



BC Sustainable Poultry Farming Group

Project updates for October 11, 2017 meeting

2015-01 Genomic Analysis of Wetland Sediment as a Tool for Avian Influenza Virus Surveillance in Wild Waterfowl

- The lead researcher is on a maternity leave. They will be invited to a future meeting.

2015-02 - The Development and Commercialization of Aerobic Digestion of Poultry Manure to Produce Bio-Active Fertilizers

- The project focuses on the aerobic digestion of poultry manure to produce plant fertilizer solutions to be used in greenhouses and field crops. Their fermentation process utilizes oxygen enhancement and pH control to minimize nutrient losses due to precipitates and ammonia off-gassing. The use of oxygen greatly reduces odours and accelerates the process.
- Objectives of the Project
 1. Produce safe and effective plant nutrient solutions from poultry manure
 2. Develop a robust and industrialized manure fermentation technology
 3. Facilitate industry adoption of the technology by:
 - a. demonstrating the use of these fertilizer solutions to grow greenhouse and field crops
 - b. Detailing process design including 'scale-up' considerations
 - c. Providing detailed SOP's, batch records and data presentation
- Year 2 - April 2016 to March 2017 main activities
 1. Trial various blends of phosphoric, nitric and sulphuric acids.
 2. Install the dissolved oxygen control loop and investigate dissolved oxygen control strategies.
 3. Investigate the culture of oyster mushrooms and vermiculture to utilize the screw press's residual cellulosic and lignin by-product. Successful use of this by-product would make the process waste-free.
 4. Upgrade the pH probes to meet temperature swings and abrasion due to the "feed grit" for gizzard health and oyster shell fragments for robust egg shells.
 5. Install the antifoam control loops
 6. Continue process characterization and optimization while having a commercialization focus
 7. Try attaining the highest possible thermophilic temperature (target > 75°C) and experiment with the bioreactor as a continuous heat source for energy harvest.
 8. Explore the use of co-fermenting waste streams from other industries specifically those containing soluble carbon – the BOD data to date suggests soluble carbon is the rate limiting nutrient

- The project concludes this December; they're winding down the greenhouse component. The final report will be completed by the end of December and SPFG will be given the opportunity to review the draft.
- They will be displaying the project at:
 - Farm Fair in Edmonton November 8-12, [<https://farmfairinternational.com/>],
 - Green Industry Show and Conference in Calgary November 16 & 17 [<http://www.greenindustryshow.com/>]
- The researchers would like to extend their appreciation and thanks to the SPFG; at every opportunity they mention that their seed money came from BC's Sustainable Poultry Farming Group.

2015 07b Reducing Salmonella and Campylobacter contamination of poultry

- They have been extensively conducting additional chicken experiments during the past months. They are analyzing the data now. They will send a detailed report probably by the end of October.

2016-02 One-day knowledge translation workshop in April 2017 on Wetland Sediment testing as a Tool for Avian Influenza Virus Surveillance

- The workshop has been delayed.

2016-04 Validation of Cedar Leaf Oil Vapor in Poultry Hatcheries and Processing Facilities

- The project is wrapping up and they're working on the final report. They were in three different chicken barns with positive results. They received organic certification for their product.

2016-06 BCAC's Public Trust Initiative

- Sharon Eistetter was hired as Manager of Public Trust (Sept 18/17). She, Danielle Synotte (Communications Manager) and Director Lynda Atkinson attended the Canadian Centre for Food Integrity Conference in Calgary Sept 18-20. CCFI is the new national centre for research into transparency in the food system in Canada.
- Sharon has developed a 12 month work plan for approval by the Steering Committee (Oct 12). She has included short term plan until March 31-18 which includes the following quick wins:
 - Information advertorials in Country Life (full page in Nov issue, ½ page in Dec, Jan, Feb and March) profiling the issue of transparency and public trust in the BC food system. First issue will profile Salmon Growers of BC.
 - will be holding 4 farmer training sessions concurrently with Pacific Ag Show (Jan 25, 26, 27), 3 of them focused on how to have discussions on tough/contentious issues on your farm and industry and 1 of them on How to Host a Farm Tour. Each session can take 40 individuals. Information will be forwarded shortly to the Member organizations of BCAC to select participants.

- Sharon attending 5 Career Education Fairs in BC in late Nov and early December to highlight careers in agriculture. All producer organizations are invited to attend for active recruiting purposes.
- assembling a BC Hub or Community of Practice of staff from all commodity groups and food processors to start the process of working collaboratively together to share wins and opportunities in the public trust arena for agriculture in BC
- meeting with the member stakeholder groups, provincially and across the country to determine what activities and plans are happening and to collaborate best practices
- attended a marketing strategy session with the BC Chicken Marketing Board who are working on a marketing strategic plan and have determined Public Trust is their focus as a broiler industry all thru the value chain. Can share ideas and resources
- The SPFG/BCPA's share of this project is \$21,800 per year for three years.
- Contact Sharon: seistetter@bcac.ca or 778-345-7750

2016-07 Development of a Point-of-Care PCR diagnostic platform and assays for the poultry industry – Phase Two – field trials

- The project was completed in June with field demonstrations held at the S.J. Ritchie Research Farms facilities in Abbotsford. Hydrogel PCR assays were run on-site for the four assays developed for the project: *Eimeria* sp., *Clostridium perfringens*, *Salmonella* sp and *Cambylobacter jejuni*. The project also developed and tested DNA extraction technology for four matrices: fecal matter, cecal droppings, environmental swabs and fecal swabs. The final results of the trial are being compiled in a report for BCIAF. Aquila is also preparing a white paper to present the technical results and applications of the research to industry. Both reports will be available to SPFG when finalized. Aquila plans to move forward to commercialize assays for the poultry industry in 2018.