

# LIZANNE E. WHEELER

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## **EXPERTISE**

Postharvest Management & Training

Project Management

Training of Trainers

Food Safety Consulting

Agronomy

Irrigation Management & Training

California Licensed Pest Control Advisor & Certified Crop Advisor

## **PROFESSIONAL EXPERIENCE**

**World Food Logistics Organization, Tuskegee University and Postharvest Education Foundation** *Building Capacity in Post-Harvest and Food Processing Technology for Limited Resource Farmers* Sept. 2015 Postharvest Lead Technical Trainer

**USAID Save the Children TOPS Postharvest Evaluation Project** with the World Food Logistics Organization in Ethiopia, Tanzania, and Uganda Sept 2014-March 2015, Postharvest Evaluations and Training

**Postharvest Education Foundation** *International Small Scale Postharvest Handling Technologies Short Course & Study Tour* in Arusha, Tanzania in February 2015, Lead Instructor and Logistics Support

**Hort Innovation Lab UC Davis & World Food Logistics Organization Dec 2013-August 2014**

Principal Investigator for Project *Evaluating Small-Scale Postharvest Cooling and Drying Technologies in Various Climates*. Project sites and local teams included: Tanzania, Ghana, Honduras, Guatemala, and Thailand. Project objectives:

- 1) To build technical capacity in practical, low cost improved postharvest handling practices and simple technologies for cool storage and solar drying in a wide range of organizations in Tanzania, Ghana, Honduras, Guatemala and Thailand.
- 2) To perform a series of cool storage studies in eight sites in collaboration with Horticulture Innovation Lab affiliated professionals in Africa, Southeast Asia and South America in order to determine the performance efficiency of the ZECC compared to ambient air storage under a variety of combinations of high/low temperatures and high/low relative humidity conditions. The results will enable the UCD Horticulture Innovation Lab ME to provide accurate recommendations on low cost appropriate technologies for short term evaporative cool storage of fruits and vegetable crops.
- 3) To conduct solar drying studies in eight sites in collaboration with Horticulture Innovation Lab affiliated professionals in Africa, Southeast Asia and South America in order to determine the performance efficiency of the UCD solar chimney dryer compared to the traditional indirect solar cabinet dryer. Results will enable the UC Horticulture Innovation Lab M&E team to provide accurate recommendations on low cost appropriate technologies for solar drying of fruits and vegetable crops.
- 4) Personally conducted 73 capacity building workshops in five countries with 1,476 people trained.

### **Hort CRSP/UC Davis Postharvest Pilot Project Oct 2013-Feb 2014**

Responsible for leading postharvest research activities at the Postharvest Services and Training Center (PTSC) site in Arusha, Tanzania and providing advisory assistance to the Hort CRSP team and AVRDC World Vegetable Center postharvest staff. Additionally performed an evaluation and follow-up with Tanzanian Ministry Agriculture Food Security Packing House in Tanga, Tanzania regarding new PTSC activities with Master Trainers.

### **Postharvest Education Workshops 2013-2015**

The Postharvest Education Foundation, La Pine, Oregon, USA ([www.postharvest.org](http://www.postharvest.org))

Horticultural postharvest trainer, facilitator and logistical coordinator for non-profit organization The Postharvest Education Foundation (PEF) in support of 4 Global Postharvest e-Learning Certification Workshops, held in Arusha (February & July 2013, Feb 2014, 2015) and in Noida, India in August 2013 in association with Amity University, Uttar Pradesh. PEF's forty seven 2014 Global E-learning graduates had already trained more than 29,000 farmers, food processors and marketers in 26 countries by November 2013.

### **Postharvest Education Workshops 2012**

The Postharvest Education Foundation, La Pine, Oregon, USA

Horticultural postharvest trainer, facilitator and logistical coordinator for The Postharvest Education Foundation in support of the Postharvest Services and Training Center in Arusha, Tanzania. The program is supported by USAID Horticultural CRSP-UC Davis, AVRDC World Veg Center, the Postharvest Education Foundation, and World Food Logistics Organization. The inaugural event was in October 2012, where 36 agricultural professionals from 7 sub-Saharan African nations attended. This first group trained 8,000 extension workers, leader farmers and horticultural entrepreneurs in Africa through 2012.

