

Presentation on Urban Agriculture Research and Education Center

by Shane McMillan, Richmond, B.C., resident and Kwantlen University College horticulture technology student

First of all I would like to thank all of you for taking the time to hear me today.

I am really excited about this idea, and I am not alone – It is amazing to see the buzz around urban agriculture and sustainability in Kwantlen's Horticulture program. Traditionally the Horticulture program has had 3 main streams – Landscape design and installation, Greenhouse production practices, and turf maintenance. Now a fourth stream is emerging from a scattering of new classes being offered. This new stream focuses on Sustainable horticulture, bringing together elements of all three programs.

The exciting thing is that there is support from everyone at campus for this new direction. Some instructors have been pushing for this change for the last 6 years. The dean of the school, David Davison, is right on board and eager for change. Students are demanding classes in environmental landscaping practices, outdoor vegetable production, and sustainability. In the Landscaping stream, we have realized that landscaping is about more than creating attractive gardens – these gardens must also serve as ecosystems, and ultimately should contribute to the overall health of our community.

Not many of us could make it out today, but I know that the majority of students in the Horticulture program are with me in spirit. There is a definite need to move horticulture more into the realm of sustainable food production, and the Urban Agriculture Research and Education Centre would help make that happen.

As horticulture students, we know the importance of green space. But we also know that a lot of the common practices that we employ on our landscapes today actually cause more harm than good from an environmental perspective. For example, the Landscape industry currently uses over sixty per cent of municipal water in Canada. By changing our practices, planting drought tolerant species, and working with our environment instead of against it, we can greatly reduce our water usage. There is still a need for education on this issue.

Likewise, traditional large-scale farming has led to environmental degradation on a massive scale. The use of pesticides and chemical fertilizers has left us with more resilient pests, polluted water systems, and the loss of soil organisms that we now understand are vital to plant health.

Destroying soil life and leaving large areas of soil exposed to wind and water has caused massive erosion. According to David Suzuki, we have lost over 430 million hectares of arable land to soil erosion worldwide in the last 40 years. Every year we create dust-clouds that are visible from space.

Widespread irrigation has impacted our fresh water supply, and the situation becomes more dire every year. Lester R. Brown writes that America's largest aquifer, the Ogallala

sitting underneath Texas, Oklahoma, and Kansas, and has dropped by 30 meters. The mighty Colorado river, which supplies California's agriculture is now drained dry before it reaches the Gulf of Mexico. Under the North China plain the average level of the deep aquifer is falling 3 meters per year. Wheat farmer now drill to a depth of up to one kilometer to tap fresh water.

Traditional agriculture also uses a huge amount of fossil fuels that impact our air quality and add to the problem of global warming.

It may seem esoteric to talk about water running out in China and California, but where does most of our food come from? What will happen when the aquifers run dry? Clearly, sustainable agriculture practices are needed if we are going to continue producing the wealth of food that we are used to.

One of the best ways to reduce the environmental impact of agriculture is to grow our food where we need it – hence the importance of urban agriculture. There is so much talk these days about the 100-mile diet, and for good reason. We have become accustomed to having access to low-priced food from around the world. But if we added up the true cost of our food, in terms of oil and chemicals used, loss of ecosystems, destruction of water supplies, and so on, our food would not be so cheap.

Eating locally is important because it reduces the distance that our food must travel, therefore we burn less fossil fuels. When we talk about *peak oil*, we are talking about the point at which we have pumped more oil out of the Earth than remains to be pumped. At this point the oil remaining will become more expensive to extract, both in terms of monetary cost and energy needed. Any scientist will agree that we will reach peak oil within the next twenty years, if we haven't reached it already. So eating locally will help us prepare for the time when long-distance transport of food becomes too costly.

But eating locally is also important because the closer you are to your food, the more say you have as to what goes into it. If you know the farmer who grows your vegetables you can influence their decisions on farming practices.

