## Micropropagation Takes Root in Sutter County

# SUTTER COUNTY CROP & LIVESTOCK REPORT 2013

# Growing Small is Growing Big

## MICROPROPAGATION TAKES ROOT IN SUTTER COUNTY

Micropropagation is the practice of rapidly multiplying stock plant material to produce a large number of progeny plants, using modern plant tissue culture methods. Under the old-style cloning techniques, such as cutting, budding or grafting, results were inconsistent in the field environments in which they were carried out. With the new extreme cleanliness and standardization that can be achieved through the laboratory setting, disease-free, highly uniform, top-quality nursery stock can now be produced.

Beginning with the selection of healthy stock material, there are four basic stages of Micropropagation: Establishment, Multiplication, Pretransplant and Transfer from Culture.

**Establishment** involves the selection and collection of disease-free plant material to be multiplied. It is important that the collected material be sterilized to prevent contamination. The material is then placed on a medium which supports growth and is specific to the type of tissue collected.

**Multiplication** takes the tissue samples produced in the first step and increases their number. This may be repeated as necessary and may involve different methods and media.

In the **Pretransplant** stage, root growth of the plantlets is encouraged and they are hardened off in anticipation of moving them to a natural growing environment. This is done *in vitro*, or in a sterile, test tube environment.

The plants are then **Transferred from Culture** into soil or a growth medium for continued growth.

Associated with this type of cloning, two Sutter County nurseries expanded their micropropagation operations significantly in 2013.

**Sierra Gold Nurseries**, a commercial production nursery in operation since 1951, opened a new micropropagation facility in Yuba City in 2013. Converted from a former tree grading warehouse, this world-class laboratory is actively creating Paradox hybrid walnut rootstocks and UCB-1 hybrid pistachio rootstocks to meet the needs of orchardists. Sierra Gold is also producing some peach/almond hybrid rootstocks such as Bright's Hybrid® 5 and Hansen 536 which are more efficiently propagated by plant tissue culture.

**Micro Paradox** (nursery), located in Pleasant Grove, has been providing high quality clonal rootstock to orchard owners and growers since 2009. Since their debut, Micro Paradox has provided over 2.5 million walnut rootstocks for California orchards and is now expanding into other crops such as pistachio, cherry and peach/almond hybrids.

Paradox rootstock is a high demand walnut rootstock which is created by crossing Northern California Black and English walnuts in order to create a highly vigorous offspring. If propagated as in the past, the uncontrolled pollination process leads to inconsistent results. The resulting open-pollinated rootstocks would possess multiple genetic differences in disease resistance, vigor, yield, et cetera, than their hybrid counterparts.

Paradox cuttings also suffer from poor rooting rates compared to other fruit and nut crops. By using tissue culture, Micro Paradox's clonal propagation, specifically micropropagation, increases the uniformity and thus solves some of the variability issues.

**Cover**
**Top:** Sierra Gold shade structure.
**Middle:** Sierra Gold lab, Micro Paradox plant growth, Sierra Gold lab.

**Inside**
**Opposite:** Sierra Gold lab.
**Top:** Micro Paradox growing facility.
**Above:** Plant at Micro Paradox.

# Table of Contents



# MISSION STATEMENT

Our mission is to serve the public's interest by ensuring equity in the marketplace, promoting and protecting agriculture, assuring environmental quality, and protecting the health, safety and welfare of Sutter County's citizens.

We fulfill our mission through the following programs: Pest Exclusion, Pesticide Use Enforcement, Pest Detection, Fruit and Vegetable Standardization, Egg Quality Control, Pest Management, Nursery Inspection, Pest Eradication, Seed Inspection, Weights and Measures Enforcement, Predatory Animal Control, and other non-regulatory and special services programs.

New planting at Micro Paradox

OFFICE OF THE

# AGRICULTURAL COMMISSIONER
# SEALER OF WEIGHTS & MEASURES

MARK P. QUISENBERRY
Agricultural Commisioner
Sealer of Weigths and Measures

MARK BROWN
Assistant Agricultural Commissioner
Assistant Sealer of Weights and Measures

July, 2014

To: Karen Ross, Secretary
California Department of Food
and Agriculture

and

The Honorable Board of Supervisors,
County of Sutter:
Stan Cleveland, Chairman, District 2
Ron Sullenger, District 1
Larry Munger, District 3
Jim Whiteaker, District 4
James Gallagher, District 5

In accordance with Section 2272 and 2279 of the California Food and Agricultural Code, I am pleased to submit the 2013 Sutter County Agricultural Crop Report. Sutter County's gross agricultural production value totaled $599,292,000 with Rice, Walnuts, Dried Plums (Prunes), Peaches (processing), Nursery Products, and Tomatoes (processing) as the leading agricultural commodities. Strong demand also drove returns up for Almonds, Corn (field), and Sunflower seed, exceeding $15 million each.

A dry spring allowed farmers to plant their crops early, and a dry fall made for an excellent harvest. However hopes of significant rainfall to combat the drought failed to come about as the predicted La Nińa failed to develop. This in turn forced many growers to irrigate their orchard and field crops during the winter months.