### **Horticulture Extension & Management Training**

Mountain Hazelnuts, Bhutan. (2011-2012)

Trainer of trainers for tree propagation nursery greenhouse management in Eastern Bhutan for Mountain Hazelnut Ventures, the first private venture in the Kingdom of Bhutan. The goal is to plant out 10 million hazelnut trees to over 15,000 farmers in the next five years. Assisted in management training of the nursery staff in Lingmethang and training the field outreach staff that will provide extension expertise to the growers.

### **Agronomy and Irrigation Consultant**

Partner in the Sonora Pacific Group, California (2002 to present)

Provide agronomic support and bilingual irrigation management training to a variety of clients including Monterey Pacific Vineyards in Soledad, California, Reiter Brothers Berries in Oxnard, California, Driscoll Berry Associates in Watsonville, California and Agland Investments Services in Tampico, Vera Cruz, Mexico.

### **Project Manager Millennium Challenge Cape Verde**

Agland Investment Services, Inc., Larkspur, California (2008 to 2010)

Project Manager of the Millennium Challenge Corporation Watershed Management and Agricultural Services Project in Cape Verde, West Africa. Directly responsible for managing a staff of six employees and coordinating the activities of eight part time international consultants. Activities included Training of Trainers in Postharvest Techniques, Irrigation Management, Access to Credit, Market Information Systems, Agronomy, and Small Business Development. Project included designing, building, equipping, and training the staff of a

postharvest facility on the island of Santo Antão in Cape Verde. Implemented a demonstration postharvest cool chain from the upper reaches of Paúl watershed in Santo Antão to the city market of Mindelo, on the island of São Vicente. Escorted a delegation of Cape Verde Ministry of Agriculture representatives to the *2009 Postharvest Technology Short Course* at UC Davis.

### **Senior Agronomist**

Owens Lake Project, Lone Pine, California (2002 to 2008)

Primary responsibilities on the Owens Lake project were the agronomic aspects of crop production under the highly saline conditions of the Owens Lake Playa, monitoring soil moisture & soil salinity movement, environmental monitoring, irrigation scheduling and irrigation management training. Personally directed over 100-man crew for transplanting saltgrass on 1,000+ hectares from sundown to sun-up, to avoid the extreme daytime temperatures.

### **Postharvest Specialist**

Ute Mountain Ute Indian Nation near Cortez, Colorado

Managed the 2006 and 2007 sweet corn production and harvest operations for the Indian nation. Activities included leading the harvest crews, coordinating the postharvest operations, and preparing the operation for 3<sup>rd</sup> Party Certification (Food Safety).

### **Food Safety Auditor (2007-2008)**

Primus Labs, Santa Maria, California

Worked as an independent 3<sup>rd</sup> Party Certification Auditor for Primus Labs, inspecting vegetable and fruit production and packing operations in California, Arizona, and Mexico.

### **Irrigation Specialist**

Vineyard Water Systems, Cayucos, California (1996 to 2002)

Partner in the consulting company Vineyard Water, an independent irrigation consulting company specializing in micro irrigation design, developing operation and maintenance programs and bilingual irrigator training. Projects included the development of an irrigation operations guide for Potlatch Corporation Hybrid Poplar Program (7,700 hectares) and irrigation management training for Robert Mondavi Winery. For a more thorough list of projects, please refer to our web site, [www.SonoraPacific.com](http://www.SonoraPacific.com).

### **Training Specialist**

Irrigation Training & Research Center (ITRC), California Polytechnic State University (1993-1994)

Staff member of the Irrigation Training & Research Center. Duties involved technical writing of educational manuals, creating supporting computer software programs, and multimedia training packages. Projects included an irrigation filter selection video, Irrigation Auditor Training manuals and software, and coordination of Spanish-English irrigation scheduling and maintenance seminars.

### **Sustainable Agriculture Consultant**

GreenSource, Filmore, California (October 1993 to 1994)

Responsible for creating a monitoring system for integrating municipal green waste into current cultural practices in orchard crops.

