

HIGHLIGHTS and ACCOMPLISHMENTS

Agriculture

Agriculture is continually facing new challenges. All farmers/ranchers, regardless of their expertise level or farm size, need ready access to sound science to help them address these challenges and remain viable. Our agricultural programs directly serve the County's 650 farmers/ranchers, 87% of whom are "small farmers" with limited resources and lower farm incomes and 30% who have been on their farms less than 10 years. Cooperative Extension provides producers with:

- Basic technical information to get started and to survive economically
- The knowledge they need to be good stewards of the land
- Research based information to help them address specific local issues

Our work assures the public of a sustainable, safe and environmentally friendly food system. Recent impacts include:

- *Curtailed the spread of four new pests, thereby reducing pesticides needed to control them.* We provided the lead in the first detection and the rapid development of responsible eradication, education and management programs for Cherry Buckskin Disease, Vine Mealy Bug, Glassy Winged Sharpshooter, and Sudden Oak Death.
- *Developed safer management practices for existing pests and assisted growers to adopt these new practices.* This results in a healthier food supply, a safer drinking water supply, and a safer work environment for those producing your food.
 - Conducted critical research resulting in new, reduced risk pest management materials registered for use in California on crops widely grown in Contra Costa. These materials are now widely used throughout the County, replacing more toxic alternatives, Delegate, Altacor, Chateau.
 - Initiated a demonstration program for apples and pears that enabled growers to replace pesticide use with a mating disruption system. Two thirds of the Contra Costa apple and pear orchards participated in this program.
 - Developed integrated weed control practices for rangeland which reduced the use of chemical pesticides thus reducing potential negative impacts on our water supply.
- *Introduced new crop varieties that enhanced the economic viability of local agriculture.* The healthier the agricultural economy, the more likely that growers can afford to stay on their land and continue to produce food for the County and the country.
 - Half of the County's cherry acreage is now planted to Coral Champagne – a variety that was selected, introduced, and promoted by UCCE as it was so well-suited to our climate and our market needs. Our cherry acreage has increased more than 50% in the last several years due to the demand for this high quality, early cherry. Cherries are an excellent crop for new, smaller acreage farmers.
 - We are currently testing several new UC walnut rootstocks and varieties that are resistant to Blackline disease. This disease is the primary limitation to growing

walnuts in Contra Costa. Walnuts had been an excellent crop for new, smaller acreage farmers until devastated by Blackline disease.

- *Protected our drinking water and waterways.*
 - Developed stewardship strategies that were adopted by watershed managers and ranchers on 22,000 acres of Contra Costa rangeland thus protecting our streams, lakes, rivers, reservoirs and water supplies.
 - Demonstrated how scientific scheduling and low volume irrigation can conserve water, reduce runoff, and improve crop quality and yields. These practices are now widely used throughout the County and save water for urban residents.
- *Alleviated agriculture-urban interface issues*
 - Developed and implemented strategies that improved the compatibility of grazing with public recreation. Grazing on open space provides a green way to reduce fire danger, control invasive species, and manage habitat for endangered species while providing recreational opportunities and income to local communities.
 - Provided leadership in updating county and state regulations governing farm stands so that farmers and residents benefit from their proximity. This promotes fresh, local food and a healthy economy.

Horticulture [Public Landscapes and Home Gardens]

Healthy, vibrant urban landscaping, both public and private, contribute to increased property values, decreased energy consumption, healthy home-grown food, recreational enjoyment and they make Contra Costa a nice place to live. Residents need science based information to help them maintain and protect their landscaping investments using sustainable, less toxic methods.

- *Reduced pesticide use and resulting water pollution.* With funding from Central Contra Costa Sanitary District, we developed and delivered an award winning educational program that educates residents on how to reduce pesticide use. Over 60% of the pesticide runoff polluting our waterways comes from urban properties. This program not only reduced water pollution but also reduced municipal fines which amounted to as much as \$27,000/day!
- *Extended University of California education to the public:* We train and manage 150 Master Gardener volunteers who annually contribute an average of 9500 hours (valued by the Independent Sector at \$209,500). They educate local residents on a wide range of topics that promote healthy and sustainable homes and communities:
 - Proper plant problem diagnosis
 - Safe pest management techniques that minimize pesticide use
 - Water conservation and drought tolerant landscaping
 - Composting and green waste reduction
 - Home food production which promotes food security and healthy eating
 - Firewise landscaping

- *Assisted schools with creating and sustaining over 50 school gardens.* We provided resources, crop and production information, hands-on training, and curriculum that integrates the garden into classroom teaching so children can learn where their food comes from and make healthy eating choices.
- *Reduced residents' and County workers' exposure to pesticides.* Developed safe and effective Integrated Pest Management programs for urban landscapes and county owned buildings and properties, reducing residents' exposure to unnecessary pesticides. We are currently conducting a demonstration program in which we educate child care providers how to manage pests without pesticides since young children are especially vulnerable to the effects of pesticides.
- *Reduced municipalities' cost for managing and maintaining turf while safe guarding the community's health.* As our urban area grows, so do lawns, golf courses, sports fields, and school grounds. We evaluated and recommended turf grass species for diverse environmental conditions and for drought tolerance, low maintenance, traffic tolerance, pest resistance, and more. Choosing the correct turf species conserves water, keeps water clean, reduces the need for pesticides and fertilizers, reduces renovation costs, and reduces the public's exposure to unnecessary chemicals.
- *Researched and promoted water conservation techniques and the use of recycled water for urban landscapes.* Water conservation is of paramount importance. We help residents maintain viable landscape with less water.

