



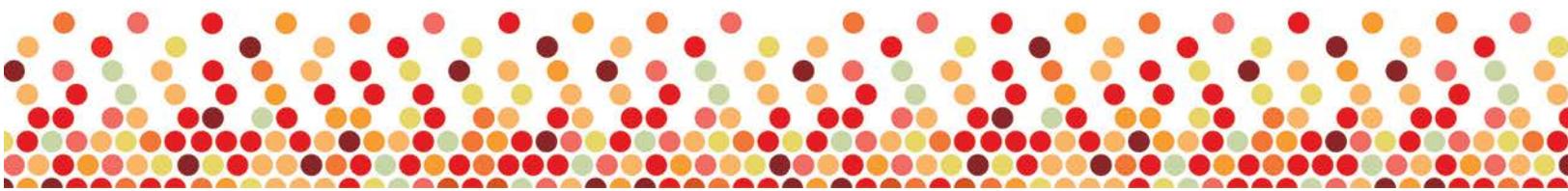
vineland
RESEARCH & INNOVATION CENTRE

Feeding Diversity

Bringing World Crops to Market

May 2015

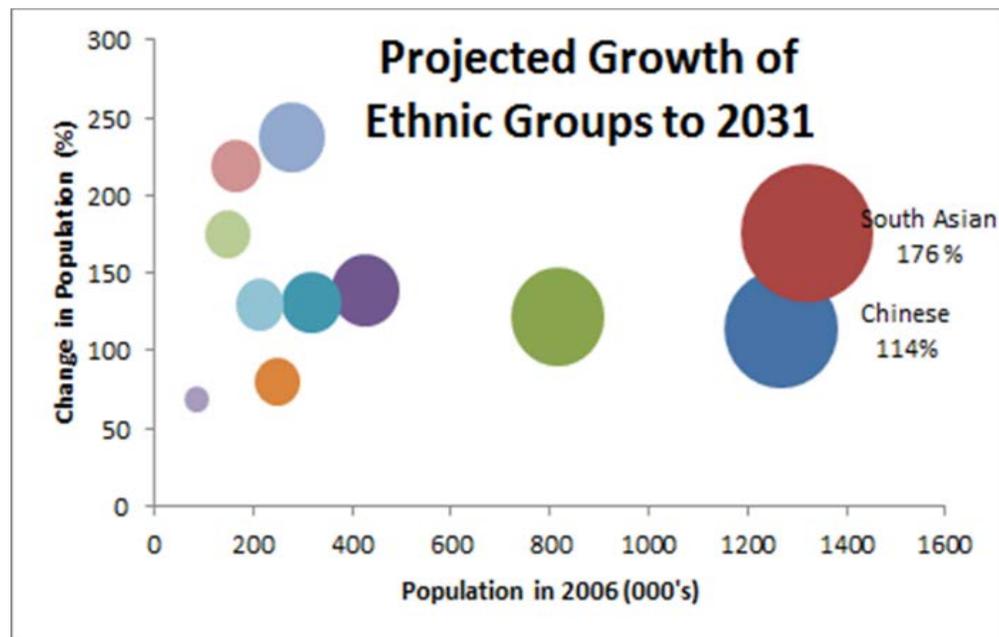
Dr. Michael Brownbridge,
Research Director,
Horticultural Production Systems



The opportunity

Canada has the highest per capita immigration rate in the world. Newcomers frequently settle in major urban areas where they seek out familiar foods from “home”. With this evolving consumer base comes a shift in purchasing habits and growing demand for different fruits and vegetables.

- Approximately 250,000 new immigrants make Canada their home each year.
- By 2017, visible minorities will be the majority in destination cities like Toronto.
- By 2031, South Asians will constitute the single largest ethnic group in Canada (Stats Canada 2010).



- In Toronto alone, new Canadians spend C\$61 million/month on fruits and vegetables.
- It is estimated that new Canadians will drive 70 per cent of growth in fresh produce sales.
- People of South Asian, Chinese and Afro-Caribbean heritage typically consume more fresh vegetables and spend proportionately more of their household income on fresh produce.