In review, improved acreage and value bolstered returns for almonds, dried plums (prunes), peaches (cling), and sunflower seeds. Increased acreage and production favored returns for olives, tomatoes (canning) and corn (field). Rice received multiplied returns due to increases in acreage, production and value. Walnut value increased markedly. A strong demand for apiary and nursery products also continued, allowing for good returns. For all other crops, production and returns were favorable. Additional plantings of fruit and nut orchards for future harvest also continued to improve.

As summarized in this report, agriculture continues to be an integral part of Sutter County's economic base. Industries such as banking, labor, marketing, transportation, and other services directly or indirectly tied to agriculture benefited appreciably as the agricultural industry returned over $2.44 Billion to our economy in 2013.

I would like to express my sincere appreciation to staff and to the many individuals from the agricultural industry who assisted in the compilation of this report.

Respectfully submitted,

Mark P. Quisenberry
Agricultural Commissioner

# Fruit & Nut Crops

| CROP | YEAR | ACRES HARVESTED | PRODUCTION PER ACRE | TOTAL | UNIT | VALUE PER UNIT | TOTAL |
|---|---|---|---|---|---|---|---|
| **Almond, Meats** | 2013 | 6,360 | 0.54 | 3,434 | Tons | $5,066 | $17,397,000 |
| | 2012 | 4,324 | 0.54 | 2,335 | Tons | $4,702 | $10,979,000 |
| **Almond, Hulls** | 2013 | | | 4,293 | Tons | 100 | 429,000 |
| | 2012 | | | 2,919 | Tons | 115 | 336,000 |
| **Kiwifruit** | 2013 | 155 | 6.36 | 986 | Tons | 1,600 | 1,578,000 |
| | 2012 | 166 | 8.46 | 1,404 | Tons | 614 | 862,000 |
| **Olive** | 2013 | 785 | 8.48 | 6,657 | Tons | 454 | 3,022,000 |
| | 2012 | 661 | 3.98 | 2,631 | Tons | 550 | 1,447,000 |
| **Peach, Cling** | 2013 | 7,838 | 15.33 | 120,157 | Tons | 347 | 41,694,000 |
| | 2012 | 7,110 | 16.70 | 118,737 | Tons | 303 | 35,977,000 |
| **Persimmon** | 2013 | 153 | 8.91 | 1,363 | Tons | 373 | 508,000 |
| | 2012 | 167 | 13.68 | 2,285 | Tons | 572 | 1,307,000 |
| **Dried Plum (Prune)** | 2013 | 17,236 | 1.57 | 27,061 | Tons | 1,863 | 50,415,000 |
| | 2012 | 15,648 | 2.57 | 40,215 | Tons | 1,307 | 52,561,000 |
| **Walnut, English** | 2013 | 26,033 | 1.60 | 41,653 | Tons | 3,446 | 143,536,000 |
| | 2012 | 26,060 | 1.64 | 42,738 | Tons | 2,686 | 114,794,000 |
| **Miscellaneous [1]** | 2013 | 779 | | 3,120 | Tons | | 2,873,000 |
| | 2012 | 756 | | 3,271 | Tons | | 2,697,000 |
| **Orchard By-Products** | 2013 | | | | | | 8,040,000 |
| | 2012 | | | | | | 8,700,000 |
| **TOTAL** | **2013** | **59,339** | | | | | **$269,492,000** |
| | **2012** | **54,892** | | | | | **$229,660,000** |

| CROP | BEARING ACRES | | NON-BEARING ACRES | |
|---|---|---|---|---|
| | 2013 | 2012 | 2013 | 2012 |
| **Almond** | 6,360 | 4,324 | 1,202 | 287 |
| **Kiwifruit** | 155 | 166 | 1 | 0 |
| **Olive** | 785 | 661 | 138 | 99 |
| **Peach, Cling** | 7,838 | 7,110 | 1,276 | 282 |
| **Persimmon** | 153 | 167 | 3 | 10 |
| **Dried Plum (Prune)** | 17,236 | 15,648 | 237 | 625 |
| **Walnut, English** | 26,033 | 26,060 | 7,979 | 5,094 |
| **Miscellaneous [1]** | 779 | 756 | 251 | 244 |
| **TOTAL** | **59,339** | **54,892** | **11,087** | **6,641** |

1 Includes Apples, Apricots, Bushberries (Blackberry, Boysenberry & Raspberry), Cherries, Chestnuts, Feijoa (Guava), Figs, Grapefruit, Grapes, Jujubes (Chinese Date), Lemons, Limes, Nectarines, Oranges (Mandarin, Navel & Valencia), Peaches (Freestone), Pecans, Pears, Pistachios, Plums, Pluots, Pomegranates, Strawberries, Tangerines, Walnuts (Black) and other miscellaneous fruit and nut crops of a limited number of growers/processors in Sutter County.