Nutrition

Our nutrition education programs address the high rate of overweight/obesity in children and adults leading to chronic disease. We also teach low-income families and children healthful ways of eating, where food comes from, how to stretch food dollars and how to prepare simple, healthful meals.

- *Improved the nutrition knowledge and nutrition habits of low-income adults.* During the past two years, we taught 1300 Food Stamp eligible adults how to improve their eating and physical activity habits. Evaluations showed that 91% improved their nutrition knowledge and 78% adopted healthier eating habits. This year, we also graduated over 100 low-income adults from our 8 week nutrition series for low-income families with children. Eighty-two percent improved their eating habits. A national program evaluation showed that for every dollar spent on this program, \$10.64 was saved in health care costs and \$2.48 was saved in food costs.
- *Improved the nutrition knowledge and nutrition habits of children.* We trained over 90 teachers from low-income schools to teach nutrition and fitness to their 6454 students over the last 2 years.
- *Developed garden-based nutrition education curricula* for pre-K to high school ages that teach kids where their food comes from, how to grow it, what is good to eat, and what is good FOR them to eat. We partner with schools to extend this information to their students.

- *Improved over 1200 children's knowledge of the "farm to fork" continuum.* We developed and conducted the educational component for all the school field trips to the Mangini Agricultural Museum. We partner with the Food Bank, the Farm Bureau and the Contra Costa Fair to deliver this program. The program is consistently rated as excellent by teachers who also reported the children eat more vegetables since participating.
- *Supplied \$6,111 in fresh food for hungry families* through our participation in the Contra Costa County Employee Food Drive. Every year our department, the County's smallest, wins an award for bringing in more donations per employee than any other department. We achieve this thanks to our extensive and active volunteer network and our connections to the food producers as well as to those concerned about food security, food safety, public health, and those in need.

Youth Development

Young people need opportunities to learn leadership, citizenship and life skills in order to grow into productive, confident and caring adults.

- *Enrolled 3081 youth and 474 adults in the 4-H Club and School Enrichment programs.* Youth learned leadership, citizenship and life skills. Half completed projects in agriculture and nutrition. Another half completed projects in leadership, science and technology, domestic animal husbandry, arts & crafts, and sports.
- *Program participants contributed 39,356 volunteer hours* to club projects and community service which equates to \$868,384 in community support.
- *Increased family and community involvement and self esteem for youth.* Participating youth were 3.5 times more likely to contribute to their families, themselves, and their communities.
- *Increased college readiness.* Participating youth had better grades, greater self confidence and were 1.6 times more likely to go to college.
- *Increased interest in science among low-income children and families in Bay Point.* We implemented National 4-H's Science, Engineering and Technology initiative which seeks to increase science literacy in youth.
- *Administered the Countywide Youth Commission,* an adjunct body to the Board of Supervisors. Youth commissioners deliberated and made recommendations about public policy; acquired leadership skills; and honored outstanding youth via the Youth Hall of Fame.
- *Increased leadership skills of 49 ethnically diverse teens at the Day of Respect, a Mt. Diablo High School event.* We taught the teens how to teach younger children, a skill they need to find positions in recreation or after-school.
- *Increased the skills of 356 professionals who work with families, children and youth.* We offered a variety of workshops on topics such as healthy homes, brain development, child development and group management to professionals from a wide variety of public and non-profit agencies.

Natural Resource Programs

- *Developed the Forestry and Fire Management Program* in collaboration with the Moraga-Orinda Fire Marshal. The program teaches residents the best strategies for safeguarding their homes from wildfire [<http://groups.ucanr.org/HWMG>].
- *Developed changes to the California Building Code that improves new homes' abilities to withstand wildfires.* We also educated Contra Costa and Bay Area fire and building officials about the new code and its implementation.
- *Reduced mold and wood decay in homes* through educational programs delivered to pest control operators, home inspectors, engineers, and architects.
- *Evaluated options for using woody biomass* (tree trimmings, urban wood waste, etc.) as a feedstock for bio-energy.
- *Developed methods to sustainably produce high value products from non-commercial wood resources* such as eucalyptus, tanoak, and other local hardwood species.
- *Conducted research and educational programs related to the safe handling, transport, and utilization of wood infected by the Sudden Oak Death tree disease.* Clientele include tree service companies, homeowners, and community leaders.
- *Prevented the spread of Eurasian mussels* (zebra and quagga) into local waterways saving state residents \$91 million in potential cost which would be passed on to utilities and residents.
- *Developed educational programs to prevent the release of costly invasive species from school science labs.* For example, the bullfrog, *Rana catesbeiana*, was introduced into the environment from a school.
- *Initiated research about the role of resident participation in current Delta management processes.* Research will provide recommendations for alternate governance structures and mechanisms to improve public participation and resolve conflicts in Delta management.