

Concept Paper

Urban Agriculture Research and Education Centre:

A partnership between Kwantlen Poytechnic University and
the City of Richmond, British Columbia, Canada

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Concept Overview

Kwantlen Poytechnic University School of Horticulture and its research/outreach arm, the Institute for Sustainable Horticulture, in partnership with the City of Richmond and its citizen groups working in food sustainability, will develop and implement North America's first formal, post-secondary centre and programming expressly focused on urban and urban-rural interface agriculture food systems. The centre's overarching goal will be to support and advance with research, expertise and educational support, a viable, sustainable, food production sector in the urban and urban-rural interface as a critical element of vital and sustainable 21st century society. Key to program function and success will be the development of a Research, Teaching and Demonstration Farm facility and emphasis on practical skill and knowledge development and application.

Objectives

- 1) Lead the creation and conduct of a vital and integrated food production system for Richmond by preparing individuals to engage in the breadth of enterprise associated with urban and urban-rural interface agri-food systems, including production, processing, development, marketing, distribution, and sales of value-added agricultural products and services
- 2) Provide technical support for those already engaged in urban and urban-rural interface agriculture.
- 3) Advance the development of urban and urban-rural interface agriculture in south-western BC as part of a sustainable British Columbia agri-food sector
- 4) Support Richmond's efforts to promote community sustainability and a viable agriculture sector within its boundaries by integrating food sustainability into the urban environment for aesthetic, food security and health benefits.
- 5) Position the City of Richmond, with its citizen groups working in food security and sustainability, and the Institute for Sustainable Horticulture as world leaders in collaborative urban and urban-rural interface food production
- 6) Provide expertise and support for planning of integration of food production into future developments within the city of Richmond

Proposed Program Elements

The proposed centre and programs will have sufficient scope for—and be designed to support—the advancement of all aspects of urban-rural interface agriculture as one part of a larger City of Richmond community sustainability strategy. It will be applied in focus and comprised of complementary and integrated formal education, research, continuing education and outreach/development components. Each is described below.

Formal Education: Citations, certificate(s), a diploma and a degree program in urban-rural interface agriculture will be developed. Strategically, educational programming will begin with citation-affording curricula (5 class/ 15 credit complements) likely offered on a cost-recovery basis. By this means, student demand and acceptance can be assessed before substantial institution resource allocation is considered.

All curricula will be comprised of an appropriate complement of theoretical and experiential studies (classes and laboratories) intended to impart and develop the knowledge, skills and attitudes requisite for success in a breadth of urban and urban-rural interface agriculture ventures and to develop the leadership to advance urban-rural interface agriculture. Practicums would be a key component, being available on site, as well as at other community gardens, strata gardens, root gardens, etc. All courses and programs of study will be articulated so that students can move through a citation, certificate(s), diploma and degree program sequence within Kwantlen and other post-secondary institutions (e.g., UBC, UCFV). In such an academic program configuration, students will be able to exit with utilizable knowledge and skills at various points and re-enter to pursue advanced studies according to their ability, disposition and need.

Curricula and classes will be predicated upon and comprehensively incorporate the philosophy and concepts of sustainability (economic, social and environmental). The ultimate objective of all curricula will be to yield persons with appropriate skill sets to engage in urban and urban-rural interface agriculture enterprise appropriate for 21st century society.

Applied studies will be facilitated by the development of—and occur on—a Research, Teaching and Demonstration Farm laboratory. This laboratory farm will be located on lands owned by the City of Richmond. It is anticipated that an appropriate teaching and demonstration laboratory would be approximately 40 to 50 acres in size. It will require modest equipping and infrastructure (tractor, implements, shed, hoophouse, coldframe, washroom, tools, etc.) to start. Investments in capital items can certainly remain modest and occur incrementally as needs emerge and the program comes to fuller fruition. Plans and budgets for the laboratory farm will be developed. Eventually, a permanent building site would be desirable for a number of functions, e.g., extension, meetings, teaching, audio-visual resource library, and community visibility. Crops and products produced would qualify for organic certification. Production methodologies would model innovative and/or state-of-the-art techniques for sustainable farm management. An on farm market would also be included to serve as a learning lab for marketing and direct sales instruction.

It is anticipated that curricula will include classes/subjects reflecting the traditional breadth of foundational agriculture disciplines but emphasize their specialized application in the urban-rural agriculture environ. Additionally, all curricula will incorporate and emphasize the principles and concepts inherent in sustainability and be taught in an integrated curriculum emphasizing a holistic management perspective. For citations and the certificate program basic production and marketing skills will be emphasized, while for diploma and degree programs expanded skills and knowledge would be incorporated as appropriate. Undoubtedly many classes already taught by Kwantlen Polytechnic University will be utilized, while some new courses or course components will need to be developed. To the extent possible, regional practising agriculturists should be utilized for/in the instructional program.

Potential class/subject offerings specifically related to sustainable urban-rural agriculture include:

- Sustainable Vegetable Production Systems
- Vegetable Production Practicum (field-based production studies)
- Sustainable Fruit Production Systems
- Fruit Production Practicum (field-based production studies)
- Sustainable Animal Husbandry
- Integrated Farm Operations and Management
- Plant Propagation
- Growing Structures and Management
- Plant Growth and Development
- Sustainable Soil and Fertility Management
- Composts and Composting
- Ecologically Based Pest Management
- Agricultural Enterprise/ Business Planning
- Agriculture Business Management
- Value-Added Product Development
- Value-Added Marketing and Sales
- Farm Mechanization, Electrification, Construction
- Water Conservation Systems and Water Management
- Managing and Protecting Genetic Diversity
- Sustainable Food Systems and Society
- Agroecology
- Agricultural Policy and Law
- Cultural Diversity in Urban-Rural Interface Agriculture
- Ecological Economics
- Agricultural Ethics
- On Farm Research Methods
- Internship/ Mentoring
- Global Urban Food Systems

An appropriate complement of liberal arts and sciences studies, such as biology, ecology, statistics, chemistry, English, communications, history, philosophy, sociology, urban/rural planning, environmental science, resource management will be included in the diploma and degree programs.

