



BC School Fruit and Vegetable Nutritional Program in First Nations Schools  
Report on Evaluation 2011-2012  
July 30, 2012

# BC School Fruit and Vegetable Nutritional Program in First Nations Schools

## Evaluation Report

July 30, 2012

**Submitted to:**

BC Agriculture in the Classroom Foundation



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*“There is a lot of history of diabetes in First Nations communities and this really combats that, helps students develop healthy choices. If kids are hooked on sweet apples, juicy cucumbers and colourful peppers, that becomes a life choice for them. Ripple effect: the kids go home and tell their parents ‘this is what we’re eating at school, I’d like this at home’. Now you have the families taking part indirectly. That carries over, and the kids come to school with a snack that is apples.”*

[Principal, Sts’ailes Community School, BC]

## 1.0 Executive Summary

The BC School Fruit and Vegetable Nutritional Program (BCSFVNP) is funded by the BC Ministry of Health and administered by the BC Agriculture in the Classroom Foundation, with the help of a variety of produce partners.

The goal of the program is to:

*Improve the nutritional health of BC children by working collaboratively with produce partners to deliver fruits and vegetables directly to all BC schools.*

The program aims to deliver on six key objectives:

- For students: to increase the exposure to, willingness to try and acceptability of fruits and vegetables;
- For students and teachers: to increase awareness of local fruits and vegetables;
- For volunteers and coordinators: to increase the awareness of safe handling practices for fresh produce;
- To increase the availability of local fruits and vegetables in BC schools;
- To support the local economy (through business for farmers and distributors);
- To build relationships with produce partners and collaborate.

During the 2011 to 2012 school year, the BCSFVNP delivered fresh produce snacks to 1,253 K-12 public schools and 56 First Nations schools in BC, through a partnership with the First Nations Health Council and the First Nations School Association (FNSEA). Context Research was contracted to evaluate the program in 2011-12 school year, with a specific focus on the program implementation process and impacts in First Nations schools. This report details the evaluation methods and results, and highlights the successes and challenges of distributing produce and working with produce partners, the facilitators and barriers of implementing the program in First Nations schools, and the extent to which the program objectives were met. A discussion of the unintended benefits of the program is also provided.

Overall, the evaluation clearly shows that the BCSFVNP is having significant, positive impacts on First Nations schools and students. The program has made huge strides in achieving all of its objectives and is highly feasible and acceptable in First Nations schools. Notably, by the end of the school year, First Nations students were significantly more willing to try new fruits and vegetables and were significantly more accepting of fruits and vegetables than they had been at the start of the program. The students were repeatedly exposed to fresh fruits and vegetables snacks, and they realized the increase in availability of produce snacks at their schools. They recognized significantly more fruits and vegetables grown in BC, and had tried a significantly greater number of fruits and vegetables at school by the end of the school year, as compared to the start of the program.

In First Nations schools, the BCSFVNP is increasing teachers' and coordinators' knowledge of local fruits and vegetables and increasing safe produce-handling practices: 85% of teachers and coordinators stated that their knowledge of local BC produce increased, and 75% said that their knowledge of safe handling practices increased because of the program. Teachers and coordinators also told us that the program is highly feasible and entirely acceptable in First Nations schools. For local produce growers, we heard clearly that the program was profitable and allowed them to reach new markets. Further, the program has allowed them to collaborate with a wide range of suppliers and fostered new relationships among the range of involved produce partners.

Overall, the First Nations schools and students, as well as produce partners, benefit from the BCSFVNP. The program participants and champions recognize the importance of the program and are committed to the success and continuation of the BC School Fruit and Vegetable Nutritional Program.

## 2.0 Introduction and Background

The BC School Fruit and Vegetable Nutritional Program (BCSFVNP) aims to improve the nutritional health of BC children by delivering local fruits and vegetables to all BC schools. The BCSFVNP has been in operation since 2005, with funding provided from the BC Ministry of Health to the BC Agriculture in the Classroom Foundation (BC AITC).

In 2005/2006, AITC piloted the program in ten schools. During the pilot, each school received two servings of fresh produce over 32 weeks. The pilot evaluation<sup>1</sup> showed that students at the participating schools: (1) ate at least 5 fruit and vegetable servings per day; (2) ate one serving more than children at a comparison school; (3) increased their consumption to two servings if they previously only ate one; and (4) increased their knowledge of BC grown apples. Further, the evaluation showed that the program facilitators (e.g. teachers, suppliers and distributors) were very satisfied with the program and felt it aligned with their values. There were similar, positive findings in subsequent evaluations from 2007-2010.<sup>2,3</sup>

Researchers in other jurisdictions have evaluated similar fruit and vegetable snack programs, and reported on various outcomes.<sup>4,5</sup> Notably, in Mississippi, the evaluation of a state-wide snack program for students in kindergarten to grade 12<sup>6</sup> showed that at the end of the school year, participating students were more familiar with fruits and vegetables, had more positive attitudes towards fruits and vegetables, were more willing to try fruits and vegetables, and had increased their self efficacy to eat fruits and vegetables.

After a short hiatus, the BCSFVNP was renewed in the 2011 school year, with dedicated program funding from the BC Ministry of Health, and additional funding specific for extra produce servings at First Nations Schools provided by the First Nations Health Council. At this time, program stakeholders had lingering questions around how the program changed students' attitudes towards, and knowledge of, fruits and vegetables, and in particular, their willingness to try new fruits and vegetables (changes in this were viewed as potentially having a more lasting impact on healthy eating, than situational changes in fruit and vegetable consumption). As well, stakeholders were interested in continued and augmented evaluation with produce partners, to assess the impact of the program in the agriculture sector. Foremost, there was a general curiosity around how the program was received in First Nations schools, as 2011 was the first year that the BCSFVNP was offered to these schools. Thus, evaluation work to explore these issues was prioritized in 2011-12.

During the 2011 to 2012 school year, the BCSFVNP delivered fresh produce snacks to 1,253 K-12 public schools and 56 First Nations schools in BC (through a partnership with the First Nations Health Council and the FNSA). With help from more than 32 school volunteers and over 800 supportive produce partners, fresh fruit and vegetable snacks were provided every other week, 13 times in the school year, to 432,986 students (6.4 million servings).



Through the augmented funding provided by the First Nations Health Council, participating First Nations schools received 2 servings of produce (per student) every other week; public schools continued to receive one serving (per student) every other week. The BCSFVNP promotes BC-grown produce and provides business to 11 different suppliers, representing over 800 BC growers. Produce is distributed by the Overwaitea Food Group, Saputo Dairy Products Canada, Dynamex Couriers, Bayview Market, Papason Trucking Ltd, and other partners as needed.

During the fall of 2011, Context Research was contracted by BC AITC to design and deliver an evaluation of the BCSFVNP. Due to the job action in public schools, and to meet the need for reporting to the First Nations Health Council by July 2012, the evaluation team focused on the process and outcomes of implementing the BCSFVNP in First Nations schools from January – June 2012. The purpose of this report is to provide an overview of the evaluation methods used, and to demonstrate the process- and impact-related outcomes of the BCSFVNP in First Nations schools.

### 3.0 Program Goals and Objectives

The goal of the BCSFVNP is to *improve the nutritional health of BC children by working collaboratively with produce partners to deliver fruits and vegetables directly to all BC schools.*

#### Objectives

The BCSFVNP works towards the following objectives:

- For students: to increase the exposure to, willingness to try and acceptability of fruits and vegetables;
- For students and teachers: to increase awareness of local fruits and vegetables;
- For volunteers and coordinators: to increase the awareness of safe handling practices for fresh produce;
- To increase the availability of local fruits and vegetables in BC schools;
- To support the local economy (through business for farmers and distributors);
- To build relationships with produce partners and collaborate.



## 4.0 Evaluation Framework and Methods

### 4.1 Evaluation Framework

To evaluate the BCSFVNP, Context developed a logic model, evaluation framework and timeline (Appendix A). We developed the logic model with input from the program stakeholders (Appendix B). Further, we structured the evaluation framework around the BCSFVNP objectives to ensure that the evaluation was relevant and tailored to the program activities. The evaluation framework includes evaluation activities to assess both the process and outcomes of the program. We used the process evaluation to understand the course and context of implementing the BCSFVNP in First Nations Schools. These findings afforded insight into the successes and challenges of implementing the program, and helped us develop recommendations for similar programs. We used the outcome evaluation to assess whether the BCSFVNP objectives were met.

### 4.2 Evaluation Activities

The program evaluation activities were implemented between January and June 2012, to assess the BCSFVNP in First Nations schools.

#### *Baseline and Follow-up Surveys for Students*

We conducted baseline and follow-up surveys with students in grades 3 through 12 at First Nations schools that started the BCSFVNP in January 2012 (Appendix C). The survey was used to assess changes in:

- (1) willingness to try fruits and vegetables (i.e., food neophobia)
- (2) actual fruit and vegetables tried at home and at school
- (3) acceptability of fruits and vegetables
- (4) knowledge of local fruits and vegetables
- (5) perception of availability of fresh fruits and vegetable snacks in the school environment

**Willingness to Try:** We designed the survey by integrating adaptations of surveys previously validated in a school-age population in BC with newly developed segments to address our unique survey needs. To measure 'willingness to try', we used a modified version of the Food Choices Scale for Children,<sup>7</sup> which was originally drawn from the validated Food Neophobia Scale<sup>8</sup> and the Food Neophobia Scale for Children.<sup>9</sup> The Food Choices Scale was adapted (in Action Schools! BC) to focus specifically on fruits and vegetables; within the BCSFVNP evaluation we made small changes to keep the items focused on local fruits and vegetables (i.e., the items relating to fruit and vegetables from other countries were not relevant and therefore removed), and one item was re-worded to focus on willingness to try fruits and vegetables within the school environment (as opposed to at a friend's house). The resultant scale had 7 items, each receiving a score between 1 and 7; scores were cumulated into a single 'willingness to try' (neophobia) score, where higher scores were related to a higher willingness to try fruits and vegetables. We used a paired samples t-test (SPSS 16.0) to compare the mean 'willingness to try' scores at baseline and follow-up.

**Actual Fruit and Vegetables Tried:** We assessed changes in the fruit and vegetables students' had tried using a picture checklist of fruits and vegetables that included all items available through the BCSFVNP (10 items), as well as four additional items that were deemed commonly available in BC. We asked students to check items that they had tried at home, and those that they had tried at school. We used a paired samples t-test (SPSS 16.0) to compare the mean number of fruit and vegetables tried at baseline and follow-up, for both home and school.

**Acceptability:** We adapted the Knowledge, Attitudes and Perceptions survey<sup>7</sup> to assess feelings about fruits and vegetables (affect score), and perceptions of the social environment related to fruits and vegetables (perceptions score). We reduced the survey to include 3 items relevant for 'affect' and 2 items relevant for 'perceptions of the social environment'. The scores for these items were cumulated within the

two measures, and were considered within our interpretation of 'acceptability' of fruits and vegetables. We used a paired samples t-test (SPSS 16.0) to compare both the mean 'affect' and 'perceptions' score at baseline and follow-up.



#### **Knowledge of Local Fruits and Vegetables:**

We assessed changes in knowledge of local fruits and vegetables through a picture checklist (similar to 'actual fruit and vegetables tried', above), in which students were asked to check fruits and vegetables that they thought were grown in BC. Resultant scores represented the number of fruit and vegetables that they correctly checked. We compared mean scores at baseline and follow-up with a paired samples t-test (SPSS 16.0).