# Vegetable Crops [1]

| CROP | YEAR | ACRES HARVESTED | PRODUCTION PER ACRE | TOTAL | UNIT | VALUE PER UNIT | TOTAL |
|---|---|---|---|---|---|---|---|
| **Melons, Honeydew [1]** | 2013 | 545 | 11.90 | 6,486 | Tons | $353 | $2,290,000 |
| | 2012 | 364 | 9.77 | 3,556 | Tons | $343 | $1,220,000 |
| **Tomato, Processing** | 2013 | 8,070 | 42.63 | 344,024 | Tons | 71 | 24,426,000 |
| | 2012 | 7,827 | 37.84 | 296,174 | Tons | 72 | 21,325,000 |
| **Miscellaneous [2]** | 2013 | 90 | | 1,271 | Tons | | 1,119,000 |
| | 2012 | 84 | | 1,139 | Tons | | 1,286,000 |
| **TOTAL** | **2013** | **8,705** | | | | | **$27,835,000** |
| | **2012** | **8,275** | | | | | **$23,831,000** |

1 Revised 2012 Honeydew melon acreage, production, tonnage, value figures, vegetable crop acreage, and total value.

2 Includes Artichoke, Asparagus, Basil, Beets, Bitter Melon, Bok Choy, Broccoli, Brussels Sprouts, Cabbage, Cantaloupe,Carrots, Cauliflower, Celery, Chard, Cilantro, Corn (sweet), Cucumber, Eggplant, Garlic, Gourds, Green Beans, Herbs, Kale, Kohlrabi, Leek, Lettuce, Melons (Mixed), Mustard, Okra, Onions, Parsnip, Pea, Peppers, Potatoes, Pumpkin, Radish, Rhubarb, Rutabaga, Shallots, Spinach, Sprouts, Squash, Sweet Potatoes, Tomatillo, Tomato (Fresh), Turnip, Watermelon, Winter Squash, Zucchini and other miscellaneous vegetables of a limited number of growers/processors in Sutter County.

## ORGANIC FARMING

Thirty-four farms, totaling approximately 12,302 acres of crop land were registered as organic in Sutter County in 2013. Utilizing organic principles defined in the California Organic Food Act of 2003, these farms produce a wide array of commodities, such as: almonds, stone fruit, beans, herbs, corn, popcorn, misc. vegetables, apples, grapes, pears, pomegranates, melons, squash, oats, peas, prunes, rice, seed crops, tomatoes, walnuts, and wheat. The total estimated value of organic production in Sutter County in 2013 was $23,223,450. In comparison, 2012 had 11,933 production acres with an estimated value of $20,507,531.


Feather River Farms

# Field Crops

| CROP | YEAR | ACRES HARVESTED | PRODUCTION PER ACRE | TOTAL | UNIT | VALUE PER UNIT | TOTAL |
|---|---|---|---|---|---|---|---|
| **Bean, All dry, edible [1]** | 2013 | 4,714 | 1.06 | 4,997 | Tons | $942 | $4,707,000 |
| | 2012 | 9,166 | 0.81 | 7,405 | Tons | $979 | $7,246,000 |
| **Corn, Field Grain** | 2013 | 12,282 | 6.40 | 78,605 | Tons | 204 | 16,035,000 |
| | 2012 | 9,813 | 5.12 | 50,243 | Tons | 210 | 10,551,000 |
| **Hay, Alfalfa** | 2013 | 6,191 | 6.48 | 40,118 | Tons | 214 | 8,585,000 |
| | 2012 | 6,572 | 6.40 | 42,061 | Tons | 203 | 8,538,000 |
| **Hay, Grain** | 2013 | 2,236 | 7.38 | 16,502 | Tons | 147 | 2,426,000 |
| | 2012 | 2,913 | 3.72 | 10,839 | Tons | 152 | 1,645,000 |
| **Hay, Grass** | 2013 | 399 | 7.04 | 2,809 | Tons | 151 | 424,000 |
| | 2012 | 539 | 4.91 | 2,645 | Tons | 194 | 513,000 |
| **Pasture, Irrigated [2]** | 2013 | 10,240 | | | Acres | 180 | 1,843,000 |
| | 2012 | 10,500 | | | Acres | 180 | 1,890,000 |
| **Pasture, Range Dry** | 2013 | 64,000 | | | Acres | 16 | 1,024,000 |
| | 2012 | 64,500 | | | Acres | 16 | 1,032,000 |
| **Rice [3]** | 2013 | 115,949 | 4.28 | 496,262 | Tons | 361 | 179,151,000 |
| | 2012 | 115,550 | 4.04 | 466,822 | Tons | 350 | 163,388,000 |
| **Rice, Wild** | 2013 | 1,402 | 0.98 | 1,374 | Tons | 1,430 | 1,965,000 |
| | 2012 | 1,098 | 0.78 | 856 | Tons | 1,448 | 1,239,000 |
| **Safflower** | 2013 | 1,526 | 0.99 | 1,511 | Tons | 520 | 786,000 |
| | 2012 | 1,942 | 0.80 | 1,554 | Tons | 504 | 783,000 |
| **Wheat, Grain** | 2013 | 8,910 | 2.80 | 24,948 | Tons | 246 | 6,137,000 |
| | 2012 | 11,475 | 2.48 | 28,458 | Tons | 226 | 6,432,000 |
| **Miscellaneous, Field Crops [4]** | 2013 | 7,060 | | 29,158 | Tons | | 2,763,000 |
| | 2012 | 6,331 | | 23,537 | Tons | | 3,478,000 |
| **Field Crop, By-Products** | 2013 | | | 76,085 | Tons | | 3,576,000 |
| | 2012 | | | 69,979 | Tons | | 3,289,000 |
| **TOTAL** | **2013** | **234,909** | | | | | **$229,422,000** |
| | **2012** | **240,399** | | | | | **$210,024,000** |

1 Includes all varieties of edible Dried Bean, including Lima, Blackeye, Garbanzo, Light and Dark Red Kidney Bean, and other miscellaneous Beans of a limited number of growers/processors in Sutter County.