### **Administrative/Agricultural Consultant**

LA Concepts, South Central Los Angeles, California (June 1993 to 1994)

One of a five member team designing an alternative fresh fruit and vegetable marketing cooperative for South Central Los Angeles with entrepreneurial linkages between regulatory

agencies (Federal, State and local), private industry and statewide agricultural interests.

**Extension and Field Research Assistant,**

University California Agricultural Cooperative Extension Service,  
San Luis Obispo, California (January 1982 to June 1993)

Designed, conducted and analyzed field research on crops such as grapes, avocados, citrus, deciduous tree fruits, grains and vegetables. Experimental work included trials involving cultural practices, plant variety and rootstock selection, diseases, integrated pest management, and plant nutrition. Additional responsibilities included coordinating and conducting grower workshops, research dissemination and responding to urban horticulture inquiries.

**Grower/Partner Commercial Avocado Grove**

Righetti Ranch, San Luis Obispo, California (January 1982 to January 1994)

Managed a 130-acre avocado grove. Responsibilities included irrigation system rehabilitation, scheduling, evaluation and maintenance. Additional duties included disease and pest identification and control, and harvest crew management and operations. Responsibilities also included postharvest management and marketing of avocado and other tree fruit crops via wholesale and direct marketing channels. Developed an additional 70-acre avocado block, including the design and installation of a permanent micro-sprinkler irrigation system, pumps and filter block, and land preparation including surveying; terracing and tree planting. I was responsible for the nursery production of trees for both the new acreage and replacement trees for the older blocks.

**Agronomist/Irrigation Assistant**

Agro-Engineering, Alamosa, Colorado (May to October 1981)

Responsibilities included irrigation management for center pivot, linear move and flood irrigation systems on grain, potato and vegetable crops. Additional duties included biweekly soil-moisture field checks, system evaluation, pump testing, infrared photography evaluation for soil moisture content of fields and grower consultations.

**Agronomist/Irrigation Assistant**

St. Kitts (May to October 1978)

Assisted U. S. Peace Corps volunteers in the rehabilitation of agricultural water conveyances, irrigation management in sugar cane, coffee, and banana, maize and vegetable crops, erosion control techniques and implementation.

**Forest Manager/Engineer**

Oregon State Forestry Department, Veneta, Oregon (May to September 1977)

Coordinated and assisted in state timber sales, (timber volume evaluation and road layout), nursery seed collection and state forest fire programs.

**EDUCATION**

**M.Sc. Agricultural Engineering Technology: Irrigation Science. (Honors)**

**California Polytechnic State University, San Luis Obispo, California Masters**

Thesis: *Irrigation Management in Winegrapes*, (January 1994)

**B.Sc. Crop Science: Plant Protection. (Honors)**

**California Polytechnic State University, San Luis Obispo, California (May, 1982)**

**University of California Agricultural Extension** courses. (1982 to 2009)

Courses in viticulture, disease and pest management, and cultural practices.

**Galapagos Language School, Quito, Ecuador** Intensive Spanish Courses, 1994

**Universitat Freiberg, West Germany** (1979 to 1980) Courses in forestry, international relations, and history.

**Oregon State University, Corvallis, Oregon** (1976 to 1979) Forestry Management and Engineering

### **LANGUAGES**

English (native), Spanish (proficient), Portuguese (basic), German (basic), French (basic).

### **CERTIFICATIONS**

**Global E-Learning Certification, Postharvest Education Foundation**

**Postharvest Technology Short Course, UC Davis**

**HACCP Certified, International HACCP Alliance Food**

**Safety Auditor, PrimusLabs.com**

**Agricultural Pest Control Advisor License No. 73315**  
State of California, Department of Pesticide Regulations

**Certified Crop Advisor License No. 19116**  
The American Society of Agronomy

**Certified Irrigation System Evaluator** California  
Department of Water Resources & California  
Polytechnic State University

**Certified Landscape Irrigation Auditor**  
The Irrigation Association

**Certified Irrigation Designer**  
Netafim Irrigation

**Certified EnviroSCAN® Installer & Consulting Agronomist**  
Sentek Soil Moisture Monitors, Australia

### **FACTORY TRAINING**

Netafim Irrigation,  
Israel Dorot Valves,  
Israel ARI Vents, Israel  
Arkal Filters, Israel  
ODIS Filters, Israel  
Fresno Valves & Castings, California  
Cornell Pump Company, Portland, Oregon

## **PUBLICATIONS**

“Managing Salt to Stabilize the Owens Playa with Saltgrass”, a technical paper delivered at the *International Salinity Forum* in Riverside, California, April 2005. (Co-authored with John Dickey, et al.)

