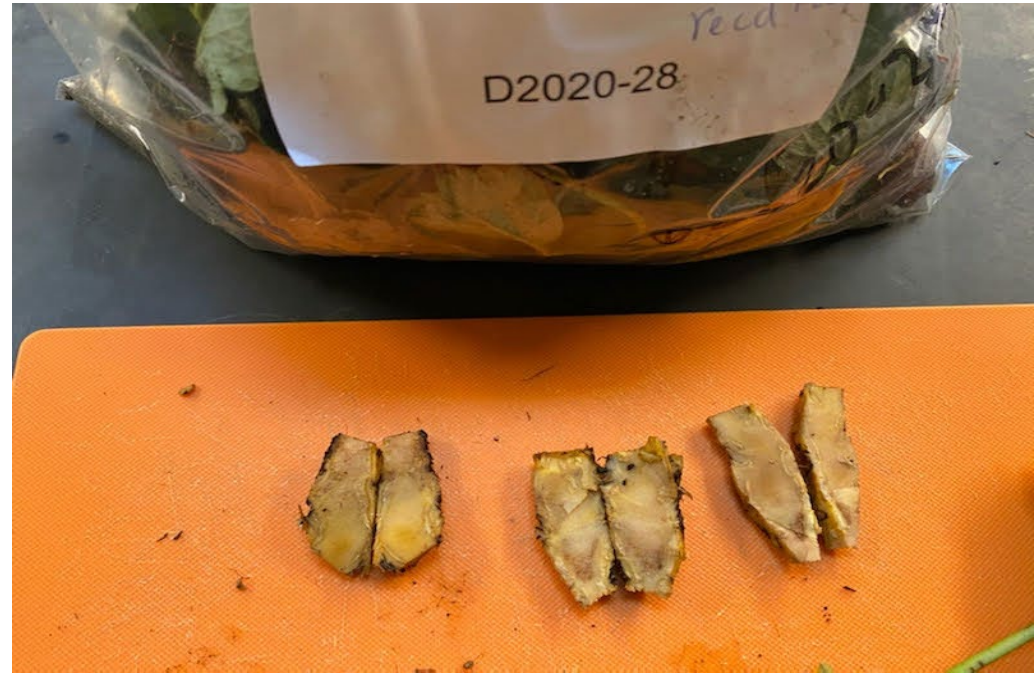
Symptoms of Root Rot, Crown Rot, and Leaf Spot- *Neopestalotiopsis rosae* in Mexico



