

Fruit and Foliar Diseases of Strawberry: Updates

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Leaf blotch:
Zythia





**Angular leaf spot:
Xanthomonas**





Anthracnose:
Colletotrichum







Phytophthora
root & crown rot
fruit rot

Anthracnose



Anthracnose
?







Incubation: no pathogens observed.

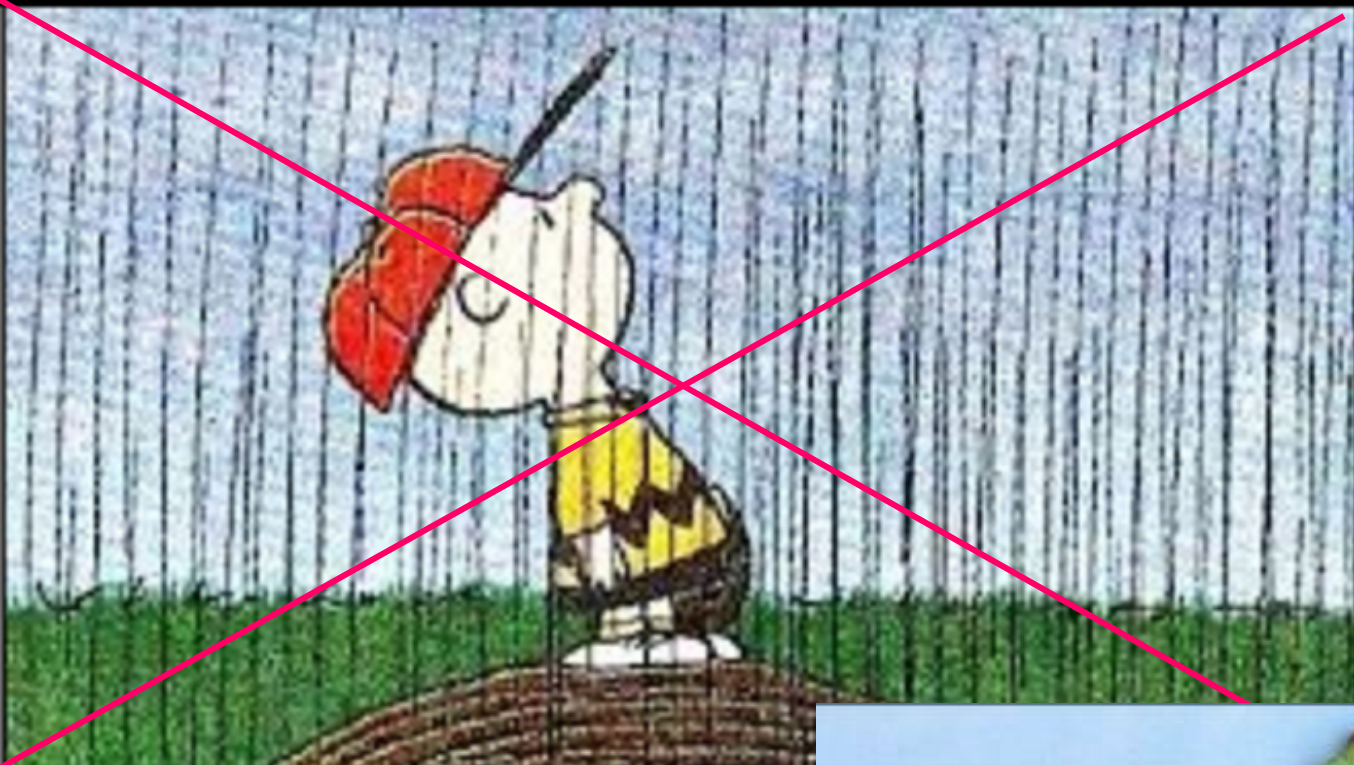
Isolations: negative



Field examination

- **Distribution of damage**
 - Runners along edge of bed, on plastic
 - Worse on side of bed receiving most sun
 - Throughout entire field (no pattern)
 - Multiple fields affected
- **Plant factor: multiple cultivars**
- **Other signs of damage: leaves**
- **Context: no rain or significant moisture (“central coast September”)**





