



Crop Trial and Crop Suitability Assessment for Climate Resilience
Vancouver Island Adaptation Strategies Implementation

Request for Expressions of Interest

Project Timeline

October 26, 2020 – February 26, 2021

Project Background

This project evolved out of the priorities identified in the strategies and actions within the 2020 [Vancouver Island Adaptation Strategies](#) (strategy 3.1: action 3.1B, action 3.1C, & action 3.1D). This plan identified suitable strategies and actions to assist agriculture with adapting to the impacts of climate change. Implementation is led through the Vancouver Island Agricultural Adaptation Working Group¹.

Project Objectives

- Summarize results from previous local research and trials
- Engage producers in discussion of changing crop suitability
- Explore crop diversification and shifting opportunities linked to climate change
- Determine the most promising crops or varieties for near-term trialing
- Define a crop suitability modelling framework for longer-term opportunities

Project Oversight

This project has been defined and will be collectively managed through a project oversight committee. The committee is comprised of members from the Vancouver Island Agricultural Adaptation Working Group and other partners and stakeholders. The successful proponent will report regularly to this oversight committee and maintain communication with key designated contacts through the duration of the project. The committee will also take an active role in providing direction and guidance.

Project administration will be provided by the Islands Agriculture Show Society who will hold the project funds and enter into contract with the successful respondent.

Project Description

Climate change is affecting growing conditions on Vancouver Island by shifting seasonal average temperatures and precipitation patterns, increasing Growing Degree Days, and extending growing season length. Climate change is also increasing variability within and across production seasons (e.g. growing season length, timing/quantity of precipitation). These changes will bring

¹ The Vancouver Island Agricultural Adaptation is a multi-stakeholder committee with representation from agricultural organizations, regional and provincial governments.



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new risks and challenges to agriculture but will also present opportunities to produce new crops.

Producers on Vancouver Island are accustomed to adjusting to variable seasonal growing conditions and many experiment with new crops or crop varieties and practices. This project will create the foundation for a regionally coordinated approach to near-term crop trials by identifying the crop species and varieties that are likely to be resilient to variable and anticipated conditions, that have market/commercial potential, and that are of interest to growers. It will also establish a crop trial plan for conducting coordinated, cross-regional and cross-sectoral trials (and knowledge sharing) across Vancouver Island's growing regions. Additionally, the project will develop a framework/methodology for crop suitability modeling.

Input from Vancouver Island producers collected during the development of the Vancouver Island Adaptation Strategies indicated interest in a range adaptive crop options including new forage species/mixes, grains, crops to increase protein production, fibre crops, and, with a longer-term outlook, potential for crops currently on the threshold of climatic suitability such as kiwis, figs and olives.

The crop trial plan will help to refine the selection of crops for future trials based on select criteria (resilience to variability, market potential and producer preference). It will also outline how to coordinate, support and expand crop trials, as well as how to improve local and cross-regional knowledge transfer about trials on Vancouver Island.

The crop suitability modeling framework will determine **a)** the costs and benefits of this type of modeling, **b)** methodologies for completing suitability modeling and **c)** what inputs (data) would be required.

Project activities/services

The successful respondent will be required to perform, and be responsible for, the following services:

- 1) Research review [October 2020 to November 2020]
 - Conduct meeting with oversight committee to finalize work plan.
 - Review and summarize results from recent (15-20 years) local research/trials on Vancouver Island, as well as relevant/transferable academic research from elsewhere that addresses crop selection and new varieties for variable and changing conditions. This will include – but is not limited to – results from:
 - The Coombs Farmers' Institute grains and pulses trials
 - The Alberni Farmers' Institute current work on forage varieties and farm practices for mitigating wildfire risk
 - The Vancouver Island Forage Committee/Island Farmers' Alliance three-year demonstration on drought tolerant forage varieties
 - The Canadian Organic Vegetable Crop Improvement Variety Trials Network (formerly the BC Seed Trials) work across Vancouver Island and the Gulf Islands.
 - Trials by seed suppliers/growers (e.g. forage and vegetables)
 - Academic institutions in climatically similar regions (i.e. UBC, WSU, OSU)