2 The valuation is not an animal production figure but a land value (rental equivalent).

3 Includes USDA Support Price.

4 Includes Barley, Corn (Silage), Cotton, Oats (Silage), Popcorn, Triticale, Vetch, Sorghum and other miscellaneous field crops of a limited number of growers/processors in Sutter County.

Tom Guisti

# Seed Crops

| CROP | YEAR | ACRES HARVESTED | PRODUCTION PER ACRE | TOTAL | UNIT | VALUE PER UNIT | TOTAL |
|---|---|---|---|---|---|---|---|
| **Bean, Dry** [1] | 2013 | 866 | 1,977 | 1,712,000 | Lbs | $0.74 | $1,267,000 |
| | 2012 | 895 | 1,808 | 1,618,000 | Lbs | $0.57 | $922,000 |
| **Cucumber** | 2013 | 426 | 199 | 84,774 | Lbs | 10.33 | 876,000 |
| | 2012 | 926 | 249 | 231,000 | Lbs | 9.28 | 2,144,000 |
| **Pumpkin & Squash** | 2013 | 268 | 423 | 113,000 | Lbs | 5.90 | 667,000 |
| | 2012 | 433 | 461 | 200,000 | Lbs | 5.27 | 1,054,000 |
| **Rice** | 2013 | 3,152 | 8,596 | 27,095,000 | Lbs | 0.24 | 6,503,000 |
| | 2012 | 3,218 | 8,120 | 26,126,000 | Lbs | 0.25 | 6,532,000 |
| **Safflower** | 2013 | 469 | 1,614 | 757,000 | Lbs | 0.29 | 220,000 |
| | 2012 | 876 | 2,477 | 2,170,000 | Lbs | 0.27 | 586,000 |
| **Sunflower** | 2013 | 11,558 | 1,140 | 13,176,000 | Lbs | 1.21 | 15,943,000 |
| | 2012 | 9,682 | 1,278 | 12,374,000 | Lbs | 1.20 | 14,849,000 |
| **Watermelon** | 2013 | 785 | 150 | 118,000 | Lbs | 29.62 | 3,495,000 |
| | 2012 | 1,219 | 296 | 361,000 | Lbs | 6.16 | 2,224,000 |
| **Wheat** | 2013 | 1,070 | 6,370 | 6,816,000 | Lbs | 0.11 | 750,000 |
| | 2012 | 541 | 4,660 | 2,520,000 | Lbs | 0.12 | 302,000 |
| **Miscellaneous** [2] | 2013 | 628 | | 1,280,000 | Lbs | | 3,299,000 |
| | 2012 | 655 | | 424,000 | Lbs | | 1,900,000 |
| **TOTAL** | **2013** | **19,222** | | | | | **$33,020,000** |
| | **2012** | **18,445** | | | | | **$30,513,000** |

1 Includes Beans (Blackeye, Cowpea, Cranberry, Lima, Dark Red Kidney, Light Red Kidney) and other bean seed crops of a limited number of growers/processors in Sutter County.

2 Includes Alfalfa, Arugula, Basil, Beans (Fresh), Broccoli, Cabbage, Cantaloupe, Carrots, Cauliflower, Coriander, Gourds, Kale, Lettuce, Onion, Peppers, Mixed Melons, Okra, Radish, Sugar Peas, Swiss Chard, Tomato, Tomatillo, Wild Rice and other miscellaneous seed crops of a limited growers/processors in Sutter County.

Hoppin Family

# Apiary Products

| ITEM | YEAR | PRODUCTION | UNIT | VALUE PER UNIT | TOTAL |
|---|---|---|---|---|---|
| Pollination | 2013 | 51,275 | Colony | $56 | $2,871,000 |
| | 2012 | 45,100 | Colony | $45 | $2,030,000 |
| Miscellaneous [1] | 2013 | | | | 1,523,000 |
| | 2012 | | | | 1,333,000 |
| **TOTAL** | **2013** | | | | **$4,394,000** |
| | **2012** | | | | **$3,363,000** |

1 Includes Package Bees, Queen Bees and Honey.


McPherrin Ranch

# Livestock [1]

| ITEM | YEAR | NUMBER | LIVE WEIGHT | UNIT | VALUE PER UNIT | TOTAL |
|---|---|---|---|---|---|---|
| Cattle & Calves [2] | 2013 | 6,080 | 44,780 | Cwt. | $109 | $4,881,000 |
| | 2012 | 6,160 | 45,368 | Cwt. | $124 | $5,626,000 |
| Sheep & Lambs | 2013 | 12,848 | 17,141 | Cwt. | 101 | 1,731,000 |
| | 2012 | 15,812 | 24,508 | Cwt. | 115 | 2,824,000 |
| Miscellaneous [3] | 2013 | | | | | 2,834,000 |
| | 2012 | | | | | 5,387,000 |
| Livestock By-Products | 2013 | | | | | 3,000 |
| | 2012 | | | | | 4,000 |
| **TOTAL** | **2013** | | | | | **$9,449,000** |
| | **2012** | | | | | **$13,841,000** |