Food budget spent on vegetables:

- Chinese Canadian – 39 per cent
- South-Asian Canadian – 30 per cent
- Canadian – average 10 per cent
- Ontario – 7 per cent

Capturing just 5-10 per cent of this market represents a significant economic opportunity for Ontario growers, while a larger domestic market exists across Canada and in export markets in northern U.S. cities close to the Canadian border. Coupled with growth in demand for 'local' food and for more 'exotic' vegetables across the consumer spectrum, diversification can provide Ontario producers with profitable alternatives to conventional crops. In spite of this changing market, few 'world crops' are currently grown on a commercial scale in Canada and retailers rely on imported produce to meet their customers' needs. The ability to adapt production systems to supply the emerging ethnic market can provide Canadian vegetable producers with a profitable alternative to conventional crops and contribute to the long-term sustainability, profitability and competitiveness of Ontario's horticulture industry.

Vineland's 'World Crops' Research Program

To allow farmers to capture the full value of the opportunities that Canada's changing consumer market offers, growers need to know what to grow, how to grow it, what to expect (in terms of revenue) and how to connect to the retail sector supplying the market. This creates the context for Vineland's World Crops research program:

- Capitalize on the opportunity that immigration creates:
 - Develop production capacity.
 - Understand the market and consumers' needs.
 - Provide postharvest storage and handling recommendations to maintain freshness from field to fork.
- Connect the value-chain: buyers, growers, consumers.
- Crops in the field, produce in the grocery stores, Ontario-fresh produce for the end-consumers – profitable and sustainable.

"Businesses that can readily adapt to these changes in food preferences, as well as quickly develop new food products, stand to benefit the most from this growth."

"Canadians continue to be exposed to new foods, suggesting that the growth in ethnic food consumption could actually outpace the growth of the ethnic population."

***J.P. Gervais, Chief Agricultural Economist, Farm Credit Canada (FCC), Regina, Saskatchewan,
October 7, 2013***

The program began with two fundamental questions: Based on market demand, which crops can be grown? Based on market size and economics, which crops should be grown? This resulted in a sequence of production trials to identify appropriate crops and varieties. This was combined with research to determine market size and potential for growth, along with a series of consumer tests to confirm acceptance of 'Ontario-grown' produce and the development of a business plan to promote market access.

- Crops which can be grown include: okra, Indian red carrot, fuzzy melon, Chinese hot peppers, yard long beans, tomatillos, Daikon radish, Chinese long and Indian round eggplant.
- Trials at Vineland and with cooperating growers have allowed superior varieties to be identified, their commercial performance validated and recommendations for field production made.
- Preference for 'local' over 'imported' produce were demonstrated in side-by-side visual comparisons and in taste tests – looked fresher and taste was 'as good as' or 'better'.
- Many crops are sensitive to chilling and should be stored at around 10°C through the distribution system.



Asian eggplant and okra in particular are in high demand from the retail sector (in 2013, 5 million kilograms of Asian eggplant and 5.3 million kilograms of okra were imported into Canada) and are consumed by several ethnic groups. The program is now focusing on these crops.

To increase seasonal domestic production, the program includes:

- Activities to transfer research findings to growers and provide them with the technical foundation to transition their production systems.
- Continued evaluation of new varieties of okra and eggplant that exhibit desirable agronomic and consumer traits.
- Testing and validation of production innovations and best agronomic practices to enhance production efficiency.
- Acquisition of cost of production data to confirm the economic viability of these crops.
- Ongoing engagement with the grocery sector to create greater retail 'pull' and connect markets to growers.
- Connection to other Canadian provinces with similar demographic opportunities and established vegetable production infrastructure to allow their growers to capture segments of this growing market.

Towards Year-round Production

To overcome seasonal restrictions and create year-round supply of Ontario-grown Asian eggplant, the potential exists to produce the crop hydroponically. Currently, greenhouse vegetable production in Ontario encompasses three primary crops: tomatoes, peppers and cucumbers. Growth of these vegetables has become commoditized and product differentiation and diversification are critical to higher profit margins. Working with partners in the greenhouse vegetable sector, the program is addressing opportunities for greenhouse production of Oriental eggplant and will:

- Identify varieties that perform well in greenhouse hydroponic systems.
- Define cost-effective methods for greenhouse production.
- Ensure selected varieties deliver to the needs of the market.
- Confirm that systems are economically viable for the greenhouse industry.



Chinese long and Indian round eggplant harvested at Vineland.



Chinese long eggplant grown hydroponically at Vineland.

Vineland Research and Innovation Centre

4890 Victoria Avenue North, Box 4000
Vineland Station, ON L0R 2E0

tel: 905.562.0320

vinelandresearch.com

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