

# **PATRICK D. BROWN**

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Large Scale Project Management  
Training of Trainers – Agricultural Extension  
Postharvest Technology Transfer  
Certified Drip-Micro, Sprinkler, & Commercial Landscape Irrigation Designer  
Certified Irrigation Auditor - Certified Crop Advisor  
Licensed California Pest Control Advisor  
Water & Soil Chemistry, Agronomy & Salinity Management  
Aquatic Ecology and Waste Water Systems  
Business Management Skills

## **PROFESSIONAL EXPERIENCE**

### **2010 to Present. Irrigation & Agronomic Consultant**

Partner in the Sonora Pacific Group, providing irrigation designs, agronomic consulting, and bilingual management training to a wide variety of clients including Mountain Hazelnuts in Bhutan, Reiter Brothers Berries in Oxnard, CA; Driscoll Berry Associates in Watsonville, CA; Agland Investments in Tampico, MX; Daisy Farms in Paris, TX; Monterey Pacific Vineyards in Soledad, CA; Mesa Vineyard Management, Templeton, CA.

### **2011 to Present. Director, Postharvest Education Foundation**

Founding Director and currently serving as Vice-President of the Postharvest Education Foundation (PEF, [www.postharvest.org](http://www.postharvest.org)). Professional training experience and capacity building in postharvest techniques in various countries including Guatemala, Honduras, India, Indonesia, Tanzania, and Thailand.

### **2008 to 2010. Assistant Project Manager,**

Agland Investment Services, Inc., Millennium Challenge Account-Cape Verde, West Africa.

Responsibilities include the Training of Trainers program for 53 Ministry of Agriculture Extension Agents on three outlying islands in the Cape Verde Archipelago. The modular training courses include: Postharvest practices; Drip irrigation design, installation & management; Agronomic aspects of growing under drip irrigation; Access to micro-credit; Starting small agri-businesses; Market Information Systems. We also oversee the introduction of a cold chain in Cape Verde with the construction and start-up of a postharvest center and the privatization of the facility.

### **2008. Agronomist, Sultanate of Oman.**

Performed a soil survey in the Nimr basin of Oman to determine the feasibility of irrigating shallow, saline soils with high SAR water that is recovered from oil wells.

**2007 to 2008. Agronomist, Bene Terra, Sheridan, Wyoming**

Provided technical backstopping for determining the long-term sustainability for using high-sodium Coal Bed Methane-generated water for sub-surface drip irrigation on native calcareous soils in the Powder River Basin of Wyoming.

**2006 to 2008. Technical Director, Dorot Valves.**

Served as the technical director for the US and Canada for Dorot Valves, an Israeli company specializing in large, electronically controlled valves for potable and wastewater applications.

**2007 to 2008. Senior Writer, University of California, Davis, Statewide IPM Program.**

Lead writer of a study guide on Soil Fumigation Techniques that will be used for Licensed Pest Control Advisors testing by the California Department of Pesticide Regulations.

**2002 to 2008. Senior Scientist, Sonora Pacific Group, Inc., Lone Pine, California.**

Director of the Sonora Pacific Group, Inc., which provides management and technical consulting to the Owens Lake Dust Mitigation Project in Keeler, California. Primary responsibilities through Spring 2005 were serving as the Lakewide Operations Manager of water and irrigation (10,000+ hectares under irrigation), monitoring the movement of salt in the soils and technological information liaison between the client, CH2M Hill and Los Angeles Department of Water and Power. Authored the Owens Lake O&M Manual and the Performance Acceptance Testing Protocol for Owens Lake Phase IV.

**1999. Irrigation Design/Agronomy, PROFRUTA, Guatemala.**

Two week investigation of the potential for small, gravity-fed micro-irrigation for avocados, apples and peaches, for PROFRUTA, the extension branch of the Ministry of Agriculture in Guatemala, sponsored by Partners for the Americas and funded by USAID.

**1996 to 2002. Irrigation Systems Analyst, Vineyard Water Systems, Cayucos, CA.**

Partner in the consulting company Vineyard Water Systems, an independent irrigation consulting company specializing in micro irrigation design, developing operation and maintenance programs and bilingual (Spanish) irrigator training. Projects included the development of an irrigation operations guide for Potlatch Corporation Hybrid Poplar Program (7,700+ hectares drip irrigation system) and irrigation management training for Robert Mondavi Winery.

**1995 to 1996, Latin American Agriculture.**

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.

**1978 to 1994. Director, San Joaquin Sulphur Company, Lodi, California.**

'91 to '94. **Director of Quantum Irrigation.** Responsible for the design and installation of drip and micro-spray irrigation systems in vineyards, orchards, row crops and green houses. Projects included sub-surface irrigation systems.

'86 to '94. **Vineyard Consultant and Fieldman**, actively monitoring over one thousand acres of winegrapes, and consulting on several thousand more acres. Providing guidance in the areas of disease and invertebrate pest management, fertility and nutrition, irrigation scheduling and maintenance, rootstock selection, trellising and canopy management.

'83 to '94. **Pest Control Consultant** for walk-in customers, varying from homeowners and landscape maintenance supervisors to agricultural producers, providing a broad range of experiences and challenges in the pest control field.

'81 to '94. **Responsible for the formulation of hydroponic micronutrient fertilizers**, developing and blending specialty fertilizers for production and research greenhouses. Customers include Gourmet Gardens Produce, Calgene, Calgene-Fresh and DNAP. Crops varied from commercial cucumbers to research tomatoes and cotton.