Further, we asked students, '*Do you think it is better to buy and eat fruit and vegetables grown in British Columbia?*' The number of students answering 'yes' and 'no' at baseline and follow-up were compared using descriptive statistics.

**Perception of Availability:** We asked students about how they perceived the availability of produce snacks at baseline and follow-up (via a frequency scale), and examined the percent of students answering at each level of frequency.

Surveys were tested and refined with children in the target age range (grades 3 through 12), and with our partners at the FNSA and Ministry of Health, prior to being implemented in the schools.

To help with data collection, the evaluation team provided coordinators and teachers with survey instructions (Appendix D). Teachers and coordinators assisted with the implementation of the surveys by:

- Distributing surveys to all classrooms
- Allocating class time to conduct the surveys (approximately 10 minutes), and administering surveys item by item with students
- Informing students how to complete the surveys
- Working one on one with younger students to complete the survey
- Mailing the completed surveys to the evaluation team.

Of the 20 schools that received the baseline survey in January 2012, 12 schools completed and returned surveys (for a student sample of n=365). We targeted students at these 12 schools for completion of follow-up surveys (June 2012). Seven schools returned completed follow-up surveys, for a final sample of 160 students who had both baseline and follow-up surveys completed.

#### ***Interviews with Produce Partners***

In March 2012, we conducted 12 interviews with BCSFVNP growers, processors, and distributors. The purpose of the interviews was to gather information on new or strengthened relationships, increased business, the benefits of the program and the provision of information and support to implement the program. Interviews were conducted over the phone using a semi-structured interview guide (a sample

interview guide is provided in Appendix E). Interviews were audio-recorded and ranged in length from 10 to 25 minutes. The full list of interviewees is provided in Appendix F.

### ***Interviews with First Nations Partners and Champions***

In June 2012, we conducted 11 interviews with First Nations partners and champions. The Executive Director at BC AITC and the Director of First Nations Schools Initiatives at the FNSA helped us identify some of the partners and champions, including First Nations school principals, BCSFVNP coordinators at First Nations schools, and FNSA board members. Interviews were used to understand the successes and challenges of implementing the program in First Nations schools, the extent to which the program is acceptable and feasible in First Nations schools, and their perspectives on the program benefits (interview guide provided in Appendix G). Interviews were audio-recorded and ranged in length from 10 to 20 minutes. The full list of interviewees is provided in Appendix H.

### ***Direct Observation and Student Discussion Groups***

To observe the program in action, we visited Wagalus School (Port Hardy), Sts'ailes Community School (Agassiz) and Stu"ate Lelum Secondary School (Ladysmith) during the spring of 2012. The evaluation invitation letter is provided in Appendix I. To gather objective information during the visits, we developed an observation tool to record the process of distributing produce, document the number of servings returned to the coordinator or wasted, and capture testimonials or quotes from students, staff and/or the BCSFVNP coordinator (Appendix J). At these three schools, we conducted several brief interviews with school staff and program facilitators (including the Saputo truck drivers, school coordinators, principals, and teachers) to gather perspective on program implementation and the achievement of the program objectives, held short discussion groups with 4-7 students per group (discussion guide in Appendix K) and collected photo and video footage to document the program in action.

### ***Electronic Surveys with Teachers and Coordinators***

We developed an electronic survey to collect data regarding teachers' and coordinators' experiences and satisfaction in implementing the program at First Nations schools (Appendix L). We used the survey to gather information on program implementation (e.g. confirm that produce is received and distributed), capacity to implement the program, increased awareness of safe handling practices, enhanced relationships with AITC, and perspectives on increased availability of fruits and vegetables in the school environment.

Near the end of the school year, AITC promoted the survey by sending an email with a link to the survey to program coordinators, principals, teachers, FoodSafe contacts and volunteers at all 56 participating First Nations schools. A reminder email was circulated 2 weeks later. The incentive for survey completion was entry into a draw for a \$50 Chapters gift card.

In total, 60 teachers, principals and coordinators completed the online survey. We analyzed the one-time survey using descriptive statistics.

### ***Interviews with AITC***

In June 2012, we conducted four, 30-minute phone interviews with AITC staff to learn about the successes and challenges of implementing the program in First Nations schools. We used the interviews to learn about distribution logistics, building relationships with schools and suppliers, and successes and challenges of the program. We used a semi-structured interview guide (Appendix M), and audio-recorded the interviews.

## 5.0 Program Implementation Process in First Nations Schools

We examined the process of implementing the program to understand if the BCSFVNP was feasible and acceptable in First Nations schools. We also examined what was facilitative and challenging, across two key implementation areas: building and maintaining relationships, and distributing produce.

### 5.1 Feasibility and Acceptability of the Program in First Nations Schools

#### *Program Feasibility*

The feedback we gathered from the teachers and coordinators via the electronic survey showed that the program was feasible for First Nations schools to implement. For example, when we asked them how the program could be made easier to run, over 60% said that nothing needed to change ... the program was easy to implement. Comments from teachers and coordinators from a variety of schools included:

*“I do not see any problems with the program so I have no suggestions.”*

*“Everything went as planned. Was a great program.”*

*“It is currently very simple and efficient.”*

*“The program practically ran itself....I was very pleased with it.”*

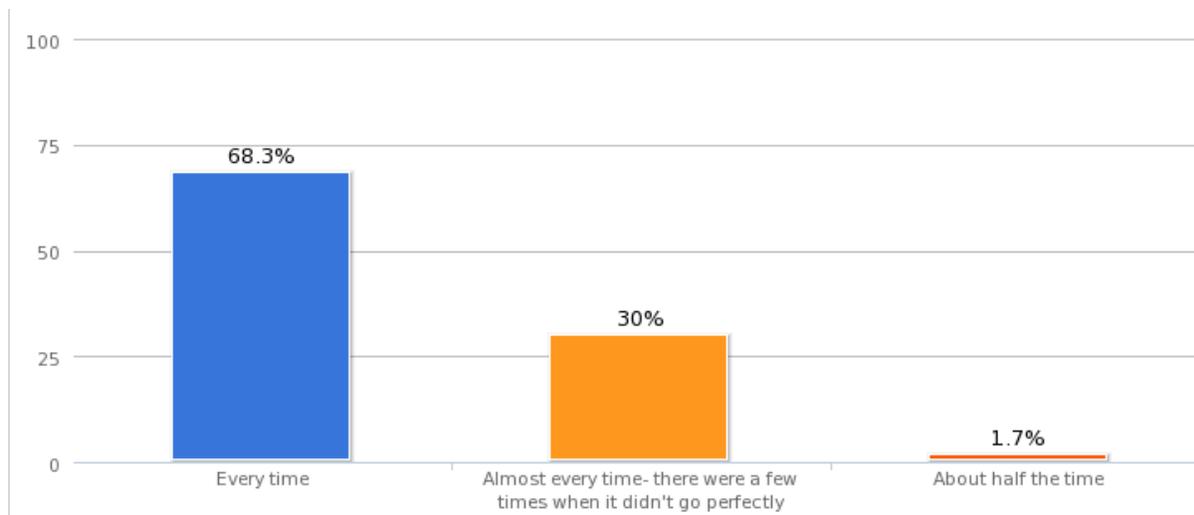
*“We are very pleased with the ease of the program.”*

*“I think that you guys have covered a lot! Very impressed with the way things run. Way to go!”*



Further, they reported that the program was implemented as planned every time (68%) or almost every time (30%) (Figure 1). This clearly provides evidence that the program was easy, and feasible, for the schools.

Teachers and coordinators provided a few suggestions on how to enhance, rather than improve, the feasibility of the program. For example, they recommended providing fridges for each classroom, circulating recipes and sending reminders about the monthly logs. A few coordinators also commented about individual barriers that impact the feasibility of the program in their school (e.g. lack of time and not having enough help within the school).



**Figure 1: Extent to which the program is implemented as planned**

### ***Program Acceptability***

Our survey data from teachers and coordinators clearly showed how positively the program was received. They were satisfied with the all aspects of the program (between 98 and 100% of respondents were 'highly satisfied' or 'satisfied' with produce quality, variety, volume, delivery, distribution, and packaging). Further, when asked if any changes were needed to make the program more acceptable for First Nations schools and students, over 50% of the teachers and coordinators said "no." Several even provided positive comments about the program. Teachers and coordinators indicated that students generally were excited and enthusiastic about produce deliveries (Figure 2).

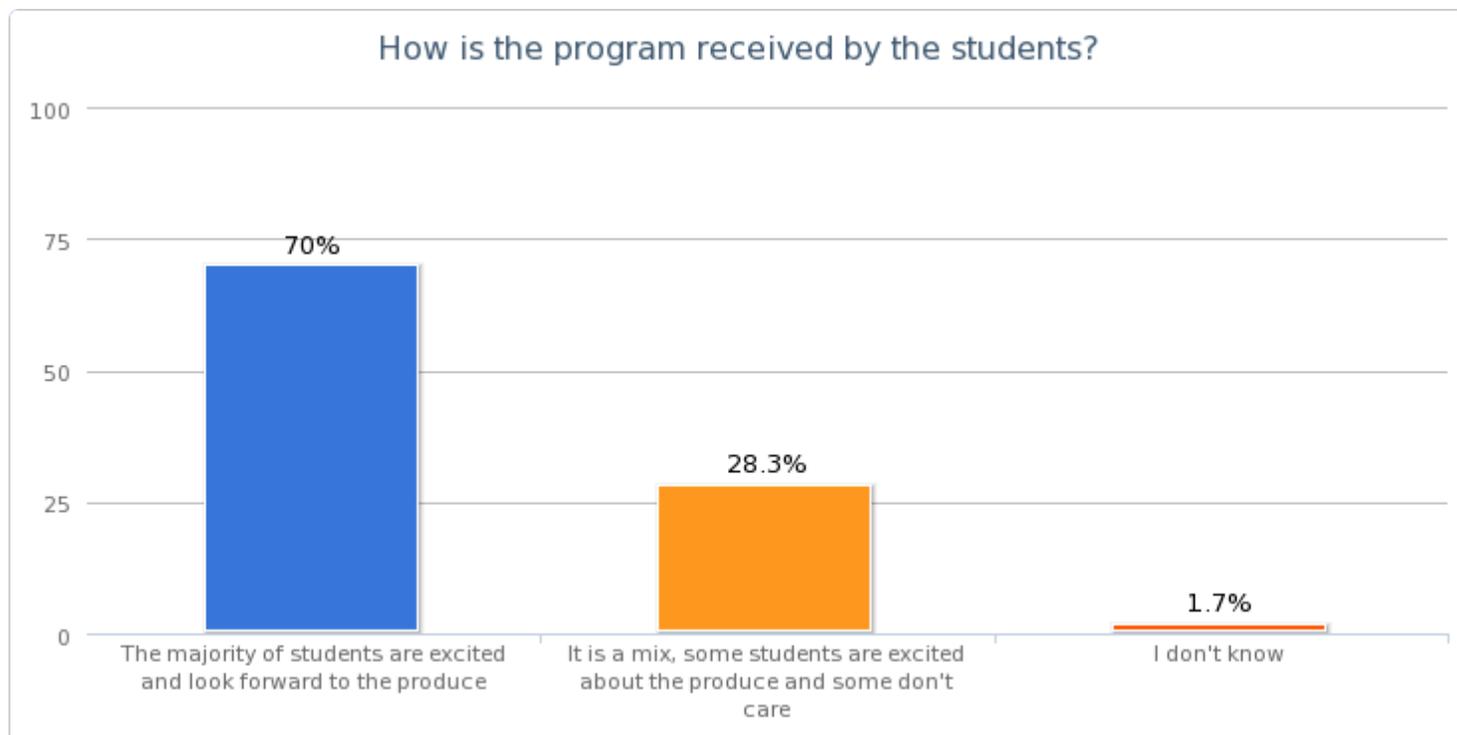
*"We like this program a lot and really appreciate it :)"*

*"The program was very acceptable for First Nations students."*

*"We appreciate all the produce and feel the program has been wonderful."*

*"We are doing really great with it."*

Teachers and coordinators provided some recommendations on how to enhance the acceptability of the program. For example, they suggested enhancing the educational materials (e.g. providing colouring sheets and developing resources specific to science or math), and providing a wider variety of produce.



