



University of California
 Cooperative Extension
 TEHAMA COUNTY

Providing Research Based Information since 1918



Cooperative Extension
 Research & Educational Activity
 in Tehama County
 2004

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COOPERATIVE EXTENSION

A nationwide system for non-formal education was established by Congress in 1914 to improve America's agriculture and to strengthen the nation's families and communities. A partnership was forged between the United States Department of Agriculture (USDA), the State land grant colleges and universities and county governments. Funding for its research and educational programs primarily comes from County, State and Federal governments.

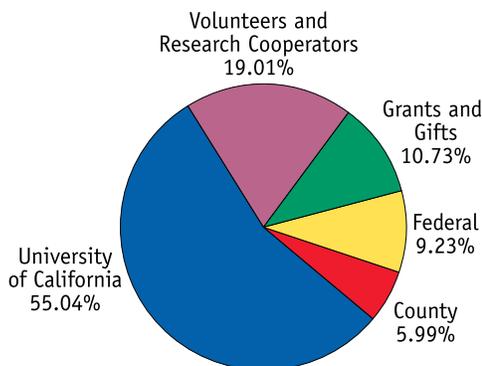
Cooperative Extension was established in Tehama County in 1918. In the agreement, the County provides support staff and services in exchange for the University-paid programs and professionals.

Cooperative Extension's mission is to help all segments of the community benefit from the scientific advances in our nation's land grant universities, particularly in the areas of agriculture, natural resources, family/consumer sciences and youth development. This mission is carried out by university professionals and highly trained and dedicated community volunteers.



Major Funding Sources for Tehama County Cooperative Extension 2004-2005 Fiscal Year

University of California Support (Direct & Indirect)	\$665,980
Federal Support (Direct & Indirect)	111,722
County Support (Direct)	72,540
Grants and Gifts	129,781
Volunteers and Research Cooperators	230,000
	1,210,023





ORCHARD CROP PRODUCTION – RICHARD BUCHNER

Primary Tehama County horticultural crops include walnut, prune, almond, olive and strawberry nursery plant propagation. Walnut, prune, almond and “other orchard crop” had a 2003 value of \$68,112,790. The 2003 value of nursery products including strawberry plant production was \$1,600,000. Tehama County UC advisors are anticipating and engaging crucial issues for agricultural industries. Cutting edge research and delivery are essential to keep Tehama County farmers economically viable.

PROGRAM HIGHLIGHTS

- Plant based measurements for wise on-farm water management
- Biological control of codling moth in walnut
- Walnut rootstock evaluation
- Grafting date versus yield performance in walnut
- Walnut blight control and management in walnut
- Navel orange worm control in walnut
- Prune aphid control
- Flame treatment for crown gall
- Zinc nutrition for prune
- Integrated Prune Farming Practices Program
- Website, newsletters and grower meetings

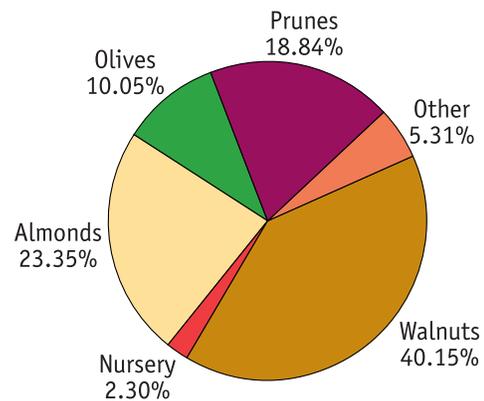


Shoot growth measurement on Chandler walnut.



Tehama County Orchard Advisor Richard Buchner uses heat to treat a walnut crown gall.

Fruit & Nut Values % of Total Production



2003 FRUIT & NUT CROPS¹

	Bearing Acreage	Production Per Acre (tons)	Total Tons	Per Ton (\$)	Total Value (\$)
Almond	7,268	.80	5,814	2,800	16,280,320
Olive	5,560	3.0	16,680	420	7,005,600
Prune	8,848	2.12	18,758	700	13,130,430
Walnut	14,057	1.81	25,443	1,100	27,987,490
Nursery (includes: Orchard Trees, Christmas Trees, Strawberry Plants and Bedding Plants)					1,600,000
Other orchard crops (includes pistachios, apples, apricots, peaches, etc.)					3,708,950
					<u>69,712,790</u>