1 Revised 2012 Cattle, Calves, and Livestock Total.
2 Revised 2012 Cattle & Calves number, live weight and total.
3 Includes Alpaca & Angora Fur, Aquaculture, Chickens, Chicken Eggs, Ducks, Fish Bait, Geese, Goats, Hogs, Milk (Market), Game Birds, Musk Oxen, Pheasants, Pigeons, Rabbits, Rabbit Hides, Turkeys, Water Buffalo, Wool and other miscellaneous livestock and poultry of a limited number of growers/processors in Sutter County.

| NURSERY PRODUCTS | YEAR | FIELD ACRES | QUANTITY SOLD | UNIT | TOTAL |
|---|---|---|---|---|---|
| Fruit & Nut (Bareroot & Potted) | 2013 | 169 | 5,041,000 | Each | $25,268,000 |
| Trees and Vines | 2012 | 163 | 3,453,000 | Each | $16,757,000 |
| Miscellaneous [1] | 2013 | 6 | 39,087 | Each | 412,000 |
| | 2012 | 6 | 25,064 | Each | 264,000 |
| **TOTAL** | **2013** | | | | **$25,680,000** |
| | **2012** | | | | **$17,021,000** |

1 Includes Ornamental Trees, Shrubs and other Nursery Stock.

# KILL THE BUG, RECYCLE THE JUG

Sutter County Agricultural & Standards Biologist Jan Kendel organizes our "Kill the Bug, Recycle the Jug" pesticide container recycling program which serves Sutter, Yuba and Butte County growers. The program is funded by a grant from the Feather River Air Quality Management District with the Sutter County Ag Department making an in kind contribution of approximately 150 man hours annually. Growers are encouraged to bring their empty pesticide containers to permanent recycling locations or recycling events held throughout the year. The Sutter/Yuba program is unique in that the recycling occurs much closer to where growers farm their crops. Jan works closely with Interstate Ag Plastics so that no pesticide containers enter landfills; instead containers are recycled into fence posts, pallets, electrical conduit, and field bins. In 2012, we recycled 83,500 pounds of plastic. In 2013, we exceeded our goals and recycled 93,700 pounds of used pesticide containers. Participation in the program continues to grow each year and to date has diverted over 500,000 pounds of agricultural pesticide containers away from local landfills.

# Ten Leading Crops

| CROP | 2013 | CROP | 2012 |
|---|---|---|---|
| RICE [1] | $185,654,000 | RICE [1] | $169,920,000 |
| WALNUTS | $143,536,000 | WALNUTS | $114,794,000 |
| DRIED PLUMS (PRUNES) | $50,415,000 | DRIED PLUMS (PRUNES) | $52,561,000 |
| PEACHES, CLING | $41,694,000 | PEACHES, CLING | $35,977,000 |
| NURSERY PRODUCTS | $25,680,000 | TOMATOES (PROCESSING) | $21,325,000 |
| TOMATOES (PROCESSING) | $24,426,000 | NURSERY PRODUCTS | $17,021,000 |
| ALMONDS | $17,397,000 | SUNFLOWER (SEED) | $14,849,000 |
| CORN (FIELD) | $16,035,000 | ALMONDS | $10,979,000 |
| SUNFLOWERS (SEED) | $15,943,000 | CORN (FIELD) | $10,551,000 |
| ALFALFA | $8,585,000 | ALFALFA | $8,538,000 |