Another great way to make farming more sustainable is by doing it on a smaller scale. Studies have shown that small-scale farming, using mostly human labour can produce about 40 calories of food for each one calorie invested. By contrast, industrial farming with heavy use of machinery and other inputs produces only one to three calories of food per calorie invested.

Furthermore, by using organic methods, we can actually improve the health of our soil and prevent erosion from happening. Healthy soil needs less irrigation water, less fertilizer, and produces healthier food.

The Urban Agriculture Research and Education Centre would promote sustainable practices in agriculture, and it would attract young people from around North America, because it would be the only center of its kind. I don't know if anyone here realizes just

how groundbreaking of an idea this is, but it would truly put Richmond on the forefront of research and education into sustainable urban agriculture. There simply isn't anything else like this in North America.

The centre would also make us well-prepared for the future. Food is very important, and already people around the world are recognizing that how and where we grow our food is vital to our health and survival. Already more and more people are eating organically, and eating locally. We need to encourage this movement because in the future eating locally will not be a choice, it will be a necessity.

I'd also like to commend the City of Richmond for being forward thinking on issues of food security and sustainability. I noticed in the 2003 Agricultural Viability Strategy report (Section 3.7.2) that the city wants to develop and support initiatives which:

- Encourage residents to learn more about agriculture in Richmond and to support locally-grown agricultural products;
- Provide opportunities for communication and consultation between the farm and non-farm communities.

In Section 3.8.3, the report states the following objectives:

To develop and support initiatives which:

- Encourage farmers to achieve long-term economic success through growth and diversification;
- Provide opportunities for the Richmond agricultural industry to become a place of agricultural innovation and excellence often using pilot projects;
- Assist farmers to lower production costs where possible (e.g. improve drainage);
- Keep farmers up-to-date and informed about new agricultural opportunities and options for growth and diversification;
- Increase the demand for locally-grown agricultural products;
- Encourage agricultural support services and industry to locate in Richmond;
- Maximize the agricultural land available for agricultural production.

This is all very encouraging.

And in the 2005 State of the Environment Report I read that:

“Preservation of land for agriculture is the first and most important step in ensuring agricultural viability in Richmond. The establishment of the Agricultural Land Reserve by the provincial government has afforded a level of protection to agricultural lands from urban development. Richmond's Official Community Plan recognizes the ALR and the importance of agriculture as a contributor to the economy, a source of food, an environmental resource, and a heritage asset.”

I can not tell you how pleased I am to read that Richmond believes in the future of agriculture in our city, and that the city recognizes the importance of maintaining the ALR for farmland. I certainly hope that the two documents I just mentioned will continue to shape the planning of Richmond.

It seems to me that building the Urban Agriculture Research and Education Centre would support Richmond's visions of encouraging long-term economic success in agriculture, and encouraging agricultural innovation and excellence. It will also increase awareness of agriculture within the larger community, and increase the demand for locally-grown food.

It is rare that the goals of two institutions line up so precisely, and it is so exciting to know that both Kwantlen University College and the City of Richmond share the common goals of making agriculture a vital, viable, and sustainable part of our community. Working together we can adapt to this changing world and work towards a healthy, green future, and I believe that the Centre will help us achieve our common goals.

So on behalf of Kwantlen's Horticulture students, we would like to recommend that you:

A) accept the proposal and quickly work to make it happen (the sooner we can move towards food security, the better.)

B) secure land for the centre of an appropriate size, and in a location that will provide maximum benefit to Kwantlen students and the community at large. (it should be close to the urban centre, and close to the Richmond Kwantlen campus. I know it's a contentious issue, but the Garden City Lands would be perfect.)

C) In planning the centre, look to the wealth of expertise in our community for input. (students, instructors, Richmond residents, and so on.)

Again, thank you for listening, and I look forward to hearing about the progress on this.

Shane McMillan
Diploma of Horticulture Technology student, Kwantlen University College.
Richmond resident.