“Nitrogen Budgeting.” From the series of Columns, *Irrigators Notes from the Field*, appearing in the January 2001 issue of *California Grower Magazine*. (Co-authored with P. D. Brown.)

“Nitrogen Formulations for Micro-Irrigation.” From the series of Columns, *Irrigators Notes from the Field*, appearing in the March 2001 issue of *California Grower Magazine*. (Co-authored with P. D. Brown.)

“TMDL's & California Viticulture, Part 1.” The first part of a feature article on the Clean Water Act and its impact on California Agriculture, appearing in the March/April 2001 Issue of *Practical Winery & Vineyard Magazine*. (Co-authored with P. D. Brown.)

“TMDL's & California Viticulture, Part 2.” The second part of a feature article on the Clean Water Act and its impact on California Agriculture, appearing in the May/June 2001 Issue of *Practical Winery & Vineyard Magazine*. (Co-authored with P. D. Brown.)

“Energy Costs and Chronic Pressure Losses.” From the series of Columns, *Irrigators Notes from the Field*, appearing in the May 2001 issue of *California Grower Magazine*. (Co-authored with P. D. Brown.)

“Basic Questions Regarding Irrigation.” From the series of Columns, *Irrigators Notes from the Field*, appearing in the February 2000 issue of *California Grower Magazine*. (Co-authored with P. D. Brown.)

“Spring Start-Up.” From the series of Columns, *Irrigators Notes from the Field*, appearing in the April 2000 issue of *California Grower Magazine*. (Co-authored with P. D. Brown.)

“GPS & GIS.” From the series of Columns, *Irrigators Notes from the Field*, appearing in the June/July 2000 issue of *California Grower Magazine*. (Co-authored with P. D. Brown.)

“Chronic Pressure Losses.” From the series of Columns, *Irrigators Notes from the Field*, appearing in the October 2000 issue of *California Grower Magazine*. (Co-authored with P. D. Brown.)

“Formation of Lime Scale in Vineyard Drip Irrigation Systems”, *Practical Winery & Vineyard*, March/April 1998. (Co-authored with P. D. Brown.)

“Media Filtration: Are Two Tanks Enough?”, *IRRIGATION Business & Technology*, April 1998. (Co-authored with P. D. Brown.)

“Maintaining your Micro-Irrigation System”, *Practical Winery & Vineyard*, January/February, 1998. (Co-authored with P. D. Brown.)

“Irrigation Success”, *Western Fruit Grower*, January, 1999. (Co-authored with P. D. Brown.)

“Irrigation Advances: How to Successfully Adopt New Technologies”, *California Grower*, March 1999. (Co-authored with P. D. Brown.)

“Gypsum Injection into Vineyard Drip Systems”, *Practical Winery & Vineyard*, March/April 1999. (Co-authored with P. D. Brown.)

“Dealing with Silt in a Micro-Irrigation System”, *Practical Winery & Vineyard*, May/June, 1999. (Co-authored with P. D. Brown.)

“Design Pitfalls in New Micro-Irrigation Systems”, *California Grower*, October 1999. (Co-authored with P. D. Brown.)

## **PRESENTATIONS and CONFERENCES**

**Amity University, India**, Presented on the Zero Energy Cool Chamber and the Postharvest Service and Training Center in Arusha, Tanzania

**Horticulture CRSP Regional Center of Innovation** inauguration at Kasetsart University February 2012, Bangkok, Thailand.

**Regional Symposium, High Value Vegetables in South East Asia: Production, Supply and Demand**, Chiang Mai, Thailand, 2012.