1 Includes Seed, does not include Wild Rice.

Carter Ranch

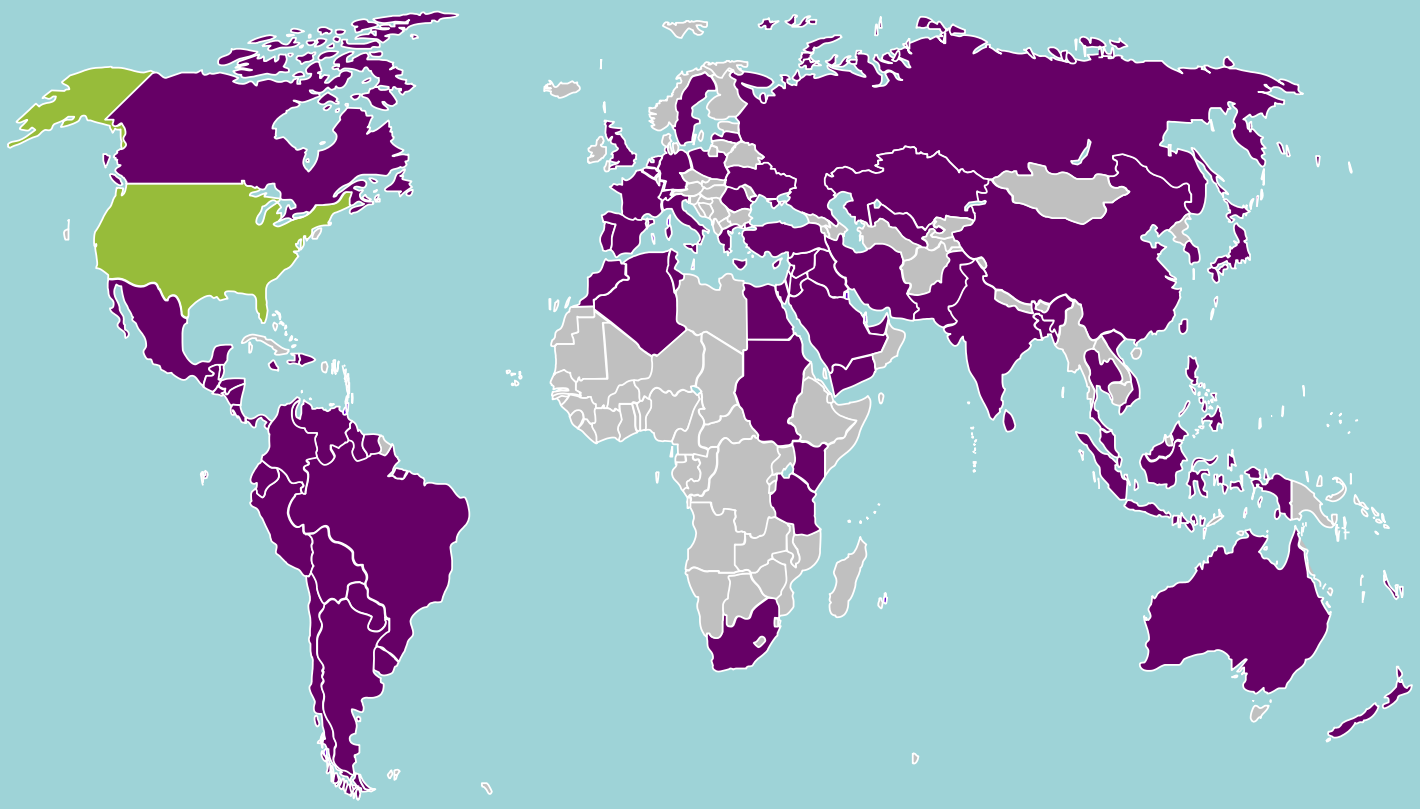
# Gross Production Value

| CATEGORIES | 2013 | 2012 |
|---|---|---|
| FRUIT & NUT CROPS | $269,492,000 | $229,660,000 |
| FIELD CROPS | 229,422,000 | 210,024,000 |
| SEED CROPS | 33,020,000 | 30,513,000 |
| VEGETABLE CROPS [1] | 27,835,000 | 23,831,000 |
| NURSERY PRODUCTS | 25,680,000 | 17,021,000 |
| LIVESTOCK PRODUCTS [2] | 9,449,000 | 13,841,000 |
| APIARY PRODUCTS | 4,394,000 | 3,363,000 |
| **TOTAL [3]** | **$599,292,000** | **$528,253,000** |

1 Revised 2012 Vegetable Crops Total value.
2 Revised 2012 Livestock Total value.
3 Revised 2012 Overall Total value.

| YEAR | VALUE | YEAR | VALUE | YEAR | VALUE |
|---|---|---|---|---|---|
| 1956 | $49,381,000 | 1976 | $178,554,000 | 1996 | $302,706,400 |
| 1957 | 41,313,000 | 1977 | 200,878,000 | 1997 | 277,169,700 |
| 1958 | 38,786,000 | 1978 | 220,502,000 | 1998 | 268,323,100 |
| 1959 | 50,707,000 | 1979 | 258,666,900 | 1999 | 347,939,000 |
| 1960 | 50,536,000 | 1980 | 299,014,700 | 2000 | 340,176,000 |
| 1961 | 55,585,000 | 1981 | 316,465,900 | 2001 | 264,673,000 |
| 1962 | 57,322,000 | 1982 | 247,784,100 | 2002 | 291,061,100 |
| 1963 | 55,155,000 | 1983 | 205,335,300 | 2003 | 307,322,300 |
| 1964 | 66,740,000 | 1984 | 262,285,500 | 2004 | 299,219,300 |
| 1965 | 64,564,000 | 1985 | 255,449,600 | 2005 | 305,190,190 |
| 1966 | 71,627,000 | 1986 | 229,364,800 | 2006 | 358,845,200 |
| 1967 | 69,313,000 | 1987 | 216,183,600 | 2007 | 377,940,800 |
| 1968 | 80,275,000 | 1988 | 201,345,800 | 2008 | 498,195,200 |
| 1969 | 74,006,000 | 1989 | 243,940,200 | 2009 | 475,691,100 |
| 1970 | 77,238,000 | 1990 | 217,400,000 | 2010 | 521,640,570 |
| 1971 | 82,209,000 | 1991 | 268,941,900 | 2011 | 518,198,460 |
| 1972 | 95,118,000 | 1992 | 285,622,700 | 2012 [1] | 528,253,000 |
| 1973 | 159,204,000 | 1993 | 292,108,300 | 2013 | 599,292,000 |
| 1974 | 179,719,000 | 1994 | 340,171,300 | | |
| 1975 | 187,517,000 | 1995 | 330,170,500 | | |

