PETER DOIG

M.Sc., P.Ag.
5688 Upland Rd
Sechelt, BC, V0N 3A4
604-989-8814

Overview

A biochemist with 17 years of combined experience in industrial biochemistry/microbiology, crop production and the development of bio-products and bioprocess technology for horticulture, composting, wastewater treatment and nutrient reclamation and reuse. Peter has worked in academic, government, and private sector settings and his projects have received several NRC-IRAP grants, BC Innovation Council awards, CRA's Scientific Research and Experimental Development Tax Credits as well the National Award for Excellence in Innovation by CIPA. Peter is a Professional Agrologist (P.Ag.) and has extensive hands-on, business development and management experience in commercial composting and organic greenhouse and field-based vegetable and fruit production.

Recent Projects

Salish Soils. Product development, process and operations management, logistics, business planning, government and community liaison and marketing for composting operation located in Sechelt Nation traditional territory. 2011 – Present

0_2 Compost. Feedstock analysis, process control and optimization, quality control in composting and soil manufacturing for end use in agriculture. 2017

Tantalus Vineyard. Agri-Feasibility, soil sampling and analysis fertility planning, integrated pest management and crop forecasting for production of organic grapes for the vineyard. 2016-Present

City of Richmond. Agri-Feasibility, soil sampling and analysis, soil building and fertility planning for organic farming on the Garden City Lands. 2016

Persephone Brewing Company. Brewery waste composting and reuse feasibility study. Hops fertility and pest management plan. 2016-Present

MotorLeaf. Research and development, product testing, advisory board member in control systems for greenhouse vegetable production. 2016-Present

Sun Select Greenhouses. Soil building, crop, nutrition and integrated pest management plan for production of 25 acres of certified organic peppers. 2016-present

Dominion Organics. Analysis, reformulation, efficacy trials for bio-organic fertilizers and pesticides. 2015-2016

Sage Greenhouses. Greenhouse design and organic fertility and integrated pest management consulting. 2015-Present

Original Harvest Farms. Crop design, growing consultant, and fertility planning for net zero organic greenhouse technology. 2011– Present

Sunshine Coast Organics. Land Reclamation with organic greenhouse and berry production in partnership with Sechelt Nation, LeHigh Construction Aggregates and Salish Soils. 2011 - Present

Urban Cultivator. Manage research and development, National Research Council Industrial Research Apprenticeship Program (NRC-IRAP) and Scientific Research and Experimental Development (SRED) tax credits for commercial micro-green production technology. 2012 - 2014

Persephone Brewery. Farm business plan and operational and fertility consulting for mixed vegetables and hops production for Sunshine Coast-based brewery. 2013

Target Marine Hatcheries. Aquaponics Feasibility project to recycle process water through biological filter process for the production of certified organic fruit and vegetables. 2013-Present

Agricultural Capability Studies (Arpeg Group, City of Richmond, Busby Consulting, Tantalus Vineyards, City of Abbotsford, Town of Aldergrove). Soils mapping, nutritional analysis and crop capability and fertility consulting. 2012-Present

BC Greenhouse Growers Carbon Offset Protocol. Greenhouse production expert, data analysis and modeling as well as industry and government liaison for the development of carbon offset protocol for BC Ministry of Environment. 2012.

Powell River Organics Processing Facility Feasibility Analysis. Assess feed stocks, handling, economics and logistics for diversion of organics from municipal solid waste into composting. Propose composting technology and best management practices for Powell River Regional District. 2012.

Hare Family Farm. Soils analysis and fertility consulting for 5 acres of organic blueberries located in Pemberton, BC. 2011 – Present.

Professional Experience

Director, Upland Agricultural Consulting 2010 - present

- Consultant to field and greenhouse growers on cropping, growing media and fertility. Focus on tailored biological processes to utilize low-cost, local organic materials and composting;
- Consultant to composting operations on process, operations, growing media design and fertility for organic vegetable production, landscaping and land reclamation;
- Agricultural capability assessment of soils as wells as land use inventories, agriculture area plans, market assessment, planning and logistics
- Liaison with stakeholders in the agri-food industry including government, lenders, producers, processors, retailers, as well as disposal and composting agencies.