**Figure 2: Teachers' and coordinators' perceptions of how the program was received by students at First Nations schools**

## 5.2 Building and Maintaining Relationships with First Nations Schools

### *Facilitating Factors for Building and Maintaining Relationships*

Several factors facilitated the process of building and maintaining relationships with the First Nations schools. These factors largely related to the activities and efforts of the AITC team (e.g. to connect with the schools and establish a personal relationship) and the receptivity of the First Nations schools and the FNSEA.

**The AITC staff warmly welcomed the First Nations schools to the program.** The AITC staff members noted how keen their organization was to have First Nations schools on board. They discussed how they made extra efforts to engage with the schools on a one-to-one basis and ensured that each school's needs were met. Further, AITC talked about how they personally reached out and engaged the hard-to-reach schools.

*"We were so keen to have [First Nations schools] involved, we engaged more so on the phone with them. Our own enthusiasm to finally have the First Nations on made it very personal."* [AITC Program Coordinator- Logistics]

*"With public schools, I only communicate once every two weeks... [but with First Nations schools, we] check in more often: "Do you have this?" "Have you seen that?" "Did you get a chance to use this resource?""* [AITC Program Coordinator: School Liaison and Communications]

*"Quite a few hard to reach schools [public and First Nations] don't even bother to apply because they figure no one reaches them, so we couldn't possibly either. When we talk to them and tell them 'listen we are reaching places on float planes*

*and barges... they really are quite surprised.” [AITC Program Coordinator: School Liaison and Communications]*

**First Nations schools keenly embraced the program.** AITC staff members discussed how enthusiastic, appreciative and receptive the First Nations schools were towards the program. They felt that the schools’ positive attitudes and belief in the program made it easy for AITC to connect with them and build relationships.

*“I’m amazed at how many [First Nations schools] came on and how seamless it was for them. I think they have really embraced the idea ...they are just really so thrilled to have this.” [AITC Program Coordinator- Logistics]*

*“The First Nation schools are really open to introducing new things to their communities.” [AITC Program Coordinator: School Liaison and Communications]*

*“First Nations schools are so easy to work with. They are so appreciative of what we are doing.” [AITC Executive Director]*



*“What is so refreshing is that everyone, from top to bottom, inside and out, no matter what tier of the program you touch, they all see the benefits.” [AITC Executive Director]*

As previously shown in Figure 1 and Figure 2, the teachers and coordinators were highly satisfied with the feasibility of the program and students received the program very positively.

**AITC developed key partnerships.** AITC staff noted the importance of working with the FNSA. They were instrumental in providing guidance on how to manage and move forward with the First Nations schools, as well as helping to make contact with individual schools. This support and information paved the way in building and maintaining relationships with the First Nations schools.

**The First Nations Health Council supported and validated the program.** AITC staff members spoke about the important financial support the program received from the FNHC (e.g. funding for a second serving of produce each week and funding to ship fridges to remote First Nations communities). The support ensured that students in First Nations schools had more consistent access to fresh produce that was not always available in their communities or schools. The recognition of the value of the program by the FNHC was also important in positioning the program to First Nations schools that were considering signing up.

**AITC provided cultural sensitivity training for its staff.** AITC staff noted that learning about First Nations culture was important to developing the relationships with schools and school staff. The cultural sensitivity training helped ensure that AITC staff were successful and respectful when working with First Nations schools. The training made AITC staff feel confident and comfortable when working with the schools.

### ***Challenging Factors for Building and Maintaining Relationships***

AITC staff members identified a few factors that made it hard to connect with First Nations schools. Although these factors did not prevent them from building relationships, it meant that they had to be creative, or try harder, to make linkages and connections with schools.

**There were technological challenges in remote communities.** AITC staff members discussed the challenges they experienced with unreliable internet and phone connections with some remote First Nations schools. This made it challenging to connect with them on a regular basis.

*"I send out e-mail once every two weeks, we have the school log-in page, but none of that works if the internet isn't working."* [AITC Program Coordinator: School Liaison and Communications]

**Building trust with First Nations schools happens slowly.** An AITC staff member noted that it took a while to build trust with some First Nations schools. However, AITC's commitment and dedication to delivering produce to their schools eventually facilitated the process of building trust.

*"It has been slow to receive comments, positive or negative. I don't think we heard from any of the schools during the first six months. It's only in the latter part of the school year that the comments have started to trickle in. I guess now we've earned their trust. We are consistent in our deliveries and we care that [the deliveries] get there on time and we contact [the schools] when something's gone astray. So I think the trust is definitely building."* [AITC Program Coordinator: School Liaison and Communications]

**Some First Nations schools have difficulty in meeting program requirements.** One AITC staff member commented that it was hard for some remote communities to meet program requirements such as obtaining their FoodSafe certificate. Access to training programs, resources and technology is limited in many remote First Nations communities.

### 5.3 Distributing Produce

AITC puts a significant amount of time, energy and effort into distributing produce efficiently and effectively. The distribution process involves transporting fresh produce to schools across the province with the help of BC growers, processors and carriers (Figure 3). The process is described below.

**Getting Schools on Board:** AITC annually invites new schools to sign up for the BCSFVNP. To qualify, schools must meet the program requirements which include having a FoodSafe certified volunteer or coordinator, providing a refrigerator, and distributing produce in the classroom. Using the BCSFVNP website, AITC notifies schools of their delivery dates and the produce they will receive. At the end of each year schools are asked to complete a program update form which allows them to participate in the program the following year.

**Getting Growers and Processors on Board:** Each year AITC invites new BC growers and processors to submit an application to supply produce for the program (in addition to the growers and processors that are already participating). AITC annually reviews the applications and selects growers based on their ability to supply enough volume and variety of produce. Once a grower is on board, AITC lets them know which week they will provide produce and how much is needed. The processors package the produce accordingly.

**Working with Overwaitea and Carriers:** Overwaitea procures produce and delivers it to their distribution centre, EV Logistics, in Burnaby. EV Logistics distributes the produce to Overwaitea stores across the province (the first leg of the distribution chain). From there, carriers pick up the produce and transport it to schools.



THE BC SCHOOL FRUIT AND VEGETABLE NUTRITIONAL PROGRAM



Figure 3: BCSFVNP distribution process poster (numbers accurate as of January 2012)

**Facilitating Factors for Distributing Produce**

**Good will, enthusiasm, and belief in the program.** All AITC growers, processors and carriers spoke about the benefits of the BCSFVNP. They talked candidly and enthusiastically about the important social, health, educational and economic benefits of the program. The belief in the program, along with AITC’s enthusiasm, fostered a sense of good will and commitment to the program, which in turn facilitated ease of participation in the distribution process.

*“There was a lot of goodwill out there because of the nature of the program itself... most of the folks I deal with have families, they have children, so they can really relate to this.” [AITC Program Coordinator- Logistics]*



*“I think that [enthusiasm] fosters the relationship with growers and processors and carriers, they feel that, they sense that.” [AITC Program Operations Manager]*

**Regular and personalized communications.** AITC discussed how they make extra efforts to communicate regularly with the carriers to facilitate the delivery process (e.g. type of produce and number of boxes). Regular communication allowed the team to actively work with the suppliers to resolve distribution issues and build trust.

*“E-mail does not replace communications. Pick up the phone. We have a really good team, but it’s because we know them, know their routes, know what their day looks like, then try to make their day easy... Work with what’s on the ground.” [AITC Logistics Program Coordinator]*

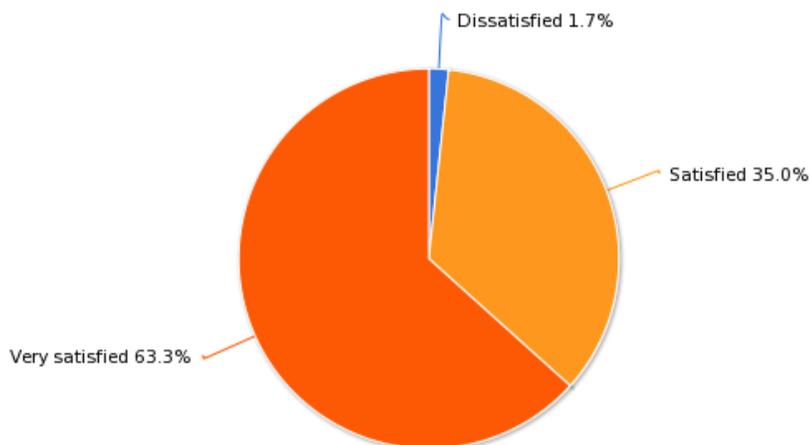
*“We’ve learned to trust their abilities, and they have learned to trust our abilities.” [AITC Executive Director]*

**An effective logistics model for distribution.**

When we talked to the BCSFVNP carriers, growers, and processors, it was clear that the produce partners believed that the distribution process was well-organized. Three carriers and Overwaitea stated that the process of getting the produce from the distributor to the schools is very efficient and effective. This is largely due to the positive relationships that were built between the carriers, Overwaitea and AITC. Further, the schools were very satisfied with the distribution process, and indicated as much in our survey with teachers and coordinators (Figure 4).



How would you rate your satisfaction with the delivery of produce?



**Figure 4: Teachers' and coordinators' satisfaction with produce delivery to schools**

**Established, broad relationships.** Three AITC staff members highlighted the importance of building relationships with community members and schools to distribute the produce. These relationships were particularly important in remote communities where it was not always possible for carriers to deliver produce directly to the schools. Further, the benefit of these relationships is that the broader community learns about the importance of eating fresh produce.

*“We have a teacher who will pick up the product and take it the rest of the way [to the school] which is another hour in for her.... That relationship is more intimate than you would have with another teacher, because you’re doing that one-on-one all the time.” [AITC Program Coordinator- Logistics]*

*“Some First Nations schools have felt that they are cut off from the rest of BC. What I really like is that we are making inroads to reach them and create relationships, not only with our drivers and us, but also within their communities. The volunteers who are driving down to the store are creating relationships with that store. And in creating that relationship, they are taking that information back to their community and saying “listen, it’s only an hour drive and you should see all the produce they have, maybe we should make shipping trips?” It’s building long lasting relationships, even past the point where this program isn’t running.” [AITC Program Coordinator: School Liaison & Communications]*

### ***Challenging Factors for Distributing Produce***

**Distance, time, and conditions encountered when travelling to remote communities.** The AITC Logistics Program Coordinator discussed the challenges carriers experience when delivering produce to remote communities. For many carriers, the time it takes to travel to communities falls outside the legal limits for driving. As a result, the program relies on volunteers to help deliver produce to schools. Although this helps resolve the issue of getting produce to the schools, it presents challenges. For example, AITC heard of situations where the produce was left un-refrigerated for long periods of time at the drop off location (e.g. at the band office) resulting in food safety concerns. To address this problem, AITC provided more program funding support to ensure carriers can deliver produce directly to the schools.

