



# Raisin Industry Update

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California Raisin Marketing Board



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NATIONAL  
G R A P E  
& W I N E  
I N I T I A T I V E

# Industry Metrics

- **Acres: Approximately 150,000**
- **Worldwide distribution**
- **Farm gate value: \$350,000,000**
- **Consumption trends: Domestic consumption stable, recent growth in export**



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INITIATIVE

# Production Efficiency

# Crop Production Research

2010-2011 Crop Year



# “Development of improved raisin grapes for mechanical harvest including types resistant to powdery mildew”

- Principle Investigator - David W. Ramming
- Funding:
  - \$62,000 funded by the California Raisin Marketing Board
  - \$20,800 funded by the Viticulture Consortium West
- Project Duration:
  - 1 year (with 29 prior years of funding)
- Project Summary
  - Development and evaluation of new natural Dry on the Vine (DOV) raisin grape cultivars for mechanical harvest without cutting canes.
  - Development of new raisin cultivars resistant to powdery mildew.
  - Development of new raisin cultivars with high anthocyanins, phenolics and antioxidants.

# “Breeding Rootstocks Resistant to Aggressive Root-Knot Nematodes”

- Principle Investigator - Peter Cousins, Ph.D.
- Funding:
  - \$14,000 funded by the California Raisin Marketing Board
- Project Duration:
  - 1 year (with 7 prior years of funding)
- Project Summary
  - Breeding, evaluating, and introducing rootstocks that are resistant to aggressive root-knot nematodes which will result in improved varieties with adaptation to California viticulture.

# “Node position, shoot emergence, and yield components of cane-pruned raisin grapes”

- Principle Investigator – Matthew Fidelibus
- Funding:
  - \$18,597 funded by the California Raisin Marketing Board
  - \$18,000 funded by the Viticulture Consortium West
- Project Duration:
  - 1 year
- Project Summary
  - Characterizing and comparing the emergence and fruitfulness of shoots from different node positions on canes from ‘DOVine’, ‘Fiesta’, and ‘Selma Pete’ grapevines to a traditional variety ‘Thompson Seedless’.
  - Determining whether extending the cane length by 5 nodes can compensate for the crop lost by stripping the first five nodes of flowers.
  - Comparing shoot emergence and fruitfulness of canes on vines subjected to a common commercial practice of light pruning and basal bud stripping, with a more severe conventional pruning and basal bud stripping.

# “Advancing maturity of raisin cultivars using potassium sprays applied just prior or during the ripening phase”

- Principle Investigator – William Peacock
- Funding:
  - \$15,000 funded by the California Raisin Marketing Board
- Project Duration:
  - 1 year
- Project Summary
  - Advancing Thompson Seedless maturity, raisin quality, and raisin nutrition (K content) using potassium sprays applied during the lag and ripening phases of fruit development.

# “Identifying and correlating populations to fruit damage in raisin production systems”

- Principle Investigator – Stephen Vasquez
- Funding:
  - \$13,900 funded by the California Raisin Marketing Board
  - \$10,000 funded by the Viticulture Consortium West
- Project Duration:
  - 1 year
- Project Summary
  - Identifying raisin moth habitat in continuous tray and DOV vineyards in comparison to traditional tray-dried raisin production vineyards.
  - Evaluating raisin moth damage in continuous tray-dried and DOV raisins vineyards in comparison to traditional tray dried
  - Correlating male pheromone trap counts with egg laying activity and identifying an optimal time for pesticide applications.

# “Crop yield and economics of San Joaquin Valley vineyards under alternative weed management strategies”

- Principle Investigator – Anil Shresta
- Funding:
  - \$10,463 funded by the California Raisin Marketing Board
  - \$20,000 funded by the Viticulture Consortium West
- Project Duration:
  - 1 year
- Project Summary
  - Evaluating several organically acceptable and alternative weed control practices (thermal weed control i.e. steam or flame, mechanical (French Plow, Bezzerides cultivator, or hand weeding), and organic herbicides (Matran and Greenmatch) in raisin, table, and winegrape vineyards.
  - Determining the efficacy of the above weed control methods on vine productivity, yield, and fruit quality.
  - Assessing the economics of each practice and analyzing their impact on greenhouse gas emissions and environment.

# “Sustainable Controls for Vine Mealybug - 2010”

- Principle Investigator – Kent Daane
- Funding:
  - \$68,850 funded by the American Vineyard Foundation
  - \$10,000 funded by the California Raisin Marketing Board
  - \$10,000 funded by the California Table Grape Commission
- Project Duration:
  - 1 year (with 7 prior years of funding)
- Project Summary
  - Importing and evaluating (in quarantine facility) new parasitoids of the vine mealybug (VMB).
  - Releasing and evaluating novel natural enemies in VMB infested vineyards throughout the state.
  - Studying natural enemy biology to improve their usefulness.

# Health and Nutrition Research

2009-2010 and 2010-2011 Crop Years



## “Effects of Carbohydrate Supplementation Type on Exercise Performance after Consecutive Day Exercise Bouts in Marathon Runners”

- Principle Investigator – Brian Davis, MD
- Funding:
  - \$84,000 funded by the California Raisin Marketing Board
- Project Duration:
  - 1 year
- Project Summary
  - Comparing the effects of carbohydrate supplementation with two different forms (commercially produced gel and a natural food source, raisins) versus water only on exercise performance, metabolism and subjective measures of fatigue after 2 consecutive days of exercise.

## “The Effects of a Pre-Meal Raisin Snack on Satiety and Food Intake in Children”

- Principle Investigator – Dr. Harvey Anderson
- Funding:
  - \$83,065 funded by the California Raisin Marketing Board
- Project Duration:
  - 1 year
- Project Summary
  - Investigating the effects of consuming raisins as a pre-meal snack on food intake at an *ad libitum* meal and on subjective appetite before and after the meal in children.

# “Phytochemical Profiles of Raisins: Isolation, Structure Elucidation, and Their Bioactivities”

- Principle Investigator – Dr. Rui Hai Liu
- Funding:
  - \$64,000 funded by the California Raisin Marketing Board
- Project Duration:
  - 1 year
- Project Summary
  - Isolating and identifying phytochemicals of raisins and determining their phytochemical profiles using bioactivity-guided fractionation techniques routinely used in our laboratory. Bioactivity will be monitored using our newly-developed CAA model, antioxidant activity, anti-inflammation activity, antiproliferative activity and inhibition of COX-2 and NFkB.

## “A Randomized, Unblinded, Single Research Site, Comparator Study of Raisins Versus Alternative Snacks on Cardiovascular Risk Factors In Generally Healthy Subjects”

- Principle Investigator – Harold Bays MD
- Funding:
  - \$108,000 funded by the California Raisin Marketing Board
- Project Duration:
  - 16 weeks
- Project Summary
  - Comparing the effects of Raisins three times per day versus alternative snacks three times per day on cardiovascular risk factors in generally healthy subjects.