

# Southern California Research Update



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# **CSC Acreage Report**

**Benicia: yield performance in So. California  
2011-12**

**Benicia plant issues**

**Performance of U.C. advanced SD selections**

**Genetic screening for tolerance/susceptibility to  
soilborne pathogens**

**White-wash poly mulch to reduce soil  
heating and delay N release in late summer**

**New products: bird repellent, heat protectant**

# **CSC Revised Strawberry Acreage Report 2012**

## **2012 California Strawberry Acreage**

60.7% UC cultivars

39.3% Proprietary cultivars

Compared to 2011:

Proprietary acreage decreased by 518 acres

Volume is up 12 million crates

# Benicia

Short-day cultivar released in 2010

Adapted to early planting in So. Calif.

Moderately vigorous plant, open growth habit

Similar production curve as Ventana but with  
lower cull rate and better fruit quality

Very good flavor





Benicia



# Benicia (4.39-1)



# Yield Performance for Benicia, Ventana & Camarosa Irvine, 2011-12

Item	Mulch	Total Yld (C/A)	Mkt Yld (C/A)	Fruit		
				Size (g)	App (1-5)	Firm (1-5)
Benicia	Clear	12140	10193	34.9	3.5	3.6
	Black	11466	9728	35.5	3.6	3.6
Ventana	Clear	10957	8825	33.7	3.1	3.4
Camarosa	Clear	12159	8710	27.9	2.2	3.1

**C/A = crates per acre (10.3 lbs/crate)**

# **Benicia Plant Issues 2011-2012**

Variable plant vigor in fields throughout Calif.