*“One of the barriers, for the drivers, was trying to get in to do these locations. [The communities] are often down a long dirt road that takes a lot of time and a lot of wear and tear [on vehicles]. To be honest, we could increase their drop fee a bit, because they do have to go out of their way... There is a reason why they don’t have fresh produce in some of these locations. It’s too far and for some of these drivers, it’s beyond their legal limit for driving.” [AITC Program Coordinator- Logistics]*



**Deliveries are time sensitive.** The AITC Logistics Program Coordinator discussed the challenge of delivering fresh produce to remote communities. She commented that it can be hard to keep produce fresh especially when it has to trade hands many times and travel over long distances. This can compromise the quality of the produce.

*“You have to be on your game. Because the truck goes there once a week, you can’t miss the truck... a New York moment might be fast, but a country moment is a must.”* [AITC Program Coordinator- Logistics]

**Lack of distribution outlets.** The AITC Logistics Program Coordinator told us that many of the remote communities do not have an Overwaitea distribution outlet in close proximity. To overcome this challenge, AITC has built relationships and developed links with local retailers in the remote communities.

*“Sometimes the locations were not close to partners, such as Overwaitea foods. This has been resolved by closer ties to local retailers.”*

*“For example, on the Queen Charlottes, we used to get [produce] to the Prince Rupert (Overwaiteas) then they would put it on the barge and ship it over. This was not a quick way to do it... Now, we have a local grocer, she has all her produce brought over [on the ferry], but it’s done quickly, it’s done in temperature controlled vehicles, just like any supply to a retail store. And once it’s there she kindly gets it up the island... she [also] takes it up to a little float plane that goes over to Sandspit.”* [AITC Program Coordinator- Logistics]

## 5.4 Recommendations Around Program Process

The AITC staff and program partners offered a variety of suggestions on how to enhance the program.

**Continue the enhanced program in First Nations Schools:** First Nations schools have clearly indicated that the program is making a significant impact on their students. Given that many First Nations schools are located in remote communities, where it is hard to access quality fruits and vegetables, it is essential that this program continue to provide produce for students. Further, since the program is going the distance to deliver the produce, it makes sense to continue to provide a second serving of produce.

**Expand the program:** Produce partners suggested expanding the program nationally, having growers visit classrooms to teach students about local food production, offering other food stuffs (e.g. high protein food and dairy) and using local markets to purchase produce in remote areas of BC (rather than spending money to transport fruits and vegetables).

**Enhance the feasibility in remote First Nations schools:** The AITC team provided suggestions on how to further enhance the feasibility of implementing the program in remote First Nations schools and communities. For example they suggested providing paper copies of resources (e.g. delivery schedules) to make it easier for communities that struggle with phone and internet connections.

**Build broader community connections:** The AITC Programs Operation Manager suggested making linkages and connections with First Nations band offices to attract more schools to participate in the program. She discussed how these connections would enable the program to better understand each community’s needs.

**Encourage produce partners to promote the program:** Two AITC staff members discussed their desire for Overwaitea to publicly promote their involvement with the program. The AITC staff suggested that Overwaitea’s support would further enhance and strengthen the program.

## 6.0 Program Outcomes - What Changed?

Within the next six sections, we examine the extent to which the desired program outcomes were realized in the program's first year in First Nations schools.

### **Outcome 1                      Increased exposure to, willingness to try, and acceptability of fruits and vegetables for students.**

We heard clearly from teachers, principals and coordinators that the BCSFVNP increased First Nations students' exposure to, willingness to try, and acceptability of fruits and vegetables. At our school visits, we observed that students (along with teachers and school staff) were excited and enthusiastic about the program and the fresh produce they received.

#### *Exposure and Willingness to Try*

It is notable that eleven First Nations champions told us specifically that the BCSFVNP was increasing students' willingness to try fruits and vegetables. The literature shows that multiple exposures to a food increases children's willingness to try it<sup>10</sup>, and this certainly played out in the BCSFVNP in First Nations schools. We know that there was increased exposure to fruits and vegetables through this program, through the effective distribution process: all deliveries reached their target, therefore students at participating First Nations schools were exposed to fruits and vegetables 26 times over the school year. Five champions noted that some children were initially apprehensive to try some produce, however, the continued exposure to the program increased their willingness to try. Champions recognized that the continued exposure allowed the children to develop their palates, take risks and decide what snacks they like.



*“Some of the stuff, [it’s] not part of their everyday diet. Some we haven’t been able to get them to try it. Others have tried it and decided they like it, some of them tried it and said that’s not for me.”* [Principal, Jean Marie Joseph School]

*“Yes, absolutely. The kids are willing to try new things, they might not always like but at least they are willing to try them. So that has been a definite benefit.”* [Principal, Wagalus School]

*“Absolutely, you should have seen them with the peppers. It was hilarious. I picked up the pepper and said this is like an apple. And all these little eyes got like saucers and they’re like “that’s going to burn you” and I said “no these are sweet peppers not jalapeno- try one.” Well there was a scramble for them after that.”* [Principal, Eliza Archie Memorial School]

*“[Our students] come from homes where fruit and vegetables are not on the daily menu. Because of this program, our students are trying fruits and vegetables they’ve never tried before ... and they are finding out [that they] are grown in BC. There are students that have never had the bell peppers before, and today they will try them because they are on the tray, they look delicious and most of all, they are hungry.”* [BCSFVNP Coordinator, Stu’ate Lelum Secondary School]

*“The kids are trying things, they are interested, they like it, let’s provide more. It provides that proof from the ground up and an energy to get more fruits and vegetables into the classroom.”* [Special Projects Coordinator, Sts’ailes Community School]

*“The snack program is important because it introduces kids to fresh vegetables and fruits and how well they taste compared to a soda pop, or candy or a ding dong and they’re really enjoying it and they’re getting the health benefits of that.”* [Saputo Driver, Stu’ate Lelum Secondary School]

These qualitative reports of changes in students' willingness to try fruit and vegetables, due to multiple exposures over time, were substantiated by quantitative data from the student surveys. From baseline to follow-up, students' 'food neophobia' scores increased significantly (29.3 vs 32.0 where a higher score = greater willingness to try),  $P < 0.001$ . Further, 98% of respondents to the teachers and coordinators survey indicated that they noticed a positive effect of the BCSFVNP on students' willingness to try fruits and vegetables (73% indicated that this was true for most students, 25% thought it was true for some students).



The students' greater willingness to try fruits and vegetables was evident in the significant change in the number of fruits and vegetables actually tried in the school environment. Students went from an average of 5.8 fruit and vegetables tried at school at baseline, to 6.7 tried at school at follow-up ( $P < 0.001$ ).

### ***Acceptability***

Four champions and two AITC staff members told us that the program changed students' attitudes towards, and preferences for, fruits and vegetables. They felt that this was not only changing what students ate and enjoyed at school, but also impacted what students asked for, and consumed, at home. Ultimately, they indicated that this contributed to a culture in which produce was acceptable and healthy choices were becoming the norm.

*"There was [a mother] who had written on a log sheet that her daughter had come from school and asked the mom to buy the grape tomatoes that we had provided because she loved them. She took them to school in her lunch the next day and another child, who had one of those fake cheese and cracker packets, she asked the little girl to trade the grape tomatoes for a cheese and cracker packet."* [AITC Program Coordinator: School Liaison & Communications]

*"Being able to see them with the excitement and the interest has really made an impact on the teachers and the food prep staff that are providing foods, and it has brought that awareness in a very real sense that fruits and vegetables are what the kids want and they ask for it now, now that they are trying it and it is coming in on a regular basis. It has changed the way the staff is thinking about what we are providing the children."* [Special Projects Coordinator, Sts'ailes Community School]

*"[Students] don't get tired of it...Kids are used to the program and they look forward to it. It is part of what they do on a daily basis"* [AITC Executive Director]

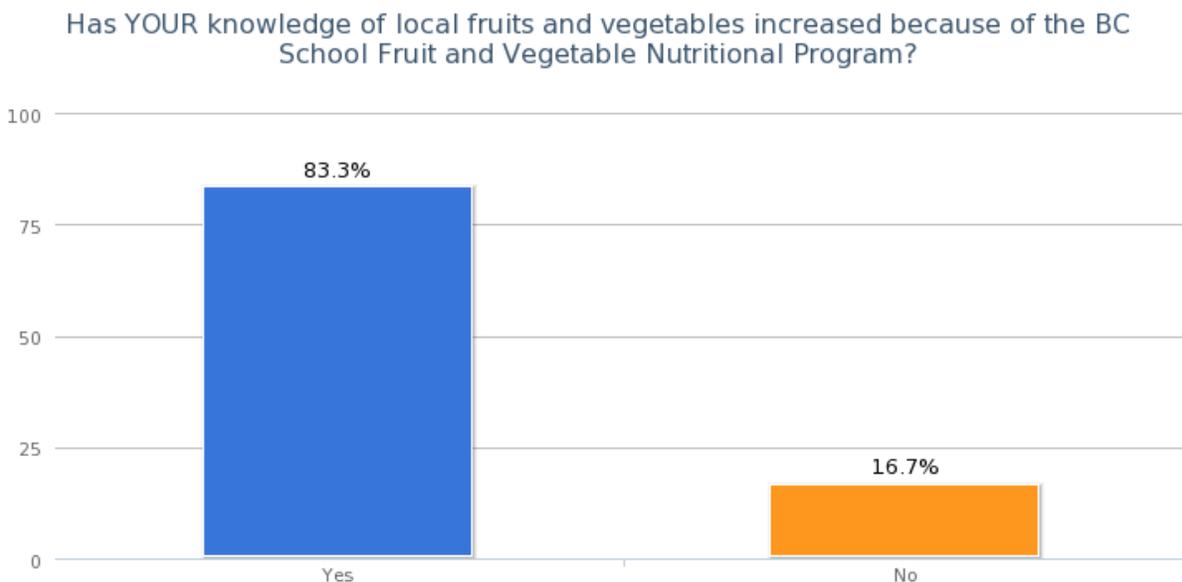
We assessed 'acceptability' of fruit and vegetables through two scores on the student survey: 'perceptions of the social environment' (where higher scores indicated that the student was more likely to perceive that fruits and vegetables were acceptable among their families and friends), and 'affect' (where higher scores indicated that a student had positive associations with eating fruit and vegetables). From baseline to follow-up, 'affect' scores increased significantly (4.1 vs 4.5,  $P < 0.01$ ), however, 'perceptions of the social environment' stayed the same. These data demonstrate that for students at the First Nations schools, their feelings towards fruit and vegetables changed in a positive way over the course of the BCSFVNP, however their perceptions of how their family and friends felt about fruit and vegetables did not change.



Given the relatively short timeframe between baseline and follow-up (5 months), it is likely that the possible changes were limited to a more personal level (affect), whereas changes to the larger community (and perceptions of changes to the larger community) could come later.

**Outcome 2                      Increased awareness of local fruits and vegetables for students and teachers.**

Though our survey, we asked teachers and coordinators whether they felt that their knowledge of local fruits and vegetables had increased because of the BCSFVNP. In response, 83% indicated 'yes' (Figure 5).



**Figure 5: Teachers' and coordinators' perception of their own change in knowledge because of the BCSFVNP**

At baseline, 78% of students indicated that they thought it was better to eat fruit and vegetables grown in BC; by follow-up, 86% of students thought it was better. The number of fruits and vegetables students correctly identified as being grown in BC increased significantly from baseline (8.9) to follow-up (9.7),  $P < 0.001$ . Two champions provided illustrations of how the BCSFVNP was increasing students' awareness about the produce that is grown in BC.