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- Prepare an accessible summary document of the most robust and transferable findings from research review and circulate with partners.
- 2) Producer/stakeholder engagement on **crop trials** [October 2020 to November 2020]
- Develop a stakeholder contact list²
 - Develop a stakeholder engagement plan, this could include:
 - Conducting a survey of producers
 - Attending industry organization meetings
 - Conducting one on one interviews
 - Prepare engagement summary.
 - Conduct meeting with oversight committee to review results of research review and producer/stakeholder engagement.
- 3) Crop trial plan for near-term production [November 2020 to January 2021]
- Develop criteria and parameters to determine crop trialing priorities. Criteria may include:
 - Resilience to drought, extreme precipitation/flooding, seasonal variability
 - Economic potential
 - Complimentary/integrative to current production/crop systems
 - Based on activities #1 and #2, establish a list of crops and varieties to trial.³
 - Establish a list of potential trial locations for a small set of near-term priorities.
 - Identify opportunities (and partners) to undertake small-scale trials with focus on future climate and economic considerations.
 - Host a meeting (or virtual meeting) with key future partners.
- 4) Framework for crop suitability modelling [November 2020 to January 2021]
- Evaluate methods for crop suitability modeling, including pros and cons and inputs (data) needed for different methods.
 - Determine what inputs are readily available to conduct crop suitability modeling for VI (soil data, water data, additional climate data, other).
 - Identify options for suitability modelling parameters which might include:
 - Crop resilience to variable and future climate conditions (e.g. excess moisture/flooding or drought)
 - Adequate water supply availability to support crop production
 - Crop production to minimize agricultural GHG emissions
 - Crop diversification opportunities
 - Options for increasing protein production (nuts, pulses etc.)
 - Economic potential, considering processing, marketing and distribution
 - Evaluate the cost/benefit of this type of future-oriented modeling for Vancouver Island region agriculture sector.
 - Identify expertise that would be required to conduct the recommended assessment model.
 - Define the cost, methodology and steps for a future-oriented suitability modeling.

² If possible, stakeholder input obtained by the Alberni Farmer's Institute (AFI) through their current project will be integrated into this activity, so as not to burden the same producers with a second interview.

³ Synergy and complementarity will be sought with any crop trails concurrently underway through the AFI project.



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Project Deliverables

- Project work plan
- Oversight committee meeting #1
- Research summary
- Engagement summary
- Communications brief
- Oversight committee meeting #2
- Crop trial plan
- Crop suitability assessment evaluation
- Key partners meeting
- Oversight committee meeting #3

Evaluation Criteria

The criteria below will be used by the project committee to assess and select a successful candidate.

- Applied knowledge of agricultural crop/variety trials (with preference for knowledge/experience on Vancouver Island)
- Experience working with the agriculture sector with preference for experience with project coordination and agricultural research
- Strong interpersonal skills that enable positive and productive interaction and coordination between a range of project stakeholders
- Strong research skills including ability to: complete literature review, conduct consultations, and review and clearly summarize input
- Ability to synthesize information from a variety of sources/disciplines.
- Ability to work both collaboratively (with project team) and independently
- Ability to manage and coordinate logistics

Contract Amount

\$22,500 in fees (inclusive of all applicable taxes and contractor expenses)

Key Project Partners

Islands Agriculture Show Society
Vancouver Island agricultural organizations
Vancouver Island Agricultural Adaptation Working Group
BC Ministry of Agriculture
Agriculture and Agri-Food Canada



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Submission Requirements

All submissions are required to include the following:

- A. Cover letter or statement of interest
- B. Resumé outlining the respondent's experience and clearly responding to the evaluation criteria
- C. A high-level (maximum 2-page) work plan including timeline, proposed dates for key project milestones, and budget allocation
- D. Two (2) professional references

Submission requirements should be submitted as one complete PDF package to VancouverIsland@bcagclimateaction.ca

Enquiries regarding this posting should also be directed to the above mail address. Applications must be received no later than October 23, 2020, 4:00pm Pacific Time.