

# Saskatchewan Irrigated Vegetable Crop Competitive Analysis

## Summary of the Final Report from ICDC Steering Committee

October 2005

### I. Overview

A steering committee was established to do a competitive analysis study for irrigated crops. The committee included ICDC, The Food Centre, SAF's Crop Business Unit, The Canada Saskatchewan Irrigation Diversification Centre and SAF's Outlook Ag Business Centre.

After reviewing several categories of crops to consider for competitive analysis study, the category "vegetables" was selected. "Vegetables" offer irrigation opportunity, data is available even though a lot of work is required to assemble it and gaps exist, "vegetables" is not so well developed that competitive issues arise between local producers and increased local production will not significantly impact price (as it does with niche market crops).

#### Vegetables

The Saskatchewan vegetable industry has growth potential. What is the real potential that exists and where are Saskatchewan's competitive advantages?

We can take advantage of our image as a "pure" environment and enter the organic vegetable market in a larger capacity. There may be a niche market opportunity with "heritage" vegetables. There may be potential in vegetable processing which can include canning or bagging and freezing.

What are the challenges?

- Saskatchewan banks are not equipped to finance vegetable production equipment.
- Successful operations are usually third generation farms and few Saskatchewan residents have commercial vegetable growing experience.
- A quota system that regulates supply may need to be set up as in Manitoba.
- We have to fill labor shortages, possibly with migrant seasonal workers.
- A central organization with solid leadership must be in place. This organization must ensure a six month supply of produce to retailers to be competitive.
- Supportive policies and programs may be required by government.
- There is a lack of marketing skill amongst Saskatchewan growers.
- There is not a large food service market and restaurants do not like to deal with a supplier that can only supply a few items.

What are the next steps?

- Identify gaps in the market place and find out who needs our production.
- Meet with local processors and retailers to discuss local supply options.
- Try to attract experienced vegetable producers from outside Saskatchewan and Canada.
- Assess feasibility of one centralized storing and packing facility.
- Consider single desk selling.
- Explore niche markets and target specific clients.
- Explore supporting policies and programs and financial requirements.
- Advertise key market garden areas.
- Expand our migrant worker population and availability.



## Methodology (Research Design)

This project was conducted using several types of analysis. Quantitative data was collected from statistical sources (Statistics Canada, USDA) and compiled into graphical format for analysis and interpretation. Preliminary interviews were conducted via telephone and in person to gather qualitative data from the vegetable industry's perspective on its opportunities and challenges.

Members of the steering committee provided support, contacts and valuable expertise throughout the course of this project. Steering committee members were :

Catherine Folkerson, Manager, Food Industry Unit, SAF (Saskatoon)  
John Ippolito, Agri-Business Development Specialist, SAF ABC (Outlook)  
John Linsley, Manager, Irrigation Development, SAF (Outlook)  
Brian Sim, Business Development Specialist, SAF (Saskatoon)  
Jazeem Wahab, Manager, CSIDC (Outlook)

## II. Research Findings

### 1.0 Canadian Vegetable Industry Overview

- ◆ Total vegetable production in Canada in 2003 was 1,980,663 metric tonnes (excluding potatoes) and total potato production was 5,008,900 metric tonnes.
- ◆ The top four vegetables grown in Canada are sweet corn, green peas, beans and tomatoes.
- ◆ From 1993 to 2003, consumption of vegetables increased by 10% with Canadians consuming an average of 207.52 lbs of vegetables in 2003.
- ◆ 2003 total retail sales of fresh produce were \$4.9 Billion while total food service receipts totalled \$33 million, an increase of \$13 million over ten years. Industry consolidation continues to occur and there are several major grocery chains that control the Canadian Market.
- ◆ In 1997, vegetable exports (excluding potatoes) accounted for \$0.43 Billion and expanded to \$1.15 Billion in 2004 (165% increase over seven years). Potatoes and potato products were \$0.50 Billion in 1997 and \$1.10 in 2004 (118% increase over seven years).
- ◆ Canada's imports have also increased dramatically over the past seven years from \$1.49 Billion (excluding potatoes) in 1997 to \$2.18 Billion in imports in 2004 (46 % increase over seven years).
- ◆ Agriculture and Agri-Food Canada (AAFC) noted that the United States is our largest trading partner in both import and export vegetables. The remaining top countries importing Canadian fresh vegetable products were Japan, United Kingdom, France and Venezuela, while Canada imported fresh vegetables from Mexico, Netherlands, Spain and China.
- ◆ The average vegetable farm (excluding greenhouse operations) has also increased in size from 9 acres in 1981 to 14 acres in 2001.
- ◆ Greenhouse operations have more than doubled in size over the past ten years. In 2001, the Canadian total greenhouse area reached 197.5 million square feet, or 4,535 acres in size.
- ◆ Grocery stores continue to be the most common source to purchase vegetables in Canada.
- ◆ The top selling vegetables in Canada in 2005 were tomatoes, potatoes, peppers, carrots, lettuce, mushrooms, onions, cucumbers, broccoli and celery. Less common vegetables are becoming more appealing to consumers and saw growth in rappini, ginger root, peas, beans, yams, okra, peppers, asparagus, zucchini and squash.