1 Revised 2012 total Agricultural Production value.



## SUTTER COUNTY EXPORTS BY COUNTRY

Algeria
Argentina
Australia
Bahrain
Bangladesh
Barbados
Belgium
Belize
Bolivia
Brazil
Canada
Chile
China
Colombia
Costa Rica
Cyprus
Dominican Republic
Ecuador
Egypt
El Salvador
Fiji
France
Germany
Greece
Grenada
Guatemala
Guyana
Haiti
Honduras
Hong Kong
India
Indonesia
Iran
Iraq
Israel
Italy
Jamaica
Japan
Jordan
Kazakhstan
Kenya
Kuwait
Latvia
Lebanon
Malaysia
Malta
Mauritius
Mexico
Morocco
Netherlands
New Zealand
Nicaragua
Pakistan
Panama
Paraguay
Peru
Phillippines
Poland
Portugal
Romania
Russia
Saudi Arabia
Singapore
South Africa
South Korea
Spain
Sri Lanka
Sudan
Suriname
Sweden
Switzerland
Syria
Taiwan
Tanzania
Thailand
Trinidad & Tobago
Tunisia
Turkey
Ukraine
United Arab Emirates
United Kingdom
Uruguay
Uzbekistan
Venezuela
Vietnam
Yemen

In 2013, the Sutter County Agricultural Commissioner's Office issued 1,815 Federal Phytosanitary Certificates for international shipments to 86 countries and 50 State Phytosanitary Certificates for shipments within the United States.

## REGISTERED ORGANIC FARMING

| |
|---|
| Thirty four (34) Organic Producers (farming 12,302 acres) |
| Five (5) Handlers |
| One (1) Processors |

## PEST EXCLUSION

| | Units Inspected | Acres Inspected |
|---|---|---|
| Interstate, Intrastate | 4,579 | |
| Phytosanitary Field Inspection | | 13,931 |

## BIOLOGICAL CONTROL

| Pest | Control Agent | Scientific Name | Program Scope* | Distribution* |
|---|---|---|---|---|
| Puncturevine | Puncturevine Seed Weevil | (Microlarinus lareynii) | Countywide | General |
| (Tribulus terrestris) | Puncturevine Stem Weevil | (M. lypriformis) | Countywide | General |
| Yellow Starthistle | Yellow Starthistle Bud Weevil | (Bangasternus orientalis) | 10 sites | Locally established |
| (Centaurea solstitialis) | Yellow Starthistle Hairy Weevil | (Eustenopus villosus) | 10 sites | Locally established |
| | Yellow Starthistle Flower Weevil | (Larinus curtus) | 2 sites | Locally established |
| | False Peacock Fly | (Chaetorellia succinea) | Countywide | General |
| | Peacock Fly | (C. australis) | Countywide | General |
| | Gall Fly | (Urophora sirunaseva) | Countywide | General |
| Red Gum Lerp Psyllid | Lerp Psyllid Wasp | (Psyllaephagus bliteus) | 2 sites | Locally established |
| (Glycaspis brimblecombei) | | | | |

## PEST DETECTION

| | Traps in Operation (Season Max) | Total Number of Services |
|---|---|---|
| Asian Citrus Psyllid | 78 | 830 |
| European Grapevine Moth | 9 | 67 |
| Khapra Beetle | 31 | 437 |
| McPhail | 12 | 312 |
| Vine Mealy Bug | 9 | 67 |
| Light Brown Apple Moth | 118 | 1,647 |
| European Pine Shoot Moth | 5 | 27 |
| Glassy-Winged Sharpshooter | 135 | 1,559 |
| Gypsy Moth | 61 | 533 |
| Japanese Beetle | 42 | 368 |
| Mediterranean Fruit Fly | 110 | 1,555 |
| Melon Fruit Fly | 42 | 531 |
| Oriental Fruit Fly | 42 | 596 |

## VERTEBRATE PEST CONTROL

| Control Agents | Units Used/Sold |
|---|---|
| Anticoagulant Bait | 1,150 Pounds |
| Zinc Phosphide Bait | 850 Pounds |

## NURSERY INSPECTION

| Visual Hours | Number of Properties | Number of Acres |
|---|---|---|
| 67 | 72 | 213 |

*Represents number of sites or crop control agents incorporated into program.

## WEED MANAGEMENT AREA PROGRAMS

| | Sites | Hours | Acreage |
|---|---|---|---|
| Arundo donax L. | 9 | 16 | 7 |

# Department Statistics

**Pest Exclusion**

This program provides the first line of defense for California agriculture and the environment against the invasion of exotic pests. Inspections provide protection from the introduction of plant and animal insect and disease pests that may be introduced into the state through the movement of legal or illegal trade. This program also involves inspections of plant material being delivered to other states and countries and the issuance of certificates documenting compliance with their entry requirements.

***Total Hours Expended 2013:*** ***5,964***

**Pest Detection**

This program provides the second line of defense against exotic pests through the early detection of new introductions before they become widely established. Through early detection the likelihood of these pests becoming established in the state is lessened and the cost and environmental impact of eradication is minimized.