*"What the program means for First Nations students... I guess more of an understanding of ... connection to the land. Where their fruits and vegetables come from... it does happen in BC. Some of the kids don't necessarily leave this area so it is nice for them to know what is available."* [Principal, Wagalus School]

*"The program is excellent for all First Nations schools. A lot of my students have never seen a lot of the fruit and vegetables that are grown in BC and they are becoming more familiar with them."* [BCSFVNP Coordinator, Stu"ate Lelum Secondary School]

*"It makes me more aware of what is actually grown in BC and what isn't grown in BC."* [BCSFVNP Coordinator, Stu"ate Lelum Secondary School]

*"Bringing in fresh BC produce is a wonderful thing for the kids to experience... and to know what's happening in the province and what's being grown."* [Principal, Wagalus School]

Students and teachers learned about local fruits and vegetables during the BCSFVNP, as many First Nations schools used the BCSFVNP delivery time and accompanying materials (Figure 6) as an opportunity to teach their students about BC fruits and vegetables and enhance and supplement their existing curriculum. Notably, teachers were accessing the resources available on the AITC website to teach students about the different fruits and vegetables they received.

For example, four champions discussed how they used the resources provided by AITC to teach their students about the fruits and vegetables that were delivered. Several schools were incorporating the resources into their curriculum and finding creative ways to teach students about local fruits and vegetables (e.g. home economics, math, traditional language class, etc.). Further, three champions discussed how the resources were also increasing the teachers' awareness of local fruits and vegetables.



*"This has fit so well, not just to the flow of the school day, but it is such a blessing to the kids to have this as a snack as something that they are learning about and the information given about the fruits and vegetables has fit in with the curriculum, so the teachers are saying perfect, I can use this in our lesson plan today."* [Special Projects Coordinator, Sts'ailes Community School]

*"[We use] teaching aids when handing out the food. Some of it is incorporated into the curriculum. [It's] BC based, experiential, they are actually eating these things. This has been really important ... it cements everything for them. It is not just food arriving, food getting eaten, it's facts that come together with their curriculum... it paints a whole picture for them, about the nutrition, about interesting facts about the actual fruits and vegetables."* [Special Projects Coordinator, Sts'ailes Community School]

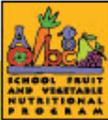
*"Because we're so isolated and remote and everything else and we're so busy.... having [the AITC resources] makes it very easy and accessible to the teachers and to everyone working in the program ... you can't turn a blind eye. Everybody is learning about all of the fruits and vegetables that we're receiving. It's not just the kids, its community members, it's all of the staff, everybody is learning*

information they didn't know before and increasing their knowledge." [Principal, Jean Marie Joseph School]

"What we're hearing from the First Nations schools is that we are opening [them] up [to] produce that the community as a whole has never had an opportunity to enjoy. The students are taking it home to their parents who are talking to their friends and neighbours, so we are affecting a whole community." [AITC Program Coordinator: School Liaison & Communications]

Anjou Pears

The Scoop on this Week's Snack!



### Bonjour d'Anjou

Bonjour (hello), do you like my elegant name? Please pronounce it properly. AWN-joo.

When speaking more formally, you may refer to me as *D'Anjou*. My full name is *Beurre d'Anjou*, which is French for *buttery pears of Anjou*, a region in France where here my ancestors were first grown. I'm often described as having a sweet delicate flavour. I'm a juicy pear, but firm, and some say less grainy than other pears. Notice my lovely egg-shaped appearance – I'm rounder than my oval-shaped cousin the Barlett.

I shouldn't brag, but I am quite proud of the fact that BC orchards produce all of the Anjou pears grown commercially in Canada. I prefer the moderate climate in BC. Like all pears I'm picked by hand before I'm fully ripe. I take a long time to ripen and need at least 1 or 2 months in cold storage before I'm mature enough to be eaten. In fact, I have excellent keeping-qualities and am the only variety of pear that can be stored through the winter – this makes me popular with the growers and grocers who call me their winter pear.

When you buy me I may still be a bit hard – gently press against my stem end, if it gives slightly I'm ripe and ready to be eaten. Not ready to eat me yet? Place me in the coldest part of your refrigerator and I'll keep. If I'm not ripe, just place me in a paper bag on the counter (or your teacher's desk) for a couple of days.

Try this brainteaser ...  
Pairs or Pears?  
Twelve pairs hanging high,  
Twelve knights riding by,  
Each knight took a pear,  
And yet left a dozen there.

Pear = high fibre, low fat,  
lots of vitamin C  
& potassium



Don't judge a pear by its colour

Since their lovely shade of red or yellowish-green doesn't change as they ripen, and both colours taste the same, you really can't judge an Anjou by its colour. Some pears are brown or have spots called russetting. This occurs naturally, don't peel the skin, just bite in and enjoy.



aitc.ca/bc

Figure 6: "Scoops" d'Anjou Pear Newsletter

**Outcome 3      Increased awareness of safe handling practices for volunteers and coordinators.**

Safe handling practices for produce are integral to the BCSFVNP. Posters were provided to the schools, to remind them of hand washing and handling practices for produce (Figure 7). The majority (78%) of teachers and coordinators surveyed indicated that the program had a positive effect on their schools' knowledge of safe handling practices (Figure 8).

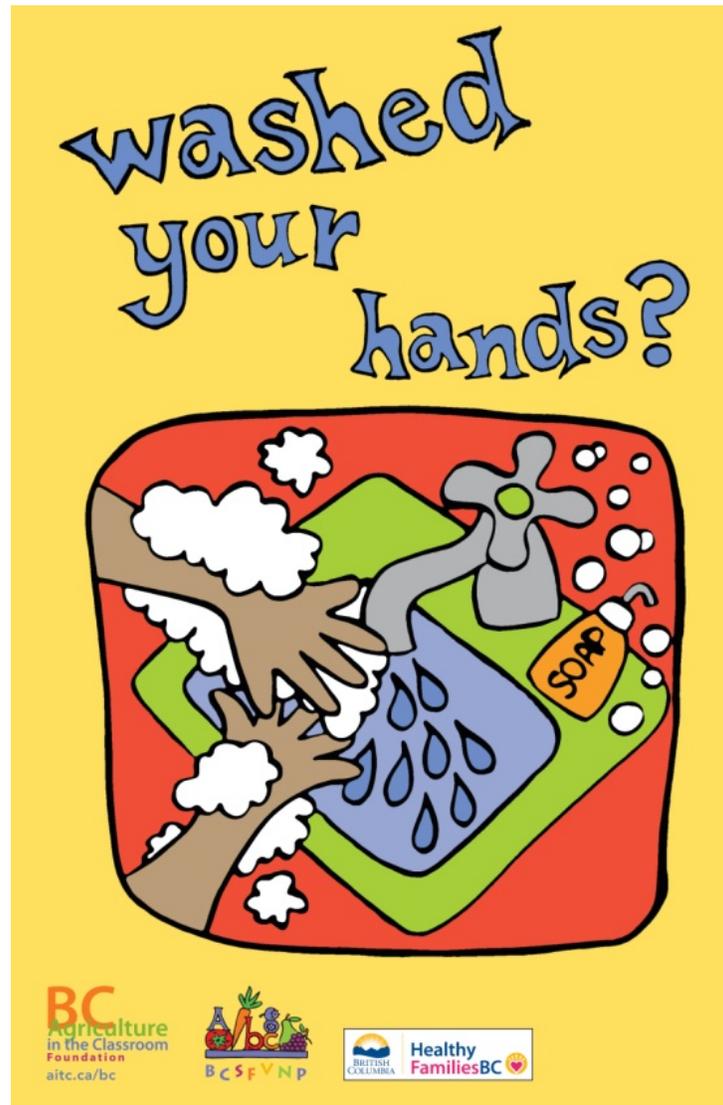


Figure 7: BCSFVNP Hand-washing Poster

Have you noticed a positive effect of the BC School Fruit and Vegetable Nutritional Program on coordinators' or volunteers' knowledge of safe handling practices for produce?

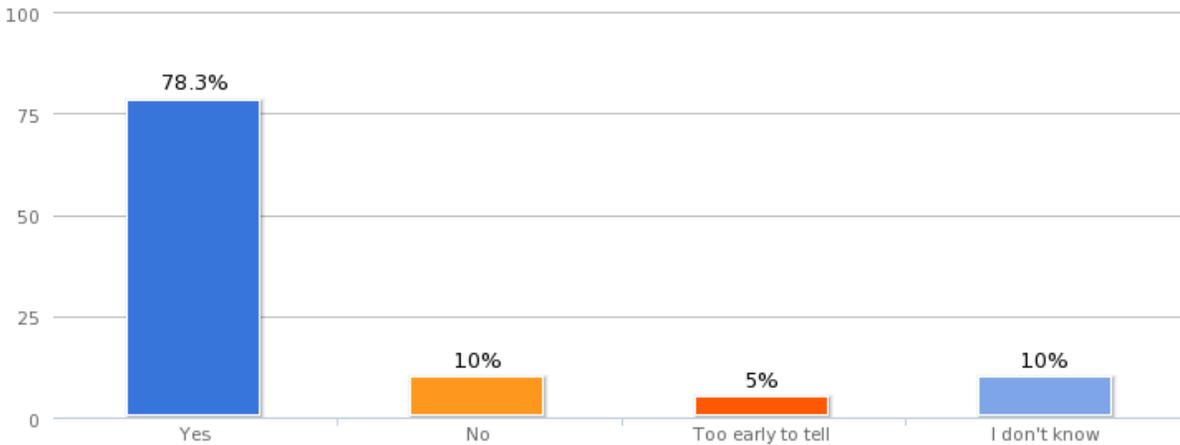


Figure 8: Teachers' and coordinators' perspective on changes in safe-handling practices for produce at their schools

**Outcome 4 Increased availability of local fruits and vegetables in BC schools.**

Within our survey, we asked teachers and coordinators if they thought the program had increased the availability of produce at their school. Their answers were definitive, with 100% indicating that an important change to produce availability had been made (Figure 9).

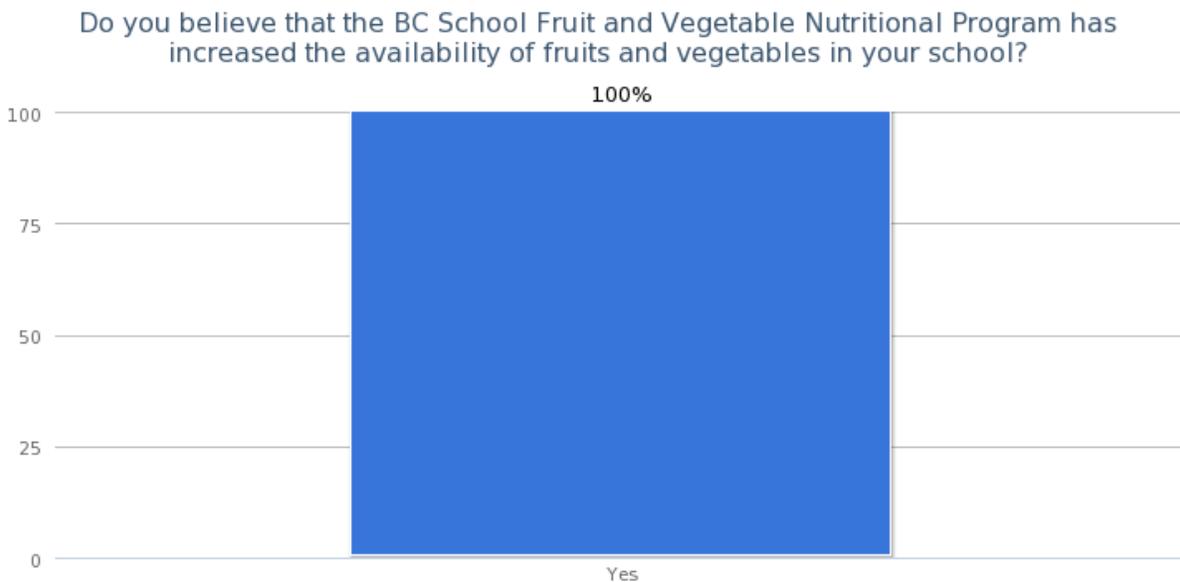


Figure 9: Teachers' and coordinators' perception of changes in availability of produce at their schools

Further, all First Nations champions interviewed stated that the BCSFVNP had increased the availability of produce at their school. Four champions underlined the importance of this availability in their illustrations of the general lack of availability of fresh fruits and vegetables in their isolated, remote communities. Five champions also commented that many of their students do not have access to fresh fruits and vegetables at home. They felt that the program offered a wide variety of produce that these children would not otherwise get.