## 2.0 Canada's Vegetable Production

Canadian vegetables are produced for two main purposes, **fresh market** or **processing (canned, frozen)**. Due to the large production volumes of potatoes in Canada, this vegetable crop is singularly analysed at the end of this section. To see the full analysis of vegetable production in Canada, download the full version [Saskatchewan Irrigated Vegetable Crop Competitive Analysis](#) report (885 KB PDF).

In Saskatchewan, the average number of planted vegetable acres was 362; top five crops were: sweet corn, pumpkins, cucumbers, beets and dry onions (Table 2.1). Manitoba reported 2,812 vegetable acres; top five crops were: carrots, sweet corn, cucumbers, pumpkins and peppers. Alberta reported 11,798 acres in vegetable crops; top five crops were: sweet corn, green peas, beans, squash and zucchinis and cucumbers. Canada reported an average of 290,011 acres; five top crops were: sweet corn, green peas, beans, carrots and tomatoes.

The average Canadian greenhouse operation covers three-quarters of an acre (or 2,670 square feet in area).

In Tables 2.2 greenhouse vegetable production and farm gate value are depicted. Ontario, British Columbia and Quebec were the largest producers of greenhouse crops in 2002 and 2003. It was noted that there have been problems with tomatoes in the past few years that are not depicted during this time period.

**Table 2.2 Canadian Greenhouse Production and Farm Gate Value (1993-2001)**

Vegetable	1993	1994	1995	1996	1997	1998	1999	2000	2001
<b>Farm Gate Value (\$ millions)</b>									
Tomatoes	61.8	63.9	81.5	115.0	140.2	213.5	255.9	287.7	349.8
Cucumbers	43.8	43.9	47.2	63.8	64.0	107.0	117.4	129.9	144.9
Peppers	15.8	12.6	16.4	24.7	43.6	34.4	43.0	61.2	64.5
Lettuce	8.0	11.1	9.0	7.3	10.4	12.9	13.1	15.0	24.9
Other	7.5	6.9	10.9	7.6	11.4	9.2	9.1	10.9	7.4
<b>TOTAL</b>	<b>137.0</b>	<b>138.6</b>	<b>165.1</b>	<b>218.5</b>	<b>269.6</b>	<b>376.9</b>	<b>438.5</b>	<b>504.7</b>	<b>591.5</b>
<b>Production ('000 metric tonnes)</b>									
Tomatoes	32.8	32.9	41.9	62.6	78.1	116.0	158.0	182.4	208.4
Cucumbers	40.2	43.1	42.2	56.5	60.6	82.2	89.7	100.6	115.1
Peppers	5.2	3.5	5.1	7.1	12.4	9.8	12.4	17.5	21.0
Lettuce	8.4	12.3	8.3	8.8	9.3	13.0	14.6	15.5	23.9
<b>TOTAL</b>	<b>86.6</b>	<b>91.8</b>	<b>97.5</b>	<b>135.0</b>	<b>160.4</b>	<b>220.9</b>	<b>274.7</b>	<b>316.0</b>	<b>368.4</b>

Source: 2002-2003 Canadian Vegetable Situation and Trends, AAFC, 2003

Two types of potatoes are commonly grown in Canada, seed potatoes and table potatoes. Canadian seed potatoes are well-known in the seed marketplace for their northern vigour and table potatoes are known for their quality and distinct flavours.