Project Management, Salish Soils 2013 - 2015

- Developed an enhanced business plan, markets and financial model that maximizes local resources for beneficial reuse and revenues: fish and forestry waste composting

- Built an efficient operations team that runs the composting facility, sales and retail
- Optimized bio-process to increase productivity and quality control and assurance
- Developed a new product line that has increased revenues by up to 4 times while cutting costs
- Identified new markets and developed relationships and sales through retail outlets
- Enhanced and developed new relationships with all levels of government (Federal, Provincial, Municipal and First Nations)

Environmental Technician, Sunshine Coast Regional District 2010-2011

- Soils and water sampling, analysis and interpretation for environmental monitoring and impact assessments with respect to watersheds, water and wastewater plants, landfills and composting operations;

Senior Scientist and Manager, Origin Organic Farms Inc. 2006 - 2010

- Founded research and development department and managed a team of 9 scientists and engineers;
- Developed the bioprocesses, fertility, disease and pest management and growing technology for 42 acres of high-tech, organic vegetable production;
- Managed production team on 4 sites worth over 40 million in annual revenues.
- Developed a materials and energy balance and cost/benefit strategy for the recycling of low-cost, waste solid and liquid organic materials for use in organic production systems;
- Developed fertility targets and standards as well as sampling and analysis techniques for organic growing production systems;
- Developed award-winning math models for nutrient management;
- Invented an enzyme hydrolysis process for production of liquid organic fertilizer; implemented on full-scale
- Wrote technical reports, proposals, SR and ED tax claims and received grants and awards (including NRC-IRAP 2007, BCIC 2008 and 2009, CIPA 2008 Excellence in Innovation).

Project Scientist, Vision Envirotech International 2004 – 2006

- Researched and developed composting and biological wastewater treatment/reclamation technology.
- Consulted with regulations (including OMRR, MSR, and MOE) and developed targets for processing of solid and liquid waste.
- Worked as research scientist in the design, planning and monitoring of biosolids composting process for the District of Kent.
- Worked as project scientist and operator of pilot-scale Sequencing Batch Reactor (SBR) for treatment of municipal, swine, and dairy wastewater
- Wrote and communicated technical reports (including NRC-IRAP project), grant applications, marketing materials, 2 trademark applications, 1 patent application, and proposals for potential commercial projects.

Co-Founder, UBC Biodiesel Project, UBC Plant Operations 2003

- Co-managed project and designed pilot-scale process; conducted full-scale feasibility study;
- Designed a testing protocol and operations manual for the production of biodiesel from waste vegetable oil;

- Received a VanCity Envirofund grant and was featured on the Discovery Channel, in Vancouver Sun, CBC, CTV, other media.

Research Assistant, UBC Department of Chemical and BioEngineering 2001 – 2003

- Teamed with an industrial partner (Microbial Technologies Inc.) to develop a low-cost and energy efficient biological sand filter for the treatment of forestry stormwater runoff;
- Characterized physiochemical, biochemical and toxicological properties of woodwaste effluents and industrial stormwater runoff;
- Designed and constructed a pilot-scale reactor;
- Consulted to industrial collaborator on laboratory techniques and experimental design;
- Published three academic papers;

Research Assistant, Chemistry and Biochemistry, University of Guelph 1999 - 2000

- Researched and conducted experimental analysis into the expression and purification of a recombinant enzyme for life sciences applications;
- Independently learned molecular techniques as well as applied protein purification;
- Routinely presented results to interdepartmental research groups.

Analytical Chemist, Chemisar 1999 - 2000

- Conducted sample preparations and quantitative chemical analysis using high performance liquid chromatography (HPLC) for an environmental toxicology company.

Education

M.Sc., Chemical and Biological Engineering, UBC **2001-2004**

- Graduated with first class honors
- Designed and operated process for the UBC farm composting project
- Developed treatment technology for UBC campus stormwater runoff
- Thesis work as Expert Witness for DFO legal proceedings

B.Sc., Specialized Honors Biochemistry, University of Guelph **1996-2000**

- Dean’s honor list