¹Tehama County Department of Agriculture 2003 Annual Crop Report

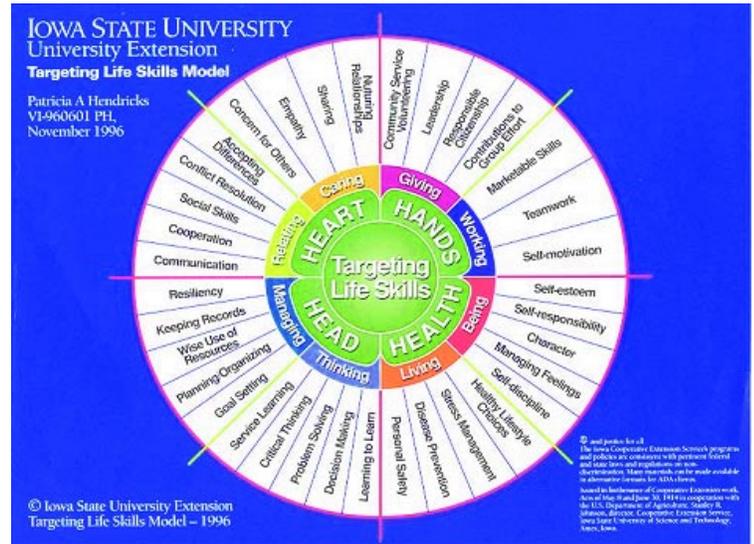


4-H YOUTH DEVELOPMENT PROGRAM – JEANNE GEORGE

The 4-H Youth Development Program (4-H YDP) provides a wide variety of enrichment activities. The ultimate goal is to engage youth in reaching their fullest potential, while advancing the field of youth development. The

focus of all programs is the development of citizenship, leadership and life skills through a variety of projects and activities.

4-H in Tehama County is available through several delivery methods including community clubs, overnight camping, school enrichment and after school programs. The overall purpose of the 4-H YDP is to help young people discover and develop their potential in a partnership with a caring adult.



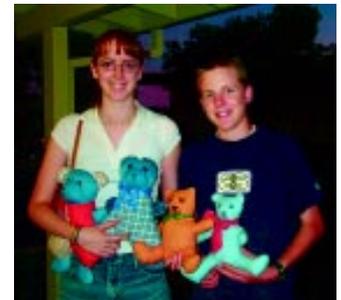
Targeting life skills model

COMMUNITY 4-H CLUBS



(l to r) Megan Maloney (BLAST), Greg Myers, Beanz Maloney, Candace Elcoate, Kari Resch (All Stars), Mercedes Ventura (BLAST)

Tehama County, has 13 community clubs with a combined membership of over 400 youth and 140 adult volunteer leaders. 4-H clubs encourage young people to set their own goals and make their own plans and decisions. Skills which help boys and girls mature and build self-confidence. Through group participation, 4-H club members learn to understand and cooperate with others. 4-H clubs operate under an established constitution and by-laws and elect officers. They plan, implement, and evaluate an annual Plan of Work. Adult volunteer leaders serve as coaches to the officers and members in these activities and guide them as they acquire leadership and citizenship skills.



(l to r) Jessica and Mitchell Hardwick, Emerald Star project

Clubs also offer project work for members to develop responsibility, knowledge, skills, and explore career choices. Fifty-seven different projects were offered in 2003-04, with over 1,320 individual projects. The ten most popular projects were Sheep, Swine, Creative Arts & Crafts, Foods & Nutrition, Outdoor Adventure, Leadership, Photography, Clothing & Textiles, Horses, and Beef. All clubs participate in community service. The goal is to make a difference in their communities. Examples include, monthly clean-up at the Red Bluff Vet's Memorial Hall, City of Corning Hometown Clean Up, Angel Tree and toy/food drives, Adopt a Grandparent, Cancer Relay for Life, and assisting at elder care homes.

4-H club members also participate in countywide events and activities exhibiting and/or enhancing their knowledge and skills. These events include Favorite Foods Day, Home Economics Judging Skills Day, Presentation Day, Livestock Educational and Judging Skills Day, Fur, Feathers and Udders Fair, 4-H Fashion and Fashion Revue. Many participate in the annual Tehama District Fair with livestock and still exhibits.



Making worm bins.