In Table 2.3, total Canadian seeded potato acreage for 2004 totalled 432,700 acres. Saskatchewan's percentage of Canadian seeded potato acres was 2.77%, Manitoba's percentage was 22.19% and Alberta's percentage was 13.40% respectively in 2004.

**Table 2.1 Total Vegetable Acres Planted-Canada and Select Provinces (Excluding Potatoes) Average 2002-2004.**

Vegetables	Total Acreage			
	SK	MB	AB	CAN
Asparagus	12	x	x	3955
Beans, Green or Wax	x	x	227	28308
Beets	17	x	x	2650
Broccoli	x	x	x	10358
Brussels Sprouts	0	0	2	1192
Cabbage	x	x	x	13493
Carrots	x	805	x	22900
Cauliflower	7	x	x	5952
Celery	0	x	x	1952
Cucumbers	27	162	100	11443
Leeks	0	3	3	x
Lettuce <sup>1</sup>	x	x	x	7967
Dry onions	15	x	x	12308
Parsnips	0	x	x	672
Green Peas	x	x	4013	42368
Peppers	5	43	3	4970
Pumpkins	32	88	97	6137
Radishes	5	x	x	x
Rutabagas/Turnips	7	x	x	4660
Shallots	5	x	x	1811
Spinach	x	0	x	1563
Squash and Zucchinis	x	x	162	5118
Corn, Sweet	158	755	5500	77045
Tomatoes	13	30	28	21037
<b>Total</b>	<b>362</b>	<b>2812</b>	<b>11798</b>	<b>290011</b>

Source: Statistics Canada- Catalogue No.22-003-XIB, 2004

Potato production in Canada totalled 5,170,900 tonnes in 2004. Even though Saskatchewan has developed the potato industry in the province, it is evident that both seeded acres and the number of tonnes produced is greatly below that of Alberta and Manitoba. Potato storage facilities currently exist within Outlook area, and thus, both seed and table potatoes are an obvious choice for expansion.

**Table 2.3 Canadian Potato Acreage and Production 2002-2004**

	2002		2003		2004	
	Area Planted (ac)	Total production (tonnes)	Area Planted (ac)	Total production (tonnes)	Area Planted (ac)	Total production (tonnes)
CAN	437600	4705200	457500	5282500	432700	5170900
NFLD& LB	700	5200	700	6800	700	5200
PEI	109000	1365300	106000	1268200	106000	1292100
NS	5500	54900	5300	50700	5500	56500
NB	58000	684000	59000	676700	58500	704900
QC	48900	456900	49900	527300	47200	561200
ON	43700	315900	44900	408200	40000	357300
MB	88000	838300	103000	1128000	96000	1033500
SK	13000	161600	13500	185700	12000	146100
AB	62000	708700	66000	913100	58000	904900
BC	8800	114400	9200	117800	8800	109200

Source: Statistics Canada, Catalogue 22-003-XIB, 2004

### 3.0 Canadian Imports and Exports

More current statistics from 2003 show that almost 98% of Canada's fresh tomatoes, peppers, mushrooms, cucumbers, onions, carrots, cabbage, lettuce, broccoli, cauliflower and celery were exported to various US States (excluding potatoes). During this same time period, the US also provided approximately 72% of Canada's imported fresh vegetables in lettuce, tomatoes, melons, peppers, carrots, onions, broccoli, celery, cauliflower, cucumbers and gherkins (excluding potatoes). Due to data discrepancies from other sources, the ten-year average is shown to ensure accuracy of information.

Total Canadian imports and exports have been steadily increasing over time. This growth trend correlates with increased consumption outlined in section 5.0 along with consumer demand as discussed section 6 of this document.

Canada still imports the majority of its fresh vegetable supply, due to growing factors and domestic demand exceeding supply for produce such as lettuce and tomatoes. Tomato exports have greatly increased, which can be attributed to the growth in greenhouse size and seeded field crop acres.