*“The students now get to have fruits and vegetables they hadn’t had before. As I said, we are somewhat remote and isolated and have so many barriers for community to travel to the nearest grocery store... In the short time we have been in the program, it has increased student learning, physical, mental, emotional the whole gamut because we are supported in being able to.... We didn’t have the funds to do any kind of program like this for the kids.”*  
[Principal, Jean Marie Joseph School]

*“There is definitely more available for the kids. Before, it would be a standard set of things that we would buy for the kids and that would be it. Now there is definitely more available to them and we are able to share with more kids so that everybody can try over various days because we offer the snack program everyday so if we have things leftover from the first day that we get the produce in, we continue to serve it for the rest of the week until it is gone. The kids get to have that food over a longer time period.”* [Principal, Wagalus School]

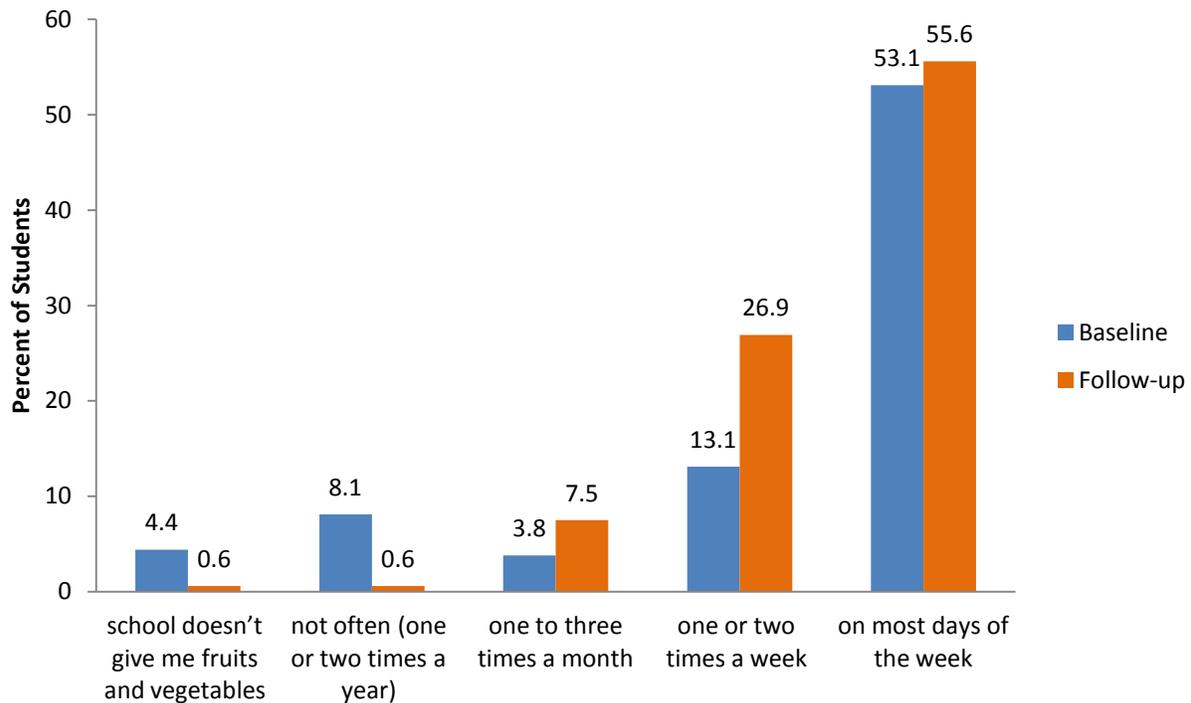
*“They love [the program]. It’s an absolute mad house. When we get the fresh stuff in, it is gone. They’ll eat three apples a day if they can... They’re always like “are there any more apples, is there any more this, is there any more that” because they do love it, they just don’t have access to it all the time.”* [Principal, Tsay Keh Dene School]

*“Typically we don’t have an afternoon snack, so this fills a gap we didn’t think of before. Lunch ends at 12:45pm, they go till 3:00pm and then they’d go home and have a snack, which we have no control over what they have, now we do. Now they are getting a nice fruit or vegetable before they go home, so maybe now they are going home and not having a snack that is not good for them.”* [Principal, Sts’ailes Community School]

*“The BCSFVP has given our students access to a lot of different fruits and vegetables that they didn’t have access to before.”* [BCSFVNP Coordinator, Stu”ate Lelum Secondary School]

Students at participating schools spotted the change in availability of produce as well. From baseline to follow-up, their responses to ‘does your school give you fresh fruit and vegetable snacks?’ shifted (Figure 10). At baseline, 13% of students indicated that their schools either never, or very rarely, provided fresh fruit and vegetable snacks. By follow-up, just 1% of students indicated this, while 8% reported that they got these snacks one to three times a month (up from 4%), **27% indicated that their school gave them fresh fruit and vegetable snacks once or twice a week (up from 13%)** and 56% reported that they got these snacks daily (up from 53%).

**Student responses to 'Does your school give you fresh fruits and vegetables for snacks?' at baseline and follow-up**



**Figure 10: Student responses to 'does your school give you fresh fruits and vegetables for snacks?' at baseline and follow-up**

Finally, several produce partners were aware of the change in produce availability that was occurring at participating schools, and saw the value in this shift. Six growers and three carriers discussed the benefits of exposing children to local fruits and vegetables as well as produce they may not have tried before (e.g., mini cucumbers).

**Outcome 5 Increased business for local agriculture (for farmers and distributors).**

We asked the BCSFVNP growers, processors and carriers about the impact the program had on the local economy. Seven growers and processors stated that the program was profitable and allowed them to reach new markets (e.g., children who are future consumers and have the ability to influence their parents). Further, Overwaitea discussed how, as a result of the BCSFVNP, they are now purchasing produce from three grower/processors who they had not previously bought from. In small ways, the program is clearly supporting local business. To date, none of the growers and processors have changed their marketing practices and it is not clear if growing practices have changed as a result of the program. This is likely because the program is relatively small given the volume of produce they grow. However, monitoring this outcome over a longer period of time may yield richer data.

**Outcome 6 Stronger relationships and greater collaboration among produce partners.**

Through our interviews it was very clear that strong relationships and linkages have been made with the broad network of BCSFVNP growers, processors and carriers (Figure 11 and Table 1). Growers and processors include a range of operators from family run independent small growers (e.g. Harker's Organics) to large processing cooperatives that include up to 700 growers (e.g. BC Tree Fruits). Carriers and grocers include businesses that are part of the transportation and distribution process. The largest is Overwaitea Food Group that has grocery outlets and distribution channels across the province. The smallest is the UCHUCK Vessel in Gold River, a small barge that transports passengers and freight to Nootka Sound. These relationships are integral to the successful and efficient delivery of produce around the province.



AITC made significance efforts to communicate with each player in the distribution chain. For example, the AITC Logistic Program Coordinator spoke with suppliers on a regular basis, made efforts to understand their routes, and got to know them personally.

*“E-mail does not replace communications. Pick up the phone. We have a really good team, but it’s because we know them, know their routes, know what their day looks like, then try to make their day easy... Work with what’s on the ground.”* [AITC Logistics Program Coordinator]

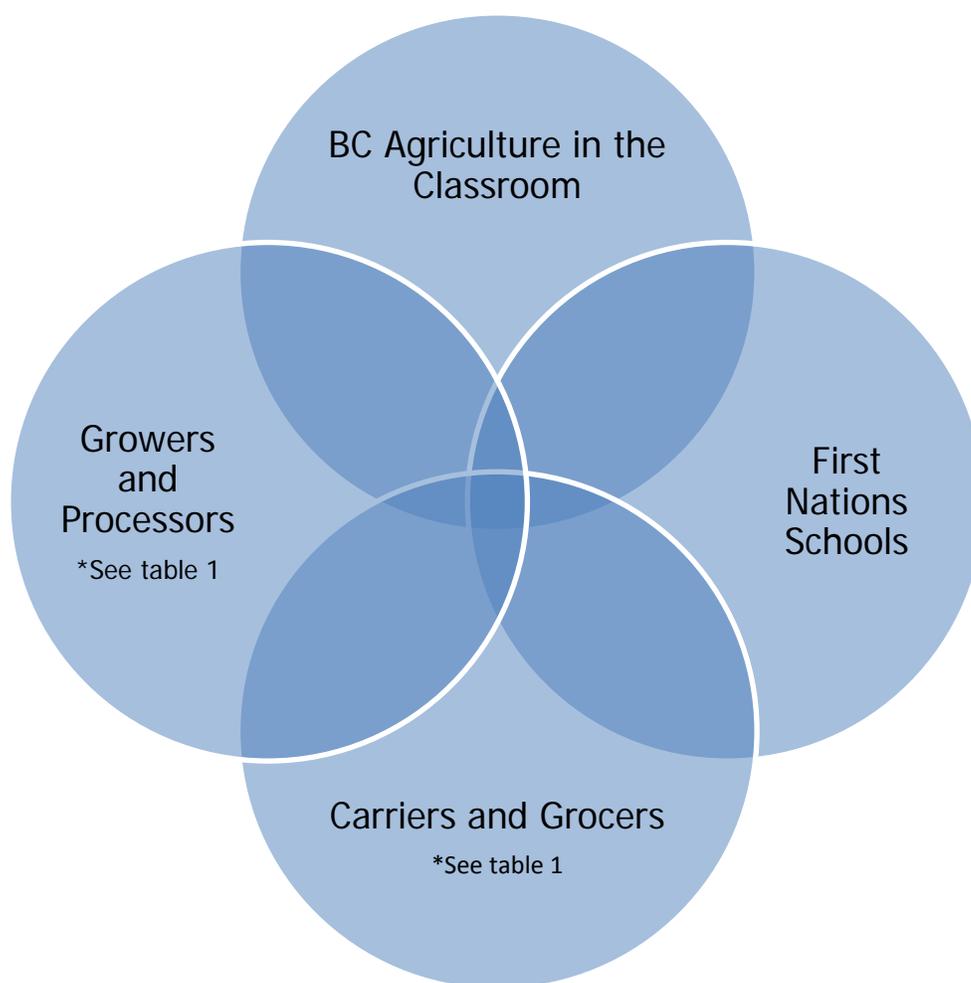
As a result, the suppliers spoke very highly of the program and the AITC staff. For example, suppliers described AITC as “professional,” “easy to work with” and “accommodating.” Further, as a result of the strong relationships that have been built, suppliers were willing to go above and beyond their responsibilities and work with AITC to overcome challenges and ensure that produce was delivered.