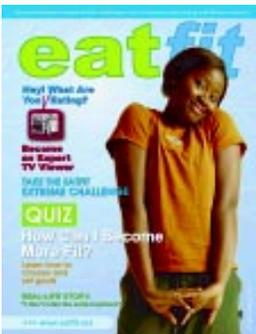
AFTERSCHOOL PROGRAMS & SCHOOL ENRICHMENT

4-H has continued the positive collaboration with the Tehama County Department of Education Safe Education and Recreation for Rural Families (SERRF) Afterschool Program. In 2004, 4-H staff provided after school programs and staff training at Bidwell and Rancho Tehama. 4-H curriculum provided science activities for grades K-6. In addition, Mini Society, a five year grant, was concluded with a five week program at the Plum Valley School SERRF site. This entrepreneur program has reached over 350 youth in Tehama County by integrating math, language arts, critical thinking, problem solving and cooperative learning skills into after school activities.

At Bidwell Elementary School, 4-H staff presented lessons about pond mapping to increase student's knowledge of the environment, watersheds, wildlife and application of math. The final product was a brochure including a topographical map of Ben's Pond at the Red Bluff Recreation Area. This statewide curriculum development project was funded by the USDA Mendocino National Forest.



Measuring pond depth.



New Middle school curriculum.

The Food Stamp Nutrition Education Program for Youth (FSNEP-Youth) provides hands on activities for Pre K-6th grade children, to teach youth how to improve their health and physical fitness. 4-H staff trains teachers and provides lessons and materials to implement the program in their classrooms. Over 28 teachers from school, after school and preschool settings participated in 2003-04, reaching over 800 students.

CAMP

The annual Tehama County 4-H Camp continues to be a favorite among youth and teens. The overnight camp is successful because of adult volunteer support and responsible teens accepting leadership roles. Each year over 100 youth, grades 4-8, attend camp to explore the outdoors, participate in team cooperative activities, build lasting friendships and enjoy leisure activity.



Group dynamics at Camp 2004.

TOTAL 4-H PARTICIPATION IN 2003-04



1,625 youth



160 adult volunteer leaders



IRRIGATION & WATER RESOURCE PROGRAM – ALLAN FULTON

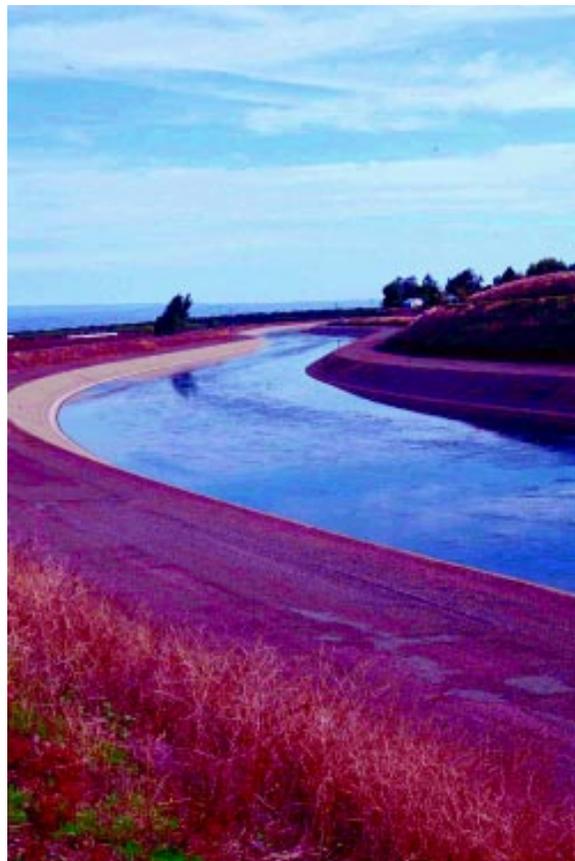
Tehama, Glenn, Colusa, and Shasta Counties

All aspects of the California economy and life style are dependent on water. This holds true for Tehama County and its neighboring counties in the Sacramento Valley. In 2003, over 80,000 acres of irrigated orchards, row crops, and pastures in Tehama County infused

over 125 million dollars of gross revenue into the local economy. Irrigation is a farming practice essential to a thriving agricultural industry. On average, 308,000 acre-feet of surface water or groundwater is needed annually to support the local agricultural industry and rural life style.