### 4.0 Canadian Retail Sales

According to Statistics Canada, Canadians were spending 30 cents of every food dollar on eating out in 2001. The average household spent approximately \$38/wk on restaurant food purchases and \$86 in food stores.

According to the USDA Foreign Agricultural Service in 2003, producer retailers reported approximately 20% of their department's sales as speciality items:

- Pre-Packaged Salads (9%)
- Fresh Cut Vegetables (5%)
- Fresh Cut Fruit (2%)
- Organic Products (2%)
- Home Meal Replacements (1%)
- Fresh Herbs (1%)

## 5.0 North American Vegetable Consumption

The United States consumes most vegetables in their fresh state. Consumption trends for fresh vegetables have remained steady over time as have consumption trends for processed vegetables. The most consumed processed vegetables are canned, followed by frozen, dehydrated and lastly chips.

Potatoes and tomatoes are a staple in the average United States diet. These areas continue to represent opportunities for Saskatchewan and Canada; production of these commodities has increased and is likely to continue to increase as the consumption for potatoes and tomatoes have also remained steady over time.

Canadian vegetable consumption is very similar to that of US consumption, with a few exceptions. Canadians consume slightly less vegetables per pound than our American counterparts; however, the trend continues for fresh vegetables as the greatest source of vegetable consumption followed by canned and frozen vegetable preparations. The average Canadian consumed 202.52 lbs of fresh and processed vegetables, a 10% increase from a decade according to Statistics Canada in 2001.

## 6.0 Consumer Demand for Vegetables

Vegetables and fruits are segments of the food industry that are showing incredible growth potential as consumers are becoming more educated on the benefits of healthy eating. Many studies show that consumers are more stressed, are increasing in age, many have two incomes with smaller family sizes. People perceive that they 'don't have time', and as a result are demanding more:

- Convenience Items
  - Fresh cut, prepared and washed vegetables such as mini carrots, pre-cut celery sticks, pre-cut lettuce, vegetable florets
  - Pre-selected and packaged peppers and cucumbers, garlic bulbs in mesh netting, asparagus sold by the bunch
- Snack/Single Serve Items
  - Baby (bite-sized) cucumbers, peppers, cucumbers, tomatoes
  - Unique snacking items such as pre-washed green beans, sugar snap peas
  - Smaller portion sizes for smaller families are increasingly present in grocery stores, including single serve items for single people.

Organic vegetables are also steadily increasing in demand; however, retail sales statistics range in value from \$100 million/year to \$1 billion in 2002. It is also projected that this segment has an annual growth rate of 15% per year. Younger consumers (under 25 years of age), along with people with slightly higher incomes/education and expectant mothers are the greatest consumers of organic foods.

## 7.0 Saskatchewan's Vegetable Industry Overview

According to Andrew Sullivan, former SAF Provincial Vegetable Specialist, Saskatchewan's vegetable industry was comprised of approximately 140 vegetable producers. 45 producers were reported as commercial table potato producers, an additional 5 producers are commercial in other crops, 50 growers (between one and ten acres) supply farmers' markets and another 40 operate market gardens in the province. The total number of producers also takes into account Hutterite colonies in Saskatchewan. There are several significant market gardening operations located within a small radius in Saskatchewan, such as Valley Road (Saskatoon), Outlook and Lumsden/Craven (Qu'Appelle Valley) due to water supply, irrigation infrastructure and other vegetable growing conditions.

According to SAF in 2003, there were 5500 acres of total vegetables grown in the province. Individual producer surveys completed for this project confirm that a variety of vegetable crops are grown in Saskatchewan. Producers stated that they were highly specialized in potatoes and onions (commercial), while other market gardeners grew products such as baby vegetables, cauliflower, Swiss Chard, squashes, pumpkins, corn, peas, beans, cabbage, carrots, spinach, melons, beets, edible pea pods, dill, parsley, lilies, gladiolas and dried flowers. Greenhouses operations grow tomatoes, cucumbers and peppers and are consistent with Canadian greenhouse trends.

SAF projects that the vegetable industry employs 900 full-time and 4,800 seasonal employees. Wholesale, retail, market gardens, farmers' markets, u-pick operations and consumer contract sales are the major markets in which to sell vegetables in the province. Keybrand Foods (formerly Delsa Foods in Delisle that produces commercial coleslaw, other salad blends) is currently the only major processing facility in Saskatchewan.