Continuing Education: A significant element of the centre will be educational programming for those who are working in the urban and urban-rural interface agriculture sector and who are not credential seeking. These offerings will be in the form of seminars, workshops, conferences, non-credit classes, demonstrations and field days. In some instances, classes or class components developed and offered for credit may be simultaneously offered as continuing education on a non-graded/non-credit basis. Generally, continuing education programming will be based on indicated need.

Research: Program staff and partners will engage in research aimed at addressing problems and challenges faced specifically by urban and urban-rural interface agriculturists (e.g., biologically based pest management, soil fertility/compost management, companion cropping, water conservation practices, crop and variety trials, marketing, economic impact, economic efficiencies, regional food systems, post-production handling, social implications/impact). As such, all research will be applied in nature and directly applicable to our regional urban and urban-rural interface agriculture sector. Research will not be limited solely to crop production or conducted in isolated disciplinary focus; instead, investigators will strive to address the breadth of challenges/issues (ecological, agricultural, social, and economic) in their work, and thus research projects will often call for interdisciplinary investigatory teams. A direct collaborative link will be made with programming in the new facility for production of biocontrols and development of “green” climate control greenhouse systems at the Institute for Sustainable Horticulture (Kwantlen Polytechnic University Langley).

As part of their studies, students will be directly engaged in research programs, and to that end research and education will be formally, directly and inextricably linked as they are now at the KUC School of Horticulture. Likewise, practising agriculturists and community members as well as academic experts outside of Kwantlen Polytechnic University will be partners in research projects when possible and appropriate (for example, UBC Farm, the Earthwise Farm in Delta, community groups promoting urban agriculture, international groups working in urban food security, food banks, community gardens). Production-focused research will occur on the Research, Teaching and Demonstration Farm side-by-side with instruction. In some instances, research may extend to regional agricultural sites, business enterprises and communities.

Outreach/Development: Dissemination of research findings and technical information through publication (booklets, fact sheets, technical bulletins, web site, proceedings, journals, lay publications, etc.) will be an important function of the program. Additional outreach efforts designed to cultivate broad public awareness and support will extend to the breadth of agri-food systems stakeholders such as the traditional agriculture sector and non-agriculture sectors, especially consumers, non-government agencies, government at all levels, business, community organizations, schools and other public institutions, as they all play a role in the success of urban and urban-rural interface agriculturists. Outreach efforts will focus on building the critical networks and cultivating the requisite social capital for a vibrant urban and urban-rural interface agriculture sector.

Another potential outreach/development effort is the provision of “incubator” farm plots for producers. Small plots that are located on the Teaching and Demonstration Farm could be leased to producers so that they can gain critical crop-specific knowledge and experience before committing significant capital and resources in the development of speculative farming enterprises. Similarly, an “incubator kitchen” for exploration into—or start-up production of—value-added agriculture products could be a part of the overall program. Those wanting to experiment about or develop a processed value-added agricultural product could rent commercial processing/kitchen facilities for product development and business start-up. Activities at both incubator sites would be incorporated into the instructional program, just as research will be.

For both incubator instances, program staff could serve as resource persons to those who are developing skills, methods and products. Of course, ‘incubator’ lessees will likely avail themselves of centre educational programming as well.

There are many who desire to engage in urban-rural interface agriculture but have no access to land or sense of how to go about finding such. Likewise many with small parcels sitting idle would like to have them utilized. Partnering with other community groups, the centre would serve as a clearinghouse, matching small acreage owners with aspiring urban and interface agriculturists. This would be an incredibly valuable and important outreach/development function of the program. To similar end, it would be extremely valuable to establish a micro-loan program to support start-up urban and interface agriculture entrepreneurs. Other creative ways to make land available to young aspiring food producers would be explored (e.g., usufruct) and studied.

The City of Richmond and other municipalities could be important partners in a program that connects would be urban-rural interface agriculturists with landholders and provides modest, readily accessible, start-up financing for them.

Another function of the centre could be to provide support and expertise to promote integration of appropriate food production systems within future urban development in Richmond, based on the experience accumulated at the centre. Faculty at the School of Horticulture and BCIT already have a working relationship around green roof technology and horticulture that could be developed further with the City of Richmond Planning Department.

Advisory Committee

An Advisory Committee comprised of community/region stakeholder group representatives, including the City of Richmond, will be convened and operate to provide guidance in the development and operation of the Urban and Urban-Rural Interface Agriculture Centre and its programs.

Visiting Scholars

The program should endeavor to address local regional issues but at the same time connect with the wider urban and urban-rural agriculture community, which is substantial. One mechanism for this is to develop and position the centre as a world leader in and model for advancing urban and urban-rural interface agriculture research, education and development. Such an entity will attract scholarly interest from around the globe. We will make a concerted effort to form partnerships with like-focused individuals and organizations, particularly those in/from Pacific Rim nations (e.g., China, Vietnam, and Australia). The Institute for Sustainable Horticulture already has established valuable research and education relationships with agriculturalists and organizations in Cuba, which leads the world in innovative organic urban agriculture systems development. Other Latin countries and cities are also likely collaborators. As the centre establishes its reputation, its programs and facilities will attract visiting scholars.