***Total Hours Expended 2013:*** ***2,043***

**Pest Management**

The County Ag Commissioner is charged with the responsibility of managing nuisance pests of agriculture and human health. Many of these pests are introduced species that have become established despite our best pest exclusion efforts. If promising, programs are established to distribute biological agents for troublesome pests.

***Total Hours Expended 2013:*** ***953***

**Pesticide Use Enforcement**

This is a complex legislatively mandated program that provides for the proper, safe, and effective use of pesticides essential for production of food and fiber and for protection of the public health and safety. It also protects the environment from potentially harmful pesticides by prohibiting, regulating or ensuring proper stewardship of pesticides. An important component of the program focuses on agricultural and pest control workers, ensuring safe working conditions, use of proper protective equipment and training for employees who work with or around pesticides. Other components of the program include pesticide use reporting, incident investigations, outreach activities promoting best management practices, and monitoring applications in the field.

***Total Hours Expended 2013:*** ***12,535***

Brown Marmorated Stink Bug

Ground Squirrel

Glassy-Winged Sharpshooter

**Seed Certification**

Inspections are performed at retail and wholesale establishments that sell seed. Samples are drawn for germination and purity testing, and labeling is inspected for compliance with state requirements. Through this program certification services are also available for growers and processors in cooperation with the California Crop Improvement Association.

***Total Hours Expended 2013:*** ***358***

**Nursery Inspection**

Through this program inspections are performed at the growing, propagation, production and sales site to assure cleanliness from pests, varietal trueness and stock vigor prior to consumer sales.

***Total Hours Expended 2013:*** ***114***

**Fruit, Nut, and Vegetable Standardization**

This program ensures compliance with California's minimum standards regarding quality and marketing of all produce commercially grown and/or marketed in the state. Direct Marketing regulation and Organic law enforcement are part of a program that provides for local protection to growers, marketers and consumers.

***Total Hours Expended 2013:*** ***1,181***

**Apiary Inspection**

A program that emphasizes the registration and site location of honeybee colonies in the county. At the request of beekeepers or growers, the County Ag Commissioner inspects colonies for strength and health to ensure effective pollination.

***Total Hours Expended 2013:*** ***85***

**Crop Statistics**

As required by the California Food and Agricultural Code, the gross production and value of the county's commodities are compiled and recorded in the annual crop report. This valuable information helps associated businesses while promoting the production and prosperity of agriculture in California.

***Total Hours Expended 2013:*** ***582***

**Predatory Animal Damage Control**

In cooperation with USDA's Animal and Plant Health Inspection Service-Wildlife Services, this program responds to requests by the public and agencies in need of assistance in managing wildlife damage. The program has the authority to assist in solving problems that are created when wildlife causes damage to agricultural property or natural resources. The program also assists with wildlife problems involving threats to human health and safety and threatened or endangered species.

***Total Hours Expended 2013:*** ***2,147***

**Measurement Standards**

County Weights and Measures officials ensure the accuracy of commercial weighing and measuring devices, verify the quantity of both bulk and packaged commodities; and enforce the quality, advertising and labeling standards for most petroleum products.

***Total Hours Expended 2013:*** ***2,739***

# CERTIFIED FARMERS' MARKETS

Sutter County was home to three certified farmers' markets in 2013; Plumas Street in Yuba City on Saturdays, Tractor Supply in Yuba City on Wednesdays, and Downtown Live Oak on Thursdays. Twenty-five to thirty produce vendors participated in the Sutter County certified farmers' markets. The produce vendors were from Sutter County and the neighboring counties of Yuba, Butte, Colusa, and Sacramento. In addition to fresh local produce, certified farmers' markets are a wonderful place to find unique items from local artisans and crafters.

**AGRICULTURAL COMMISSIONER**
**SEALER OF WEIGHTS AND MEASURES**
Mark P. Quisenberry

**ASSISTANT AGRICULTURAL COMMISSIONER**
**SEALER OF WEIGHTS AND MEASURES**
Mark Brown

**ASSISTANT DIRECTOR OF WEIGHTS AND MEASURES**
Lisa Herbert

**DEPUTY AGRICULTURAL COMMISSIONER**
Stephen Scheer

**SUPERVISING AGRICULTURAL & STANDARDS BIOLOGIST**
Nicolas Oliver

**AGRICULTURAL & STANDARDS BIOLOGIST III**
Hardeep Bains
Michael Berry
Scott Bowden
David Brown
Kim Hicks
Janice Kendel
Janet Kirkman
Kevin Putman
Margaret Stelmok

**AGRICULTURAL & STANDARDS BIOLOGIST I**
David Karnegas

**AGRICULTURAL FIELD ASSISTANT II**
Paul Schwall
Sandra Schwall

**ANIMAL DAMAGE CONTROL SPECIALIST**
Jim Kincaid

**SUPPORT STAFF**
Tara Cole - Account Clerk III
Gina Krog - Secretary
Allyson Wadkins - Secretary

COUNTY OF SUTTER
AGRICULTURAL COMMISSIONER
SEALER OF WEIGHTS AND MEASURES

142 GARDEN HIGHWAY
YUBA CITY, CALIFORNIA 95991-5593