Currently, three vegetable brokerage firms based in Saskatoon import the majority of their produce from outside Saskatchewan for repacking and resale purposes. These firms may import vegetables due to the lack of consistent 12-month provincial supply, pricing and established relationships with current suppliers.

The following sections evaluate the Saskatchewan vegetable industry as compared to other neighbouring jurisdictions, namely Alberta and Manitoba. SAF identified seven key tactics in 2004 to grow and develop agriculture; these tactics form the basis of the evaluation below and tie in with the vision to become "Big, Green and Healthy" through value-added and large developments (example: primary, secondary and tertiary processing to assist in meeting 2025 goal of \$31 Billion in agricultural industry; currently at \$9 Billion).

### **7.1 Business Competitiveness**

Saskatchewan currently has a small commercial industry in comparison to Alberta and Manitoba (and Canada) in terms of business competitiveness. Potatoes account for the largest number of reported acres in 2004 at 12,000, while Alberta reported 58,000 and Manitoba reported 96,000 acres according to Statistics Canada. In terms of total seeded acreage, there is an opportunity to grow the number of acres (adequate irrigation infrastructure in some locations) to become more competitive both domestically and internationally.

Some interviewees suggested that following the Peak of the Market model in Manitoba with one firm representing many producers and one central storage/ packing facility. The reality of the vegetable industry is that like other industries, there are large, sophisticated players that understand their costs of production and their competitors' costs. Peak of the Market is strong and push people out; SK would have no problem selling to them when they have a supply shortage, but Peak would buy from its own growers first in any other situation.

It was suggested that Saskatchewan's processing opportunities are limited to niche markets that would be completely uninteresting to large players. Entrepreneurs are pretty good at identifying opportunities on their own; therefore, enterprises have to be small, fast and market savvy compared to slow-witted, slow-moving, slow-changing processing giants.

### **7.2 Market Presence**

Major Players such as Peak of the Market and the Red Hat Co-operative (Alberta) are well-established firms with large supply contracts, established markets and large growth in the past number of years. Saskatchewan will find it difficult to directly compete at a commercial level without significant capital investment and a strong marketing /producer group.

Market gardens and farmers' markets are similar to those in other Prairie Provinces; however a lack of market presence exists in and outside of the province. A lack of promotion makes many consumers unaware of the number of vegetable producers that exist in Saskatchewan. Word of mouth marketing assists in combating this trend, as one market gardener noted their customer base was shifting from traditional preservers to serious grocery shoppers from a larger city (shopping once a week). This same market gardener noted that customers are becoming more educated, with two income families wanting healthier, fresher vegetables rather than buying 'rotten lettuce' and other produce from grocery stores.

A Saskatchewan provincial branding and marketing strategy may assist in creating a presence for Saskatchewan produce.

### **7.3 Financial Tools**

Saskatchewan Crop Insurance introduced a pilot vegetable insurance introduced in 2005 as an acreage loss insurance program at 50, 60 or 70% coverage to manage risk associated with growing vegetables. Production is not measured; claims are paid only if the producer destroys the damaged acres. Crop Insurance must inspect acres prior to being destroyed. The producer is insured until harvest begins or the final coverage date for the insured crop, whichever date is first.



Insurance is based on four vegetable “baskets” with separate premium rates. Base value per acre is calculated using the combination of crops in the basket and the input values for each based on vegetable production survey data from the Canada-Saskatchewan Irrigation Diversification Centre as well as industry groups.

**\*Taken from: <http://www.saskcropinsurance.com/programs/2005/Specialized/vegetables.shtml>**

Other financial tools are required as it is becoming increasingly difficult over time to get into the commercial vegetable industry (centralized purchasing with significant volumes and supply required). Capital requirements to build a competitive commercial facility are in the seven-figure range. It was also noted by several respondents that vegetable operations are very capital intensive and banking systems are not well equipped to participate in debt financing. Some people who get into vegetables because they lost their grain farms, are undercapitalized and fail.