*“Yesterday, Paul, out of Smithers, the order was late. So today he went out on his day off to go and do this. It was no fault of his, it was just one of those things that happened... he went out on his day off to run out to the store and schools,*

*and it's not just an 8 block radius, it's a big area. He has to get back in his truck and don his uniform on a day he doesn't have to. By having strong relationships, it's when you need those favors that they happen and it's okay."* [AITC Logistics Program Coordinator]

*"When I go knocking on their door and say "can I please have" it is usually 'yes'"* [AITC Program Operations Manager]

In addition to strong relationships that have been built with AITC, we know that there is increased collaboration amongst the produce partners. Given the complexities of delivering produce to remote communities it was essential that suppliers not only collaborate with AITC, but also with other suppliers in the distribution chain. For example, the AITC Program Manager stated that it can take up to four "legs" for the produce to reach its final destination. This required carriers to communicate with one another on a regular basis to coordinate deliveries.



**Figure 11: Relationships and collaboration among produce partners**

**Table 1. BCSFVNP growers, processors and carriers**

<b>Carriers &amp; Grocers</b>	
Saputo Dairy Products Canada	Overwaitea Food Group
Island Foods	Dynamex Canada Limited
Pacific Coastal Seaplanes	Papason Trucking Ltd.
Northern Thunderbird Airport	Hornby Denman Freight
Corili Air to	Lady Rose Ferry
UCHUCK Vessel	ColdStar Frieght
Lasqueti Western Marine Ferry	Salt Spring Freight Services Ltd.
R&B Trucking	Dumas Freight
Bandstra Transportation	Tilthski Transport
Mayne Island Transport	Nickoli Cartage
Waglisla Freight	North Pacific Seaplanes
Twilite Services	Thunderbird Air
Shearwater Marina	Shop Easy Tumbler Ridge
Atlin Trading Post	Shop Easy Hagensborg
Bayview Market	Watson Lake Super A Foods
Pemberton Valley Supermarket	Saturna Island Grocer
<b>Growers &amp; Processors</b>	
BC Fresh	BC Tree Fruits
Direct Organics	Harker's Organics
Oppenheimer Group	Tamarac Fresh Cut Foods
South Adler Farms	Windset Farms
BC Hot House	Houweling's Nurseries Ltd.

## 7.0 Corollary Benefits

We heard from First Nations teachers and champions, as well as AITC staff members, that the BCSFVNP is benefiting the communities in ways that were not necessarily intended, but are certainly welcome.

### 7.1 The BCSFVNP Supports and Augments What First Nations Schools Are Already Doing

Many teachers and principals told us that the BCSFVNP supports and complements what First Nations schools are already doing. We heard from several schools that they have successfully integrated the BCSFVNP into their existing meal programs, curriculums, and goals. This augmentation of existing healthy eating programming and goals is an easy benefit of involvement in the BCSFVNP.

#### *The BCSFVNP Supports Existing Meal Programs and Student Health Goals*

We heard from seven champions that the BCSFVNP enhances and supplements the meal programs they already offer in their schools (e.g. breakfast, snack and hot lunch programs). Further, the principal at Stu'ate Lelum Secondary School told us that the program is freeing up money that would have otherwise been spent on food for the students. He indicated that he can use that money to purchase other needed supplies like text books.

*"The BCSFVNP is so important for First Nations schools- we provide snacks and meals for our kids on a regular basis and the enhancement of bringing in fresh BC produce is a wonderful thing for the kids to experience."* [Principal, Wagalus School]

*"The program is working wonderfully for our school. We have been receiving the orders and we have been giving them out to the students and it has been an excellent supplement to the vegetables and fruit we already provide and it helps me to provide enough for all of our students."* [BCSFVNP Coordinator, Stu'ate Lelum Secondary School]

*"Many First Nations schools have been supporting meal programs, recognizing that well fed students are better learners - this program adds quality to the type of food that students have access to."* [Director of First Nations Schools Initiatives, FNISA]

*"This opportunity for us was a really natural move to enhance what we are doing for kids, what we're here for and to help our kids understand, and to help out parents understand, the importance of proper eating habits and getting fruits and vegetables and making it a regular part of your day."* [Principal, Sts'ailes Community School]

We also heard that the program is supporting First Nations schools' goals for student health and nutrition. For example, four champions told us that their school has banned junk food and/or is placing an emphasis on providing healthy food. The provision of healthy snacks through the BCSFVNP is helping them reinforce their goals and the message that eating fresh fruits and vegetables is important.

#### *The BCSFVNP Supports Curriculum Around Healthy Eating and Local Foods*

Seven champions indicated that the BCSFVNP complements and enhances their existing curriculum, and is easily integrated. For example, champions told us that they have incorporated learning about fruits and vegetables into their math, home economics, and even traditional language classes.

*"One of the interesting things we've been able to do is use the excitement and the hype in our own language programming for the language and culture classes. When kids are learning about different food preparations and fruit and vegetable phrases, they don't typically have the actual fruits and vegetables there, so now we are building curriculum around the [BCSFVNP]. And building with our last hulkamalem language speaker, she is helping us develop curriculum that brings it into an*

*everyday useful conversation: what are we eating, how does it taste, this is red, this is full of vitamins.* [Special Projects Coordinator, Sts'ailes Community School]

## 7.2 The BCSFVNP Feeds Children

The AITC Executive Director and Operations Manager discussed the important social role the BCSFVNP is playing in the lives of many First Nations students. Although the program is not intended as a social program, the very nature of providing food to students, particularly those who may struggle to obtain adequate food, means that social needs are being addressed. This sentiment was echoed by five champions and facilitators who talked about the importance of providing quality food to students who are hungry and have trouble focusing at school.

*"If our big program can help to get product to the neediest groups in our province, we're then meeting a social need, as well as a health need, economic and agriculture needs."* [AITC Executive Director]

*"It gives the students an opportunity for healthy fruits and vegetables. For some of them, those are the only meals they get outside of a sandwich at school."* [Principal, Jean Marie Joseph School]

*"We have kids that arrive hungry, we have kids that eat lunch and it's not enough, or every hour they are ready to eat, so they go to Sarah and instead of looking for a snack that might not be good for them, we give them an apple or a cucumber... that's what it's for."* [Principal, Sts'ailes Community School]

*"Some of students just need it because they don't have food at home. They can learn better... because they don't have to worry about eating."* [Principal, Stu"ate Lelum Secondary School]

*"[The BCSFVNP] is very important here because many of the students come to school and they haven't had breakfast and may not have had a good dinner the night before. The fruits and vegetables are an extra boost that we can give them to get their day started."* [Principal, Blueberry River First Nations]

## 7.3 The BCSFVNP Has Had An Impact on Parents

Champions talked about how the BCSFVNP increased awareness about the importance of fruits and vegetables at home. For example, four champions discussed how children spoke to their parents about the program and the healthy snacks they received, and how the children encouraged their parents to buy more fruits and vegetables. Further, one principal discussed how she introduced the program to parents through the school newsletter in the hopes of teaching them about the importance of buying and eating local produce. According to the champions, these activities are influencing the food decisions at home.

*"The kids go home and tell their parents this is what we're eating at school I'd like this at home. Now you have the families taking part indirectly. That carries over and the kids come to school with a snack that is apples."* [Principal, Sts'ailes Community School]

*"The kids are surprising their parents with what they are bringing home and surprising them that they are eating vegetables. What a concept."* [Special Projects Coordinator, Sts'ailes Community School]

## 8.0 Summary

The BCSFVNP aims to improve the nutritional health of BC children by working collaboratively with produce partners to deliver fruits and vegetables directly to all BC schools. To work towards this goal, the program brought fresh fruit and vegetable snacks to 56 First Nations schools in the 2011-2012 school year.

The BCSFVNP is clearly meeting its objectives. The evaluation shows that the program is making a significant impact on First Nations students, schools, communities and program partners. Most notably, the program increased students' exposure to, willingness to try, and acceptability of fruits and vegetables. Students recognized significantly more fruits and vegetables grown in BC by the end of the school year, as compared to the outset of the program. It is clear that the program is increasing the availability of fruits and vegetables, especially in remote First Nations schools, where it is not always possible to access fresh produce on a regular basis.

Further, the BCSFVNP is increasing teachers' and coordinators' knowledge of local fruits and vegetables and increasing safe handling practices: 85% of teachers and coordinators at First Nations schools stated that their knowledge of local BC produce increased, and 75% said that their knowledge of safe handling practices increased because of the program. Teachers and coordinators also told us that the program is highly feasible and entirely acceptable in First Nations schools.

For local produce partners, we heard clearly that the program was profitable and allowed them to reach new markets. Further, the program has allowed them to collaborate with a wide range of suppliers which has fostered new relationships. To date, the program has not changed marketing practices and it is not clear if growing practices have changed. It will be important to continue to monitor these outcomes to ascertain impacts over the longer term.

Beyond simply meeting its objectives, the BCSFVNP had a number of unintended benefits in First Nations schools. For example, it was clear from our interviews that the program addresses a basic need for students who may not have regular access to quality fruits and vegetables. Further, the program complements First Nations schools' existing meal programs and curriculums. Finally, the impact of the program extends beyond students to the broader community: students spoke to their parents about the fruit and vegetables and some are even asking their parents to purchase more produce for their family.

Overall, the First Nations schools and students, as well as produce partners, benefit from the BCSFVNP. The program is clearly meeting its objectives which will have a lasting, positive impact on First Nations schools, communities and BC growers and suppliers.

*“What we’re hearing from the First Nations schools is that we are opening up produce that the community as a whole has never had an opportunity to enjoy. The students are taking it home to their parents who are talking to their friends and neighbours, so we are affecting a whole community.”*

[AITC Program Coordinator: School Liaison & Communications]



## 9.0 References

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- <sup>1</sup> Naylor PJ, Bridgewater L. School fruit and vegetable snack initiative: Pilot phase evaluation. 2006.
- <sup>2</sup> Naylor PJ, Bridgewater L. School fruit and vegetable snack initiative: Evaluation of the implementation of the 2006/2007 provincial roll-out. 2007.
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- <sup>4</sup> He M, Beynon C, Bouck MS, St Onge R, Stewart S, Khoshaba L, Horbul BA, Chircoski B. Impact evaluation of the Northern Fruit and Vegetable Pilot programme- a cluster-randomized controlled trial. *Pub Health Nut.* 2009; 12(11): 2199-2208.
- <sup>5</sup> Davis EM, Cullen KW, Watson KB, Konarik M, Radcliffe J. A fresh fruit and vegetable program improves high school students' consumption of fresh produce. *J Am Diet Assoc.* 2009; 109: 1227-1231.
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- <sup>9</sup> Galloway A, Lee Y, Birch L. Predictors and consequences of food neophobia and pickiness in young girls. *J Am Dietet Assoc.* 2003; 103(6):692-98.
- <sup>10</sup> Cooke L. The importance of exposure for healthy eating in childhood: A review. *J Human Nut and Dietet.* 2007; 20(4): 294-301.

# 10.0 Appendices

## Appendix A- Logic Model, Evaluation Framework and Timeline

## BC School Fruit and Vegetable Nutritional Program: 2011 - 2013

**Vision:** Improving the nutritional health of BC children by working collaboratively with produce partners to deliver local fruits and vegetables directly to all BC schools.

### Objectives

For students: to increase acceptability, exposure, and willingness to try fruits and vegetables.