'85 to '94. **Responsible for Regulatory Affairs**, including Designated Agent for California Pesticide Dealer's Licenses, Development of Emergency Response Procedures, Plant Safety, California Hazardous Material Transportation License, California Fertilizer Dealer's License and liaison to County Office of Emergency Services.

'85 to '93. **Production Manager for Formulation of Pesticides** produced by San Joaquin Sulphur Company. Responsible for quality control and maintenance of the EPA Pesticide Producing Establishment.

'85 to '93. **Served as Liaison to US EPA and California Department of Food and Agriculture** in the maintenance of Federal and State Agricultural Pesticide Labels.

'83 to '84. **Managed the Valor Brand Products PVC Fittings Division**, supervising the production and marketing of fabricated large diameter plastic fittings.

'81 to '84. **Developed a line of solvent weld cements**, marketed under the Valor Brand Label. Responsibilities included the production and sales of the product line.

'78 to '81. **Managed the subsidiary San Joaquin Pump Company**. Designed and installed sprinkler and micro irrigation systems in permanent crops. Engineered and sold centrifugal, propeller and deep-well turbine pumps. Received factory training at Sta-Rite Pumps, Delevan, WI.

**1976 to 1978. Vice-President, Production, Alta Lipids (USA), Ltd., Boise, Idaho.**

Coordinated the development of a full-scale production process for micro-encapsulated cattle feed, from a laboratory model developed by the CSIRO in New Zealand. The successful pilot plant resulted in marketing the process in Texas and Idaho.

**1975. Director, Gonzaga University Aquatic Research Laboratory.** Supervised four technicians in procedures of water and wastewater analysis. Conducted contract research on an electrochemical sewage treatment process.

**1973 to 1975, (winters). Teaching Assistant, Gonzaga University.** Instructed Laboratory courses in Environmental Chemistry, Photographic Chemistry, Sanitary Engineering, Limnology and Ecology.

**1973 to 1974, (summers). Analytical Chemist, United States Bureau of Reclamation Regional Laboratory, Boise, Idaho.** Conducted nitrogen gas supersaturation survey of USBR reservoir pools in the Pacific Northwest in 1973. In 1974 conducted algae productivity survey of

Cascade Reservoir in central Idaho, correlating algae blooms to adjacent land uses. Outcome of research resulted in design modifications of Bureau dam spillways and formal recommendation to State of Idaho regarding land use in Cascade Basin.

## **EDUCATION**

**Bachelor of Arts in Chemistry and Biology (Honors) 1975, Gonzaga University S.J., Spokane, Washington.** Focus of studies in Aquatic Ecology and Waste Water Systems. Chemistry Thesis: "*The Occurrence of Chlorinated Hydrocarbons in Effluents of Electrochemically Treated Domestic Wastewater.*" Biology Senior Seminars: "*The Ecology of Hot Springs*" and "*The Metabolic Pathway of Nitrogen Fixation in Blue-Green Algae*". Received the 1974 Undergraduate Achievement Award in Analytical Chemistry, The American Chemical Society.

**University of California, Davis.** Various courses in the fields of postharvest, viticulture and crop sciences.

**California Polytechnic State University, San Luis Obispo, California,** Irrigation Training and Research Center. Various courses in irrigation design and maintenance, soils and salinity.

## **LANGUAGES**

**English** (native), **Spanish** (proficient), **Portuguese** (basic), **French** (basic)

## **COMPUTER SKILLS**

Access, Acrobat, Excel, IrriCad, PowerPoint, Photoshop, QuickBooks, Word.

## **CERTIFICATIONS**

**Postharvest Technology Short Course, UC Davis**

**HACCP Certified, International HACCP Alliance**

**Certified Irrigation Designer No. 001653, Specialty: Drip/Micro**

The Irrigation Association

**Certified Irrigation Designer No. 001653, Specialty: Sprinklers**

The Irrigation Association

**Certified Irrigation Designer No. 001653, Specialty: Commercial Landscape**

The Irrigation Association

**Agricultural Pest Control Advisor License No. 75692**

**& Ground Water Protection Training**

State of California, Department of Pesticide Regulations

**Technical Service Provider # TSP-05-5179**

**Comprehensive Nutrient Management Planning**

USDA National Resources Conservation Service

**Certified Crop Advisor License No. 19117**

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

Sta-Rite Pumps, Delavan, Wisconsin

Dan Sprinklers, 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.)

“Collection and Reuse of Extremely Saline Drainwater on Owens Dry Lake”, *Proceedings of the Eighth International Drainage Symposium*, March 2004, American Society of Agricultural Engineers. (Co-authored with J.K. Smesrud, 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 L. E. Wheeler.)

“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 L. E. Wheeler.)

“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 L. E. Wheeler.)

“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 L. E. Wheeler.)

“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 L. E. Wheeler.)

“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 L. E. Wheeler.)

“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 L. E. Wheeler.)

“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 L. E. Wheeler.)

“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 L. E. Wheeler.)

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

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

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

“Irrigation Success”, *Western Fruit Grower*, January 1999. (Co-authored with L. E. Wheeler.)

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

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

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

“Design Pitfalls in New Micro-Irrigation Systems”, *California Grower*, October 1999. (Co-authored with L. E. Wheeler.)

### **PRESENTATIONS and CONFERENCES**

**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 on the process of new agricultural development using modern techniques, 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.

#### **FELLOWSHIP RECEIVED**

'92 to '94. California Agricultural Leadership Program, Class XXIII. Agricultural Education Foundation. National Tour Focus on Georgia, South Carolina and Washington, D.C., International Tour focus on Chile, Paraguay, Peru and Ecuador.

*References Available upon Request*