Neopestalotiopsis rosae and *Colletotrichum acutatum* co-infection



Symptoms of the disease



Crown discoloration



Neopestalotiopsis rosae Culture



Cooper Calvin

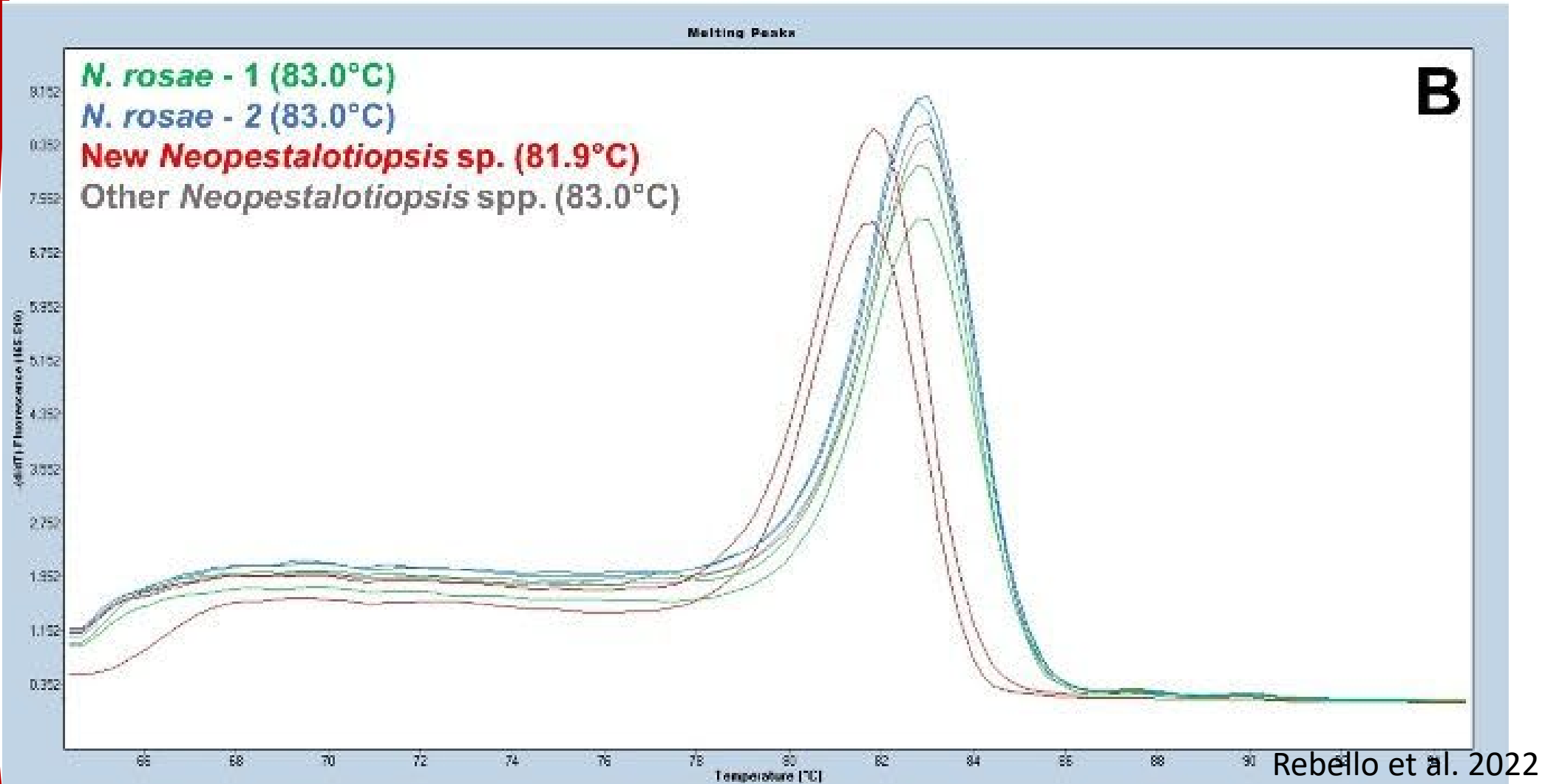
Culture on Potato Dextrose Agar



Conidia



Diagnosing New *Neopestalotiopsis* sp. vs Other *Neopestalotiopsis* spp.



Cal Poly Studies So Far

- Koch postulate experiments-Ongoing
- All *Neopestalotiopsis rosae* isolates (Grower samples and cultivar trial samples)
- Hoophouse experiments
 - Trial 1 (Monterey, Proprietary cultivars, Sweet Ann)
 - Sweet Ann-19 % mortality
 - Proprietary-6 % mortality
 - Trial 2 (Monterey and Albion)
 - Inconclusive
- Grow tent experiments
 - Trial 1 (Monterey, Albion)
 - Ongoing



Elias Barriga-Hernandez
BS Student (Alum)



Cooper Calvin
(MS Student)



Susceptible Cultivars

CA Cultivars	FL Cultivars
Fronteras	Treasure
Victor	Sweet Charlie
Warrior	Florida Medallion
	Sensation
	Florida Brilliance
	Florida Radiance
	Florida Beauty
	Winterstar™



Fungicides

- No fungicides have been registered so far
- Effective fungicides based on FL studies (Baggio et al. 2022)
 - Single-site: fludioxonil, fluazinam, the sterol de-methylation inhibitors (DMIs)
 - Multi-site: captan, thiram, and chlorothalonil
- Ineffective fungicides based on FL studies
 - FRAC 1 and 7 except benzovindiflupyr
 - Resistance to FRAC 11



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Polling Question

1. New *Neopestalotiopsis* sp. can be identified,
 - a) Only with field observations
 - b) With an ImmunoStrip[®] test
 - c) Field observation and a DNA test