The Sacramento River and its numerous tributaries provide vital waterways for Chinook salmon and wetland habitat as part of the Pacific Fly Way for migratory waterfowl. Protection and enhancement of water quantity and quality in the Sacramento River watershed are sought to preserve these natural resources into the future, and to support fisheries and recreational sporting industries.

From a broader perspective, Tehama County is part of the Sacramento River watershed, representing the state's largest river and tributary system. The Sacramento Valley is also recognized as one of the foremost groundwater basins in the state. Major water supplies are provided for use in the Sacramento Valley and for export to other regions of the state.

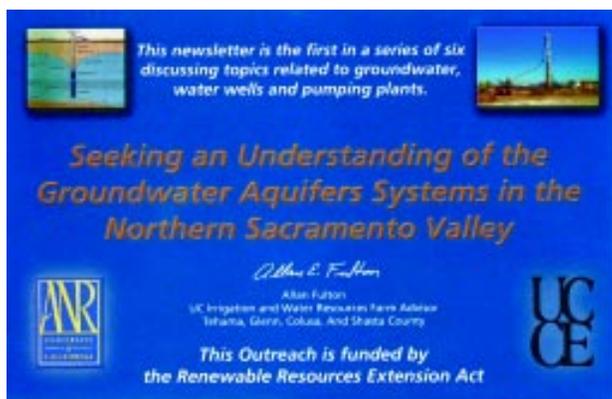


Canal for water conveyance.

THE CHALLENGE AHEAD

Local agriculture, environmental, and urban interests all need reliable and sufficient supplies of water of suitable quality now and into the future. If current population growth trends continue regionally and statewide, water demand is projected to exceed the existing developed water supply by 2.5 million acre-feet by 2020. Sacramento Valley counties, such as Tehama, will be challenged to ensure their local, long term water needs are secure and to cope with exports of water to other regions of the state.

This irrigation and water resources extension program provides problem-solving research, educational activities, and public services in support of local management of the irrigation and water resources.



Ground water newsletters extend information to clientele.

PROGRAM HIGHLIGHTS

1. Advances with on-farm irrigation management.

Activities assist farmers and ranchers to optimize productivity and water use.

- Adoption of a new irrigation management tool, “pressure chamber and stem water potential”, for quantifying water stress in orchards and optimizing when and how much irrigation water to apply
- Support for the “Tehama County Irrigation Mobile Lab”, a technical service to area growers that evaluates individual irrigation systems for distribution uniformity, system improvements, and maintenance
- Demonstration of alternative irrigation methods
- Steps to reduce energy costs for pumping groundwater



Moveable sprinklers are used to irrigate a local walnut orchard.

2. Groundwater management. Educational program providing new information on groundwater, water wells, and pumping plants.

- Understanding the groundwater aquifer systems in the northern Sacramento Valley
- Approaches to groundwater management in rural northern California
- Well drilling methods and considerations when selecting a pump



Well drilling machines are used to develop ground water resources.

3. Irrigated Agriculture and Surface Water Quality. Local leadership and education on water quality issues.

- Understanding new surface water quality regulations facing irrigated agriculture
- Facilitating local surface water quality management efforts



Tehama County Farm Advisor Allan Fulton operates a neutron probe for a soil moisture measurement.



COOPERATIVE EXTENSION WELCOMES NEW LIVESTOCK REPRESENTATIVE IN TEHAMA, GLENN, AND COLUSA COUNTIES

Josh Davy, of Fortuna, California, began work as the new Cooperative Extension Livestock Program Representative with responsibility in livestock, range and natural resource management for Glenn, Colusa, and Tehama Counties.

Josh has a Bachelor of Science degree from CSU, Chico in agriculture business, a minor in animal science, and a minor in business administration. In combination with this education Josh has a broad background of practical ranching experience. His program will assist farmers and advisors in addressing issues in sustainable and efficient production and marketing of livestock, watershed management, environmental quality, and soil and resource conservation. As the new representative, Josh is looking forward to becoming acquainted with everyone in the region. Any input on issues of concern you would like addressed are very welcome.

HOW TO CONTACT US:

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UNIVERSITY OF CALIFORNIA COOPERATIVE EXTENSION — TEHAMA COUNTY



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Cooperative Extension Work in Agriculture and Home Economics U.S. Department of Agriculture, University of California, and County of Tehama Cooperating.