**New Ag International Conference**, Barcelona, Spain, March 2009.

**Managing Salt to Stabilize the Owens Playa with Saltgrass**, a presentation of a technical paper at the *International Salinity Forum* in Riverside, California, April 2005.

**Agriculture and the Clean Water Act**, a presentation on the TMDL process and its impact on Agriculture, given at *FarmTech 2001* in Santa Barbara, California, February 2001.

**Building Successful Growing Systems**, a presentation given at *FarmTech 2000* in Santa Barbara, California, January, 2000.

**Irrigation Association International Symposium**, 1999, Orlando, Florida.

**IV World Avocado Congress and Pre-Congress Workshop**, 1999, Uruapan, Michoacán.

**High Density Plantings and Trellising Techniques in Burgundian Vineyards**, a study tour in Cote d'Or, France, 1999.

**AGRITECH Symposium**, Haifa, Israel, 1999.

**Ten Keys to Successful Irrigation Management**, a presentation given at the *1999 WineTECH/GrapeTECH Symposium* in Sacramento. **Irrigation Technology Transfer**, a presentation discussing the pitfalls of embracing new technologies and ways to avoid these pitfalls, given at *FarmTech 99*, in Santa Barbara.

**Irrigation Association International Symposium**, 1998, San Diego, California.

**Irrigation Controllers**, a presentation on automated control of irrigation systems, given at *FarmTech '98*, January 26, 1998, Santa Barbara, California.

**Irrigation Management**, a presentation on irrigation scheduling, management and maintenance, given at the *Irrigated Viticulture In The San Joaquin Valley* short course, California State University, Fresno, January 15-16, 1998.

**Fertigation and Chemigation**, a presentation on fertilizer injections and lime scale formation, given at the *Irrigated Viticulture In The San Joaquin Valley* short course, California State University, Fresno, January 15-16, 1998.

**Irrigation Association International Symposium**, 1997, Nashville, Tennessee.

## **RELATED PROFESSIONAL INTERNATIONAL EXPERIENCES**

**India, 2013**, Cool Chain analysis of tomato and leafy greens for major-brand produce supplier.

**Tanzania, 2013**, Training of Trainers with OIKOS Foundation, AVRDC, and the Tanzania Ministry of Agriculture for Small Scale Postharvest Practices, Zero Energy Cool Chamber (ZECC) construction, and marketing.

**Cambodia & Thailand, 2012**, Postharvest education and extension evaluation.

**Bhutan, 2011-2012**, Management Training for large tree nursery in Eastern Bhutan.

**Cape Verde, 2008-2010**, Managed Millennium Challenge Postharvest and Irrigation Project.

**Oman, 2008**, Feasibility study to determine the sustainability of irrigating arid soils with re-claimed oilfield water.

**Mexico, 2007**, Feasibility study for agricultural production to provide feedstock for an ethanol plant.

**New Zealand, 2001**, Irrigation Design and Consulting on winegrapes on the South Island.

**Guatemala, 1999**, Three-week investigation on potential of micro-irrigation for avocado & stonefruit, in conjunction with PROFRUTA, funded through USAID.

**Mexico, 1999**, Fourth World Avocado Congress Delegation.

**Israel, 1999**, AGRITECH Symposium and irrigation study tour.

**France, 1999**, Vineyard spacing & trellising study tour.

**Ecuador, Guatemala, Costa Rica, Colombia, Chile, Argentina, Bolivia, 1994-95**. Intensive 18-month language studies and agricultural consulting in Central and South America, including coffee production in Guatemala and Costa Rica; irrigation for small landholders with women's cooperatives in Bolivia; supplemental sugarcane irrigation in Bolivia; lemon and avocado production in Argentina; and wine grape trellising tour with Dr. Richard Smart in Chile.

**Chile, Paraguay, Peru, Ecuador, 1994**, Agricultural Fellowship Exchange

**Mexico and Guatemala**, Second World Avocado Congress Delegation

**China**, People to People: United States Avocado and Citrus Delegation

**New Zealand and Australia**, Subtropical Tree and Vine Crop Variety and Management

*References Available upon Request*