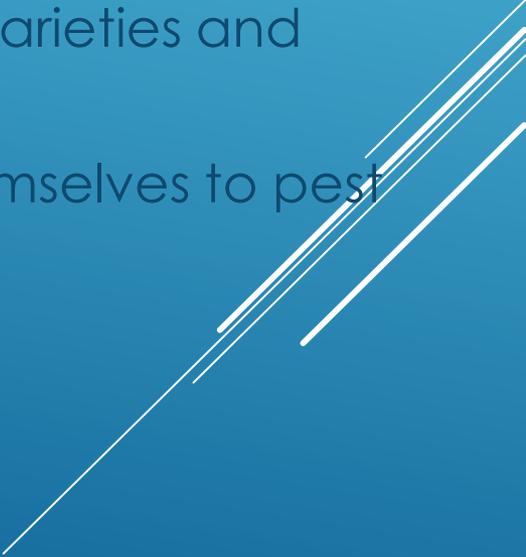


# SOME THOUGHTS ON EVALUATING VARIETIES FOR PEST AND DISEASE MANAGEMENT

DAVE PECK, MANZANITA BERRY FARMS

- ▶ UC and other breeding programs have a good catalog of disease resistance ratings
  - ▶ Arthropod pest “tolerance” is present in some varieties and should be included in evals
  - ▶ Physical plant characteristics can also lend themselves to pest and disease resistance
- 

# Cultivar comparisons

<u>Cultivar</u>	<u>Macroph.</u>	<u>Fusarium</u>
Chandler	resistant	susceptible
Seascape	resistant	susceptible
Monterey	susceptible	resistant
San Andreas	susceptible	resistant
Ventana	susceptible	resistant

\* Resistant ≠ Immune

Disease resistance scores for Albion compared with Monterey, San Andreas, and Portola in 2005-2007

Cultivar	<i>Phytophthora</i> Resistance Score(5=best)	<i>Verticillium</i> Resistance Score(5=best)	<i>Colletotrichum</i> Resistance Score(5=best)
Albion	4.3	3.8	3.4
Monterey (CN222)	3.2	3.4	2.4
San Andreas (CN223)	3.8	3.8	2.9
Portola (CN224)	4.4	3.3	2.7

# UC Strawberry Variety Disease Ratings Comparisons

# Varietal resistance/tolerance to *Macrophomina*

Advanced variety selection plot



# BGI 6-3024 exhibits strong tolerance to Lygus damage

Cull rate due to severe Lygus pressure only +/- 15% compared to highly susceptible variety at % cull rate

**Fruit deformity due Lygus bug damage**



**Deformity due to poor pollination, genetic, environmental, and other factors**



BGI 6-3024 exhibits reduced bronzing due to thrips and/or environmental factors



Reduced vigor makes spray coverage easy, but less optimal plant canopy can inhibit mite bio-control

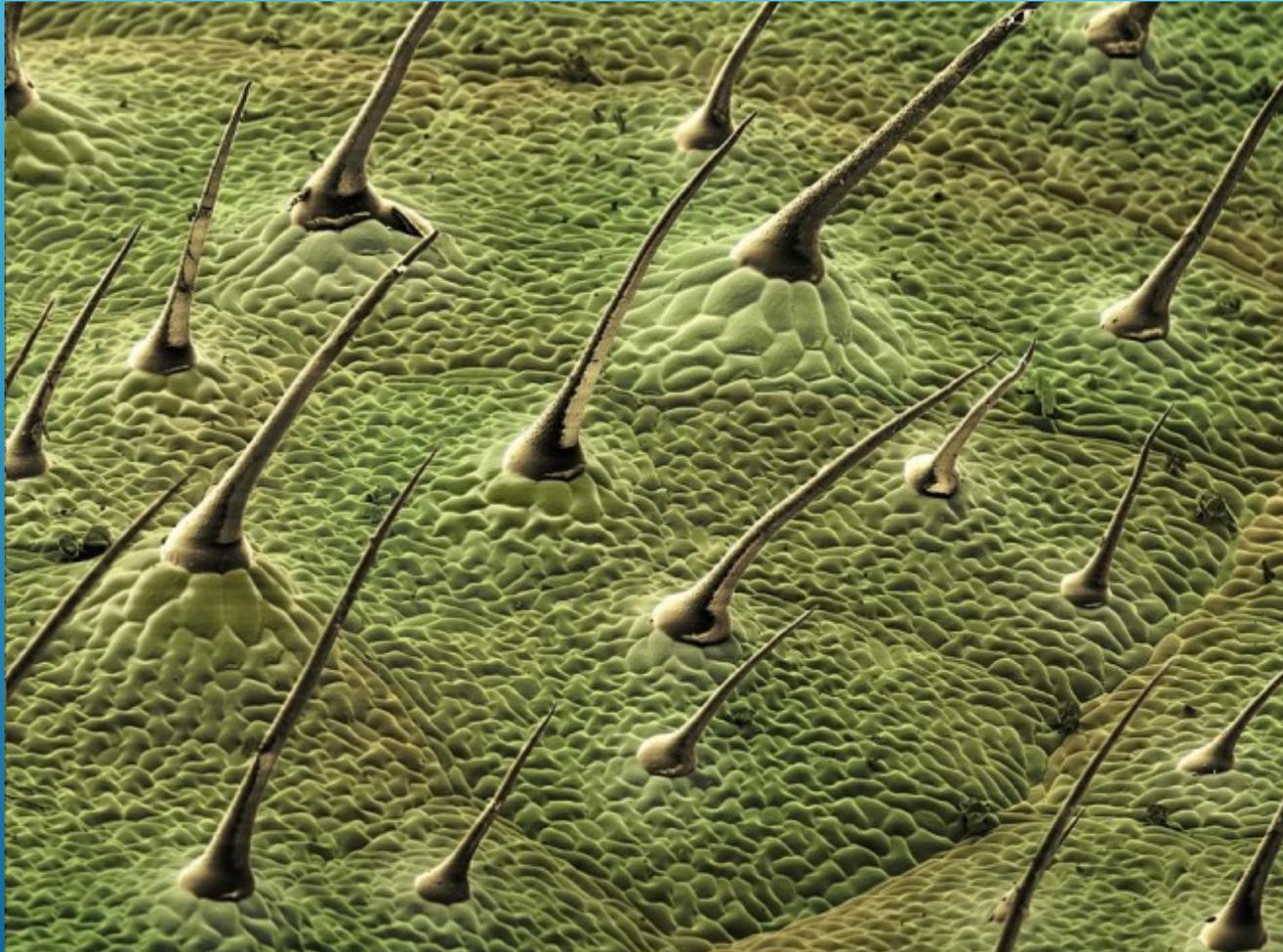
Dense foliage favors mite predators, but can also favor diseases and be hard to spray and harvest



Optimal plant size in March.



Extensive leaf hairs can trap excess dust and also impede biological mite control agents like *Persimilis*



- ▶ Beneficial genetic traits have always been key to successful strawberry farming, and
- ▶ Disease pressure, particularly soil borne, is increasing as predicted after banning M-B
- ▶ Is it time to re-evaluate the strawberry industry's reluctance to embrace genetic engineering for disease management?

FINAL QUESTION

