

California Strawberry Commission Research Update

DAN LEGARD



Automation

Board has established labor saving automation as a research priority for the California Strawberry Commission



Strawberry De-capping Machine

- Starting 5th year of work on this with University of Maryland
- Will be testing the latest prototype at Cal Pacific Specialty Foods in Moss Landing this Spring
- Plan to schedule a “field day” for people to see the machine sometime in April
- If all goes well with this “stress test”, we will have another test next season (2017) and hope to have the machine available for commercial use in early 2018.

Prototype of De-capping Machine

Now Fully loaded, USDA food grade, wash-down model (front view, skin not on yet)

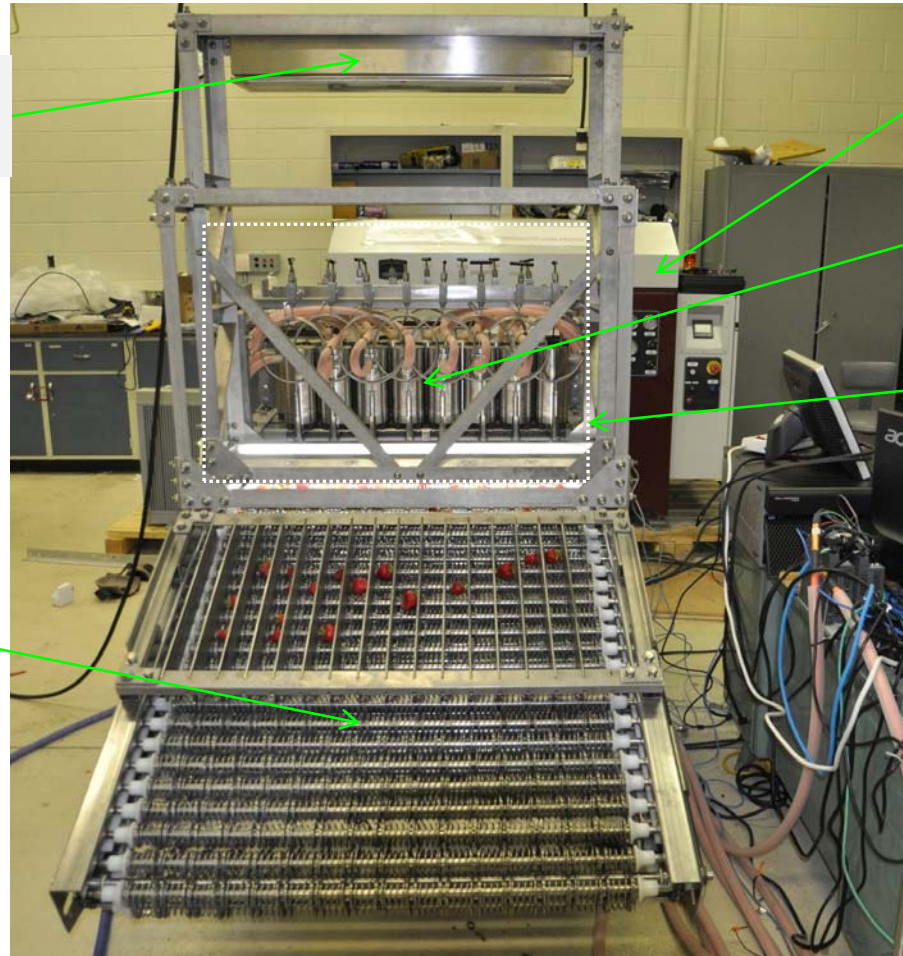
Vision Cameras
inside,
waterproof

Water-jet Control
Unit

16 Lane Water-
jet knives

Computer and
Electronic
Chamber, after
put the skin on

All Stainless
Steel
Conveyor &
Singulator
feeding from
water tank



Breeding

- Breeding is another priority established by the Board of the California Strawberry Commission
- Established a taskforce to establish guidance to the Board
- The CSC Board has approved the following “breeding” goal and action:
 - Goal: *The regular release of commercially viable strawberry varieties for fruit production that are publically available to all California growers.*
 - Recommendation: *The CSC should take no action until there is a formal request for financial or other support from the UC-Davis breeding program or other public breeding programs.*
- No funds are currently allocated for breeding in the research budget

Lygus Research Program

- Funding two projects with UC & UCCE
 - One is developing pheromone traps (2nd year)
 - Other is looking at managing early season infestation (1st year)
- CSC Research Program
 - Focused on improving the performance of the Bug vacuum (2 years)

Early Recommendations for Bug Vacuum (Years 1 & 2)

- New windspeed standard: 40-50 mph
- Use punch plate louvers (~1/8th inch holes) to increase windspeed
- 20-30° angle louvers



Year 3- Adding plate to front of hood **dramatically** improved performance



Summary of Improvements to Bug Vacuum

Year	Modification	Efficiency (% of lygus picked up by vacuum)
Year 1	New from fabricator	2.5%
Year 1	PSI (2500) & tractor speed (2 mph)	4%
Year 2	New motor for higher PSI (3000)	8%
Year 2	Plate to reduce opening at front of hood	18%

Year 3 Plan: Bug Vacuum

- Most of the previous work has been done on 4 row beds
- Will start looking at improving performance of 2 row vacuums
- Will evaluate different scheduling frequency (1x, 2x, 4x per week)
- Will see if we can use the repeated vacuuming of blocks with high populations can crash the population of Lygus

2016 Production Research Program

Organization	Grant Funding
UC & UCCE	\$ 358,232
CalPoly Strawberry Center	\$ 584,951
CSC	\$ 305,600
Other	\$ 304,853
Total .	\$ 1,248,783



CAL POLY

Strawberry Center



Staff



Gerald Holmes
Director



Kelly Ivors
HCS Faculty
50% strawberry research



Ryan Brantley
Research Associate



Melissa Minor
Administrative Coordinator
($\frac{1}{2}$ time)



Core areas of emphasis

1. Establishment of a strawberry research farm
2. Management of soil borne diseases
3. Evaluation and development of pesticides
4. Diagnostics
5. Training and recruitment of students
6. Obtaining outside funding

Strawberry Center Team

Staff

1. Gerald Holmes: Director
2. Kelly Ivors: HCS Faculty
3. Ryan Brantley: Research Associate
4. Melissa Minor: Administrative Coordinator (1/2 time)

Master's Students

1. Mel Carter
2. Eli Weissman
3. Ryan Bitter
4. Scott Cosseboom
5. Jonathan Winslow

Student workers/interns

1. Kenny Romero
2. Franca Rossi
3. Jennifer Tarke
4. Mansoor Adina
5. Sara Hepler
6. Ryan Gilmour
7. Jessica Cegielski
8. Lindsay Pedroncelli
9. Edwin Horton
10. Ryan Traband
11. Armando Hernandez
12. Nikki Lukasko