#### **7.4 Governance**

There are two organizations that represent the interests of vegetable producers in Saskatchewan: the Saskatchewan Vegetable Growers' Association (SVGA, formed in 1965) and the Saskatchewan Farmers' Market Co-operative (SFMC, formed in 1970s). These organizations are membership driven and some respondents felt that there was a lack of organization with these groups; leaders are on the sidelines (organization is 'slowing me down').

#### **7.5 Human Capacity**

The majority of respondents cited marketing as a problem area for their operation (Marketing vegetables has been difficult; SK is better at growing than selling vegetables (return to the grower is not there). Contrary to assumptions that labour is an issue, the majority of interviewees did not feel they had any issues with available labour. Many respondents also mentioned the migrant worker programs and some mentioned Shawn Hanson and Ben Epp as success stories with this program. Commercial operations did note that they had difficulty finding skilled labourers to run specialized equipment in a rural area.

#### **7.6 Regulations and Policy**

One respondent felt that trade rules make vegetable growing challenging and create inter-provincial trade barriers. This respondent noted particular issues with Manitoba dumping excess vegetable supplies into Saskatchewan as an example.

Wholesalers expect HACCP approved systems, guaranteed 6 month supply of product at the world price with consistent quality. Currently, SK growers are too far away from co-operatively working together to accomplish this at this time. Leaders may be interested in working together if common needs or concerns arose and weren't direct competitors.

#### **7.7 Innovations and Productivity**

It is understood that successful vegetable operations (in MB for example) are usually 3<sup>rd</sup> generation operations. Operations are rarely successful in their 1<sup>st</sup> or 2<sup>nd</sup> generation of growers. That being said, there may be merit in exploring opportunities by bringing in third generation vegetable growers from other countries (with innovative processes to improve productivity as an example).

### III. Conclusions

#### Opportunities for Saskatchewan

**Organic vegetables** may be an opportunity based on our pristine/pure environment. We require an isolated land base and good organic vegetable growers.

**Heritage vegetables** may also be an opportunity for Saskatchewan, but it would be a limited volume, high value crop most likely sold at Farmer's Markets.

**Vegetable Processing Opportunities** limited to niche opportunities that would be completely uninteresting to large players. **Federated Co-op** is looked upon by some as the only market access for Saskatchewan vegetable growers.

#### Advantages:

- Proximity to our own local markets; Saskatchewan products would be fresher, transportation costs lower.
- Starting small and focussed will allow growth to take place slowly (lessening financial pressures).
- Saskatchewan Farmer's Markets- the open market is advantageous because every \$1 goes to the producer.
- New Saskatchewan labour incentives helping operations.
- Seed potato production, breeding has been good.

#### Challenges:

- U of S research has determined that there is no real inherent production advantage compared to other provinces (exception isolation, although MB is pretty isolated).
- Vegetable operations are very capital intensive and our banking systems are not well equipped to participate in debt financing- security issues.
- Some people have gotten into vegetable production because they lost their grain farm- under capitalized and usually fail because of this.
- Successful operations (in MB for example) are usually 3<sup>rd</sup> generation operators. Operations are rarely successful in their 1<sup>st</sup> or 2<sup>nd</sup> generation of growers. History of AB and MB larger operations coming in and crushing new entrants in SK makes partnering/aligning with other jurisdictions very challenging.
- MB also has the advantage of a quota based system to regulate production (supply). SK's markets are scattered- only 2 main locations with smaller trading area.
- Outlook region (like rest of SK) has issues regarding available labour sources.
- Lack of organization with members of SVGA; leaders are on the sidelines.
- Wholesalers expect HACCP approved systems, guaranteed 6 month supply of product at the world price and consistent quality. Currently, SK growers are too far away from co-operatively working together to accomplish this at this time. Leaders may be interested in working together if common needs, concerns arose and weren't direct competitors.
- SK has some good producers, but lacks marketing skills. Farmer's markets are great for learning to sell to the individual consumer, but not into wholesale/retail markets.
- Food service could be an opportunity for an individual grower, but there are not too many high-end restaurants in SK that would care about where their produce comes from.
- Oliver Green's pumpkin model- could use this and try again with a different product; look at their challenges and successes.

#### Next Steps and Action Items for Discussion

See the [full version Final Report](#) for the next steps and action items proposed in this analysis.