Typically, good vigor and yield to early May

Variable plant collapse, with root & crown rot  
in late season

Despite attenuated harvest season, many  
growers obtained very good yields



**Benicia**

**Oxnard**

**June 1, 2012**





# Benicia on clear and black mulch





# Benicia plant crown collapse – May

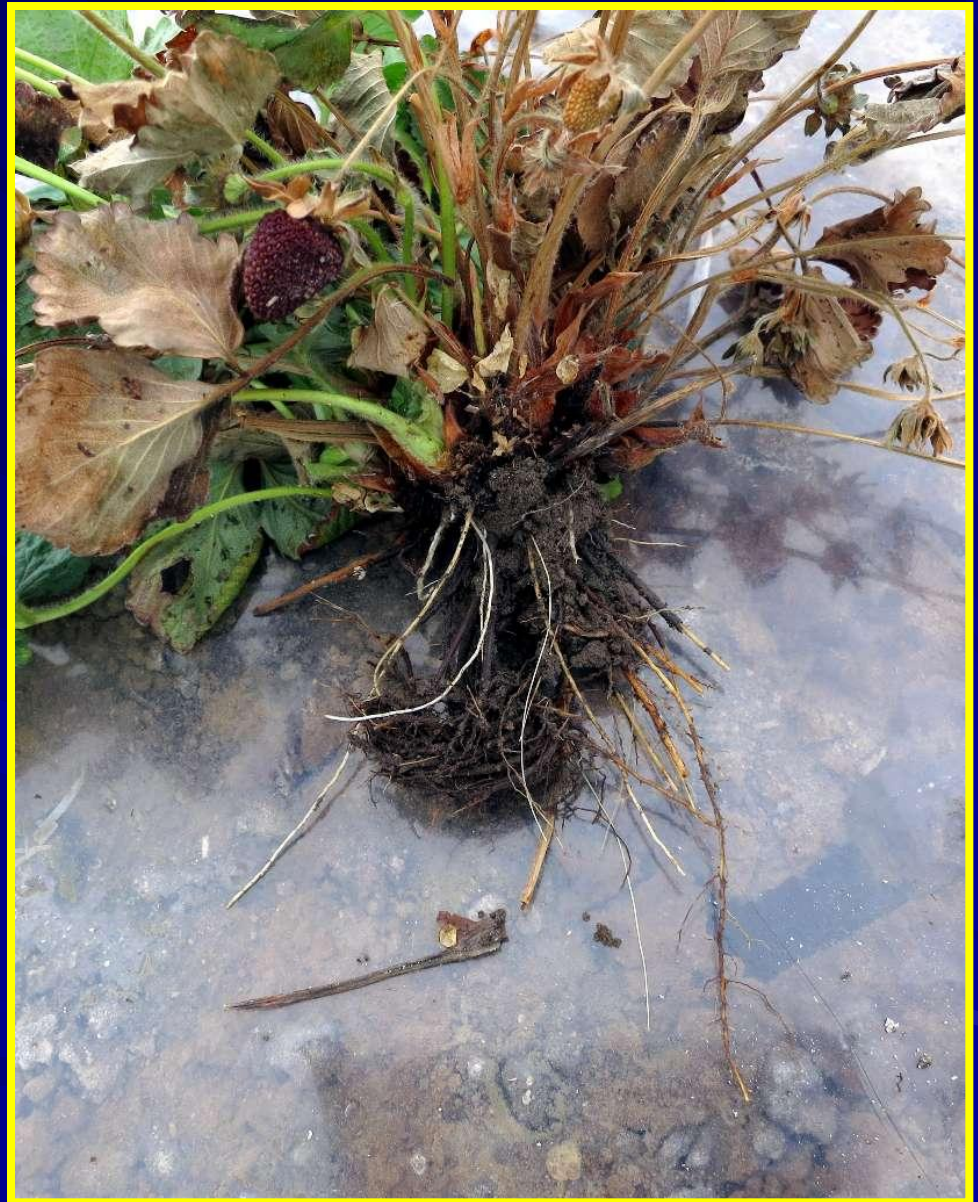




**Benicia:  
variable late-season  
crown collapse**

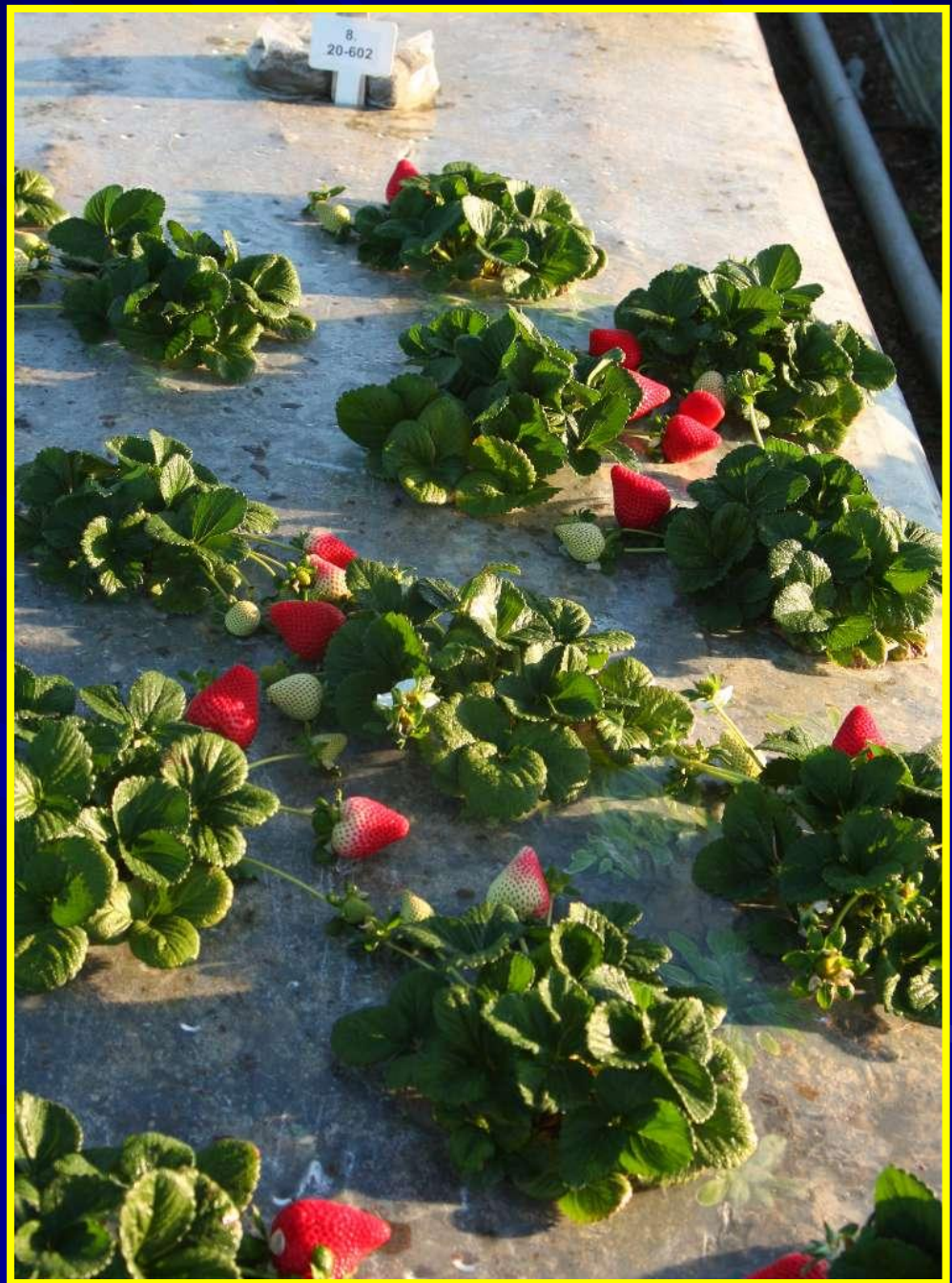
**Heavy fruit load  
appears to  
contribute to plant  
collapse and root  
senescence  
(CHO depletion)**