| | | | | | | |
|-------------|--------|------|-----|------|--------|------|
| 9/3/2015 | 0.17 | 0.00 | 537 | 15.1 | 70.8 | 56.9 |
| 9/4/2015 | 0.18 | 0.00 | 562 | 13.2 | 68.5 | 53.5 |
| 9/5/2015 | 0.18 | 0.00 | 557 | 12.5 | 75.9 | 48.8 |
| 9/6/2015 | 0.20 | 0.00 | 546 | 10.2 | 86.1 | 48.7 |
| → 9/7/2015 | 0.22 | 0.00 | 551 | 9.8 | 92.3 Y | 54.0 |
| → 9/8/2015 | 0.23 R | 0.00 | 545 | 9.5 | 95.5 Y | 57.1 |
| → 9/9/2015 | 0.21 R | 0.00 | 520 | 12.2 | 91.5 Y | 58.2 |
| → 9/10/2015 | 0.18 | 0.00 | 491 | 16.1 | 89.3 Y | 56.7 |
| 9/11/2015 | 0.17 R | 0.00 | 489 | 16.3 | 85.1 | 55.6 |
| 9/12/2015 | 0.05 | 0.00 | 194 | 16.7 | 70.5 | 57.9 |
| 9/13/2015 | 0.12 | 0.00 | 385 | 17.4 | 77.5 | 59.6 |
| 9/14/2015 | 0.07 | 0.08 | 263 | 17.4 | 73.7 | 58.9 |
| 9/15/2015 | 0.13 | 0.00 | 445 | 15.0 | 68.6 | 55.2 |



Time and space context: What factors might be linked?

- **Events?**
 - **Growing practices / irrigation / pest mgmt.**
 - **Spray / fertilizer applications**
 - **Weather patterns and changes**
 - **Time of year**
- **Locations?**
 - **Multiple blocks / other ranches**
 - **Adjacent crops, pastures, ditches**

Time and space context:

Heat damage on strawberry

- **Events**

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- **Locations**

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Time and space context: What factors might be linked?

- **Plant factors?**
 - **Cultivar: single or multiple**
 - **Transplant lot / source**
 - **Stressed plants**
- **Pest factors?**
 - **Diseases**
 - **Insects, virus vectors**
 - **Weeds**

Time and space context:

Heat damage on strawberry

- **Plant factors**
 - **Cultivar:** single or **multiple**
 - Transplant lot / source
 - **Stressed plants**
- **Pest factors**
 - Diseases
 - Insects, virus vectors
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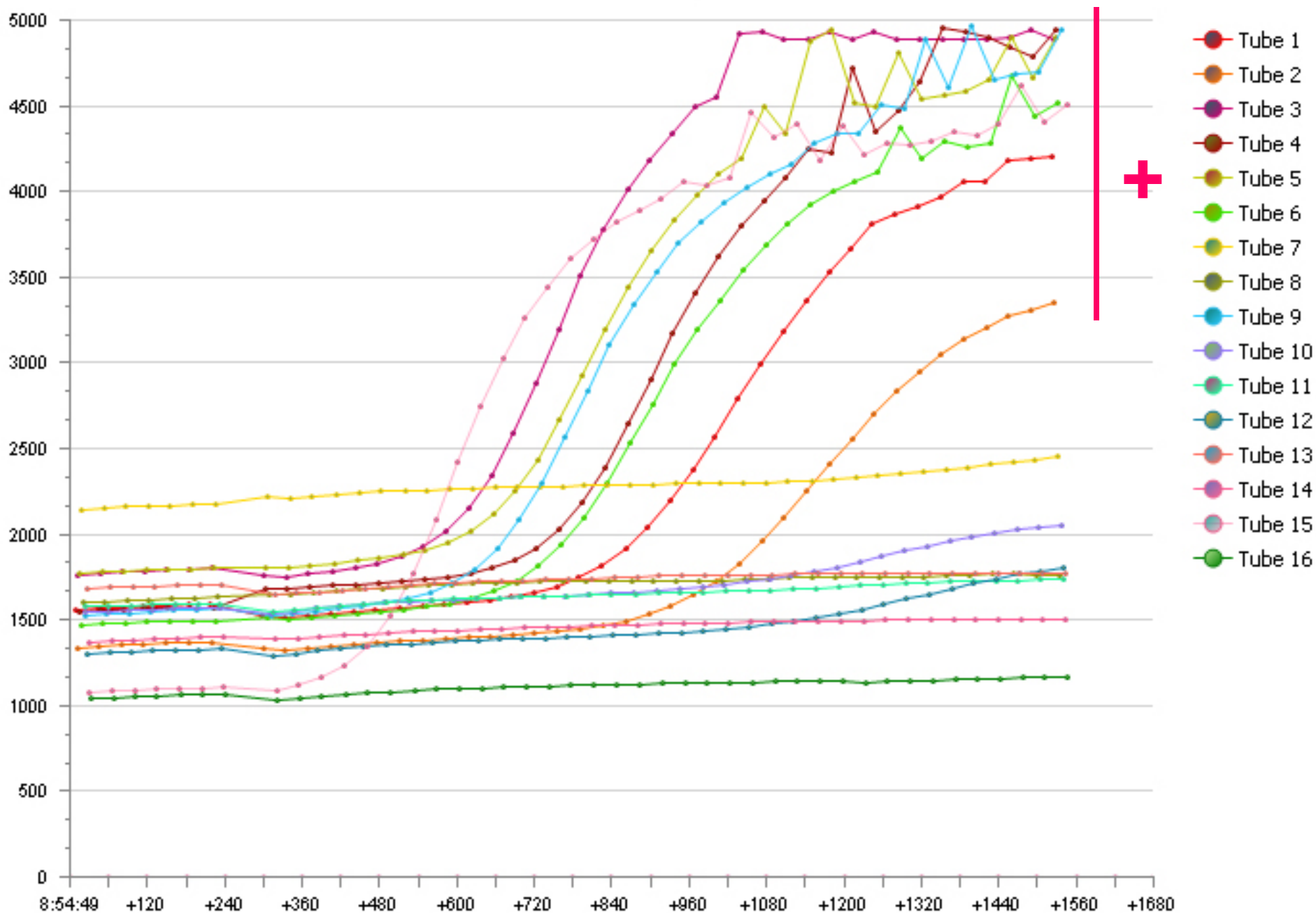
Expanding UC diagnostic services