**Potential to produce  
6000-10000 C/A  
by mid-May**





**Advanced  
selection  
8.20-602**





## Advanced selection 8.132-608





# **Yield Performance for Cultivars & Advanced SD Selections Irvine, 2011-12**

<b>Item</b>	<b>Total Yld (C/A)</b>	<b>Mkt Yld (C/A)</b>	<b>Size (g)</b>	<b>Fruit</b>	
				<b>App (1-5)</b>	<b>Firm (1-5)</b>
<b>8.5-601</b>	<b>11849</b>	<b>10841</b>	<b>34.3</b>	<b>4.0</b>	<b>3.6</b>
<b>8.9-605</b>	<b>11581</b>	<b>10012</b>	<b>38.8</b>	<b>3.8</b>	<b>3.8</b>
<b>8.13-605</b>	<b>11513</b>	<b>10090</b>	<b>37.2</b>	<b>3.6</b>	<b>3.8</b>
<b>8.17-607</b>	<b>13067</b>	<b>11277</b>	<b>38.2</b>	<b>3.8</b>	<b>3.8</b>
<b>8.20-602</b>	<b>9975</b>	<b>8458</b>	<b>36.2</b>	<b>3.7</b>	<b>3.8</b>
<b>8.132-608</b>	<b>11975</b>	<b>10815</b>	<b>36.1</b>	<b>3.6</b>	<b>3.6</b>
<b>8.137-601</b>	<b>10878</b>	<b>10364</b>	<b>41.4</b>	<b>3.8</b>	<b>3.9</b>
<b>9.56-604</b>	<b>10878</b>	<b>8925</b>	<b>33.2</b>	<b>3.9</b>	<b>3.9</b>
<b>Ventana</b>	<b>10957</b>	<b>8825</b>	<b>33.7</b>	<b>3.1</b>	<b>3.4</b>
<b>Benicia</b>	<b>12140</b>	<b>10193</b>	<b>34.9</b>	<b>3.5</b>	<b>3.6</b>

**C/A = crates per acre (10.3 lbs/crate)**

# Yield Performance for Cultivars & Advanced SD Selections Irvine, 2011-12

Item	Total Yld (C/A)	Mkt Yld (C/A)	Size (g)	Fruit App (1-5)	Firm (1-5)
8.55-2	12915	10316	36.4	3.9	3.7
8.124-1	11424	10274	39.0	3.5	3.7
8.137-2	10316	9277	35.0	3.5	3.8
8.182-2	11429	9335	33.4	3.5	4.0
Ventana	10957	8825	33.7	3.1	3.4
Benicia	12140	10193	34.9	3.5	3.6

C/A = crates per acre (10.3 lbs/crate)

# *C. acutatum* genetic screen

Evaluation



Plug  
propagation



Infection



Inoculation





# *C. acutatum* genetic screen

Evaluate ~50 cultivars and  
advanced selections annually



Moderately tolerant



Highly susceptible

## Disease Resistance Scores\* for Nine U.C. Strawberry Cultivars, 2008-11

Genotype	<i>P. cactorum</i>	<i>V. dahliae</i>	<i>C. acutatum</i>	<i>F. oxysporum</i> **	<i>M. phaseolina</i> **
Camarosa	3.2	3.3	2.8	2.9	3.2
Ventana	2.5	3.1	3.0	4.6	3.2
Albion	4.5	3.9	3.1	2.3	1.9
Monterey	3.9	4.2	2.9	3.5	2.8
S. Andreas	4.1	4.1	2.8	5.0	1.6
Portola	4.1	3.8	2.2	5.0	1.9
Palomar	3.3	3.9	3.1	3.4	3.2
Benicia	3.7	2.2	2.7	3.0	3.1
Mojave	2.9	4.1	2.9	3.4	3.1

\* Disease resistance scores are on a scale of 1-5, with 1 = highly susceptible, and 5 = highly resistant

\*\* Data for 2010 and 2011 only



# Rabet System Sta Maria, 2011-12



# Commercial System Sta Maria, 2011-12



# **Temperature, Respiration and Plant Carbohydrate Status**

**For every 10° C (18° F) increase in temperature,  
plant respiration rate doubles or triples**

**Soil (and plant) temperatures under clear  
mulch can easily reach 120+° F, especially with  
use of clear polyethylene mulch**

**Apply white, water-based paint to clear-mulched beds in late summer, early fall**

**Reduces soil and strawberry plant temps**

**Reduces N losses from CR fertilizers**

**Paint gradually fades away with exposure to sun and water**

# **“Diffusion”**

**Wilbur-Ellis product**

**Mineral-based particle film**

**Flowable micronized dispersion of Calcium carbonate**

**Protects against sunburn & heat stress**

**Can apply to any crops that aren't CA-sensitive**



# **“Avian Control” Bird Repellent**

Irritates pain receptors associated with birds' sense of taste and smell

Unpleasant effect is temporary, doesn't harm birds

Active ingredient is methyl anthranilate

Formulated from food-grade ingredients

Applied as spray or fog, provides protection from birds for up to 2 weeks

Repels all birds


Is not labeled for strawberry in California at this time











**Tentative Pomology  
Field Day dates in 2013:**  
Feb. 26 - Irvine  
April 11 - S. Maria  
May 7 - Watsonville

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