- **New DNA-based testing for soil path.**
 - Recombinase polymerase amplification
- **Rapid, species specific detection**
 - Phytophthora (now)
 - Verticillium
 - Fusarium
 - Macrophomina
- **Acknowledgements: CSC, Frank Martin, Tim Miles, Stacy Mauzey**





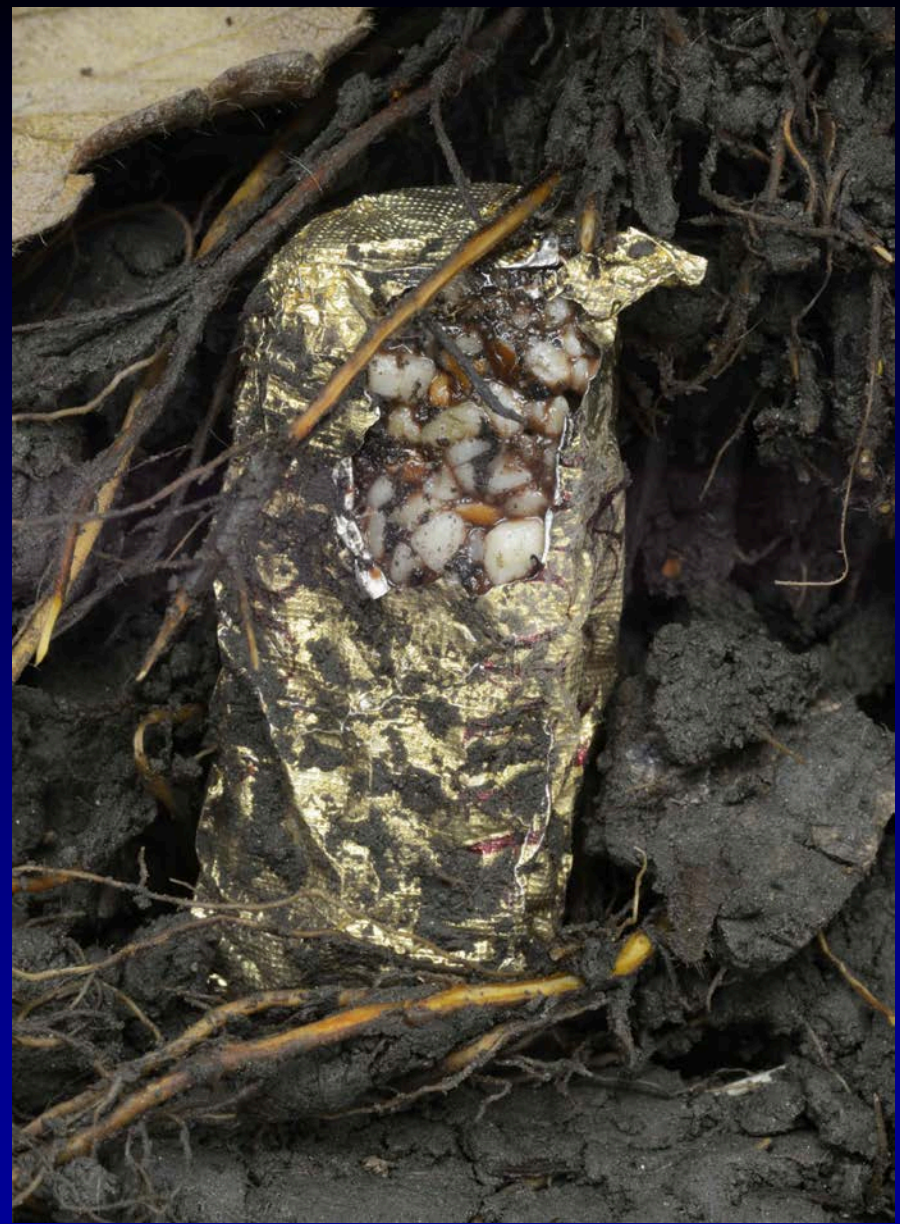
Tube Overlay - FAM





USDA





Strawberry Roca Disease