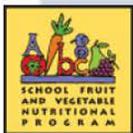
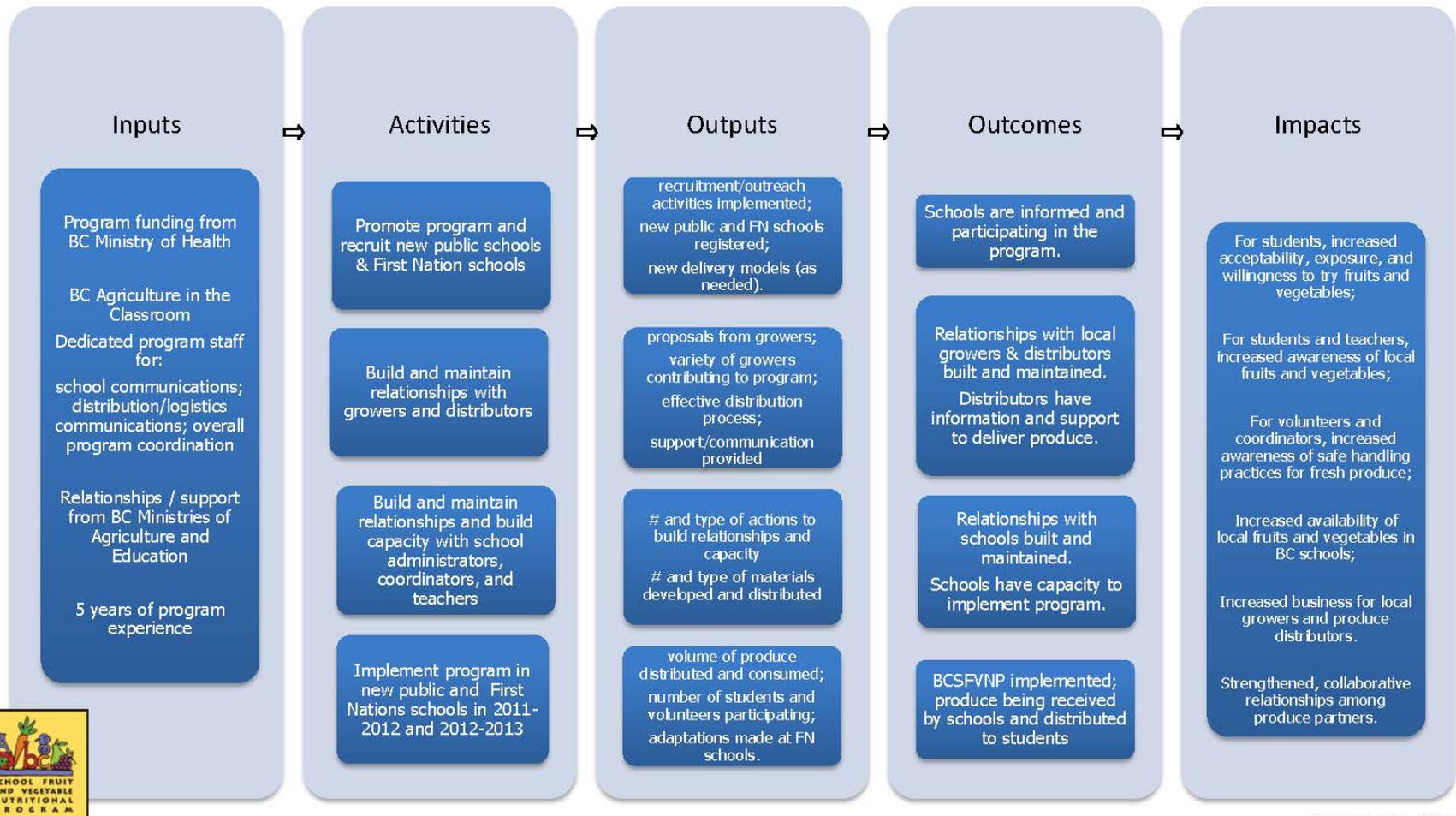
For students and teachers: to increase awareness of local fruits and vegetables.

For volunteers and coordinators: to increase the awareness of safe handling practices for fresh produce.

To increase the availability of local fruits and vegetables in BC schools.

To support the local economy (through business for farmers and distributors).

To build relationships with produce partners and collaborate.



December 12, 2011

<b>Activities, Outputs &amp; Process Evaluation Framework</b>		
<b>Activities</b>	<b>Outputs</b>	<b>Methods</b>
<p><b>Recruitment of new public and First Nation schools</b>  <b>Responsibility: AITC</b></p> <ul style="list-style-type: none"> <li>• Via website promotion and DASH newsletter and word of mouth</li> <li>• Distribute expression of interest documents and provide assistance once proposal submitted</li> <li>• Determine distribution logistics (once EOI's received)</li> <li>• Distribute consent forms</li> <li>• Communication with schools (email/phone) about start date</li> <li>• Update AITC Access database</li> <li>• Update AITC website with product information</li> </ul>	<ul style="list-style-type: none"> <li>• Type/# of recruitment/outreach activities implemented</li> <li>• # of new schools registered</li> <li>• # of new First Nations schools registered</li> <li>• Description of new delivery models (as needed)</li> <li>• AITC Access database</li> <li>• AITC website database</li> </ul>	<p>Tracking- AITC database</p> <p>Interviews with AITC (Tammy)- successes challenges of recruitment</p>
<p><b>Build/maintain relationships with growers and distributors</b>  <b>Responsibility: AITC (Tammy &amp; Michelle)</b></p> <ul style="list-style-type: none"> <li>• Distribute RFPs to local growers</li> <li>• Review RFPs, select grower, determine required produce</li> <li>• Support and communication with Overwaitea (Overwaitea places order with grower, food is delivered to EV logistics- sent out to 61 individual Overwaitea locations)</li> <li>• Support and communication with Saputo drivers (transport produce from individual Overwaitea stores to schools)</li> <li>• Ongoing communication + troubleshooting (emails/phone calls) with Overwaitea and Saputo drivers</li> </ul>	<ul style="list-style-type: none"> <li>• # of proposals submitted from growers</li> <li>• #and diversity of growers used</li> <li>• Effective distribution process</li> <li>• Support &amp; communication provided to Saputo and Overwaitea</li> </ul>	<p>Tracking- AITC database/files</p> <p>Interviews with AITC (Tammy &amp; Michelle)- successes/challenges of building/maintaining relationships with growers &amp; distributors</p> <p>*Process related questions asked during interviews with growers &amp; distributors</p>
<p><b>Build/maintain relationships &amp; build capacity with school administrators, coordinators, and teachers</b>  <b>Responsibility: AITC (Laura)</b></p> <ul style="list-style-type: none"> <li>• Distribute and develop classroom and curriculum materials: teachers and coordinators manual, monthly newsletter articles, posters, stickers, top 10 guide, etc.</li> <li>• Communication- phone calls, emails, etc. when necessary (most info now available on website)</li> <li>• Website- delivery schedule, etc.</li> </ul>	<ul style="list-style-type: none"> <li>• # and type of actions to build relationships and capacity</li> <li>• # and type of materials developed and distributed</li> <li>• New materials and methods produced (if necessary)</li> <li>• Website analytics</li> </ul>	<p>Interviews with AITC (Laura)- successes/challenges of building/maintaining relationships with schools</p> <p>*Process-related questions included on electronic (outcome) surveys with teachers &amp; in-school coordinators</p>
<p><b>Implement program in new public schools and First Nation schools in 2011-2012 &amp; 2012-2013</b>  <b>Responsibility: AITC, distributors, Schools (administrators,</b></p>	<ul style="list-style-type: none"> <li>• Volume of produce distributed.</li> <li>• Volume of produce</li> </ul>	<p>AITC database</p> <p>Interviews with AITC (Lindsay &amp;</p>

<p><b>coordinators, etc.)</b></p> <ul style="list-style-type: none"> <li>• Source, wash, package produce</li> <li>• Deliver produce</li> <li>• Implement curriculum activities</li> <li>• Receive and distribute produce to students (coordinators)</li> </ul>	<p>consumed.</p> <ul style="list-style-type: none"> <li>• Number of children participating.</li> <li>• Adaptations made to program at First Nations schools</li> </ul>	<p>Tammy)- overall program implementation</p> <p>Interviews with First Nations School Association and other First Nations partners (Acceptability/suitability of BCSFVNP model)</p>
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<b>Outcomes and Impacts Evaluation Framework</b>		
<b>Outcomes &amp; Impacts (as in logic model)</b>	<b>Indicators</b>	<b>Methods</b>
<p><b>Outcomes</b></p> <ul style="list-style-type: none"> <li>• Schools are informed and participating in the program</li> <li>• Relationships with schools built and maintained</li> <li>• Schools have the capacity to implement the program</li> <li>• BCSFVNP implemented; produce distributed to students</li> </ul> <p><b>Impacts</b></p> <ul style="list-style-type: none"> <li>• Increased awareness of safe handling practices for fresh produce</li> <li>• Increased availability of local fruits and vegetables in BC schools</li> </ul>	<p>Coordinators report successful participation in the program and feeling informed Coordinators report relationship with AITC built and maintained</p> <p>Coordinators report having the capacity to implement the program</p> <p>Coordinators report receiving and distributing produce to students</p> <p>Coordinators report having an increased awareness of safe handling practices for fresh produce</p> <p>Coordinators report increased availability of local fruits and vegetables. Volume of produce distributed to schools.</p>	<ul style="list-style-type: none"> <li>• Electronic survey with school coordinators (link with existing AITC efforts with survey monkey or similar)</li> <li>• Interviews with up to 20 coordinators at new First Nations schools starting program January 2012</li> </ul>
<p><b>Outcomes</b></p> <ul style="list-style-type: none"> <li>• Relationships with local growers and distributors built and maintained</li> <li>• Distributors have information and support to deliver produce</li> </ul> <p><b>Impacts</b></p> <ul style="list-style-type: none"> <li>• Increased business for local growers and produce distributors</li> <li>• Strengthened, collaborative relationships among produce partners</li> </ul>	<p>Growers and distributors report relationship with AITC built and maintained</p> <p>Distributors report having information and support to deliver produce</p> <p>Local growers and produce distributors report/give examples of increased business Produce partners report strengthened, collaborative relationships</p>	<ul style="list-style-type: none"> <li>• Interviews and document review with growers and distributors (also include process related questions)</li> </ul>
<p><b>Outcomes</b></p> <ul style="list-style-type: none"> <li>• BCSFVNP implemented; produce being received by schools</li> </ul>	<p>Schools/coordinators report receiving produce</p>	<ul style="list-style-type: none"> <li>• Review monthly logs submitted by coordinators to AITC &amp; AITC database</li> </ul>

<b>Outcomes and Impacts Evaluation Framework</b>		
<b>Outcomes &amp; Impacts (as in logic model)</b>	<b>Indicators</b>	<b>Methods</b>
<p><b>Outcomes</b></p> <ul style="list-style-type: none"> <li>• BCSFVNP implemented; produce being received by schools and distributed to students</li> </ul> <p><b>Impacts</b></p> <ul style="list-style-type: none"> <li>• Increased awareness of local fruits and vegetables</li> <li>• Increased availability of local fruits and vegetables in BC schools</li> </ul>	<p>Teachers report produce being received and distributed to students</p> <p>Teachers report having an increased awareness of local fruits and vegetables</p> <p>Teachers report increased availability of local fruits and vegetables</p>	<ul style="list-style-type: none"> <li>• Electronic survey with teachers</li> </ul>
<p><b>Impacts</b></p> <ul style="list-style-type: none"> <li>• Increased acceptability, exposure, and willingness to try fruits and vegetables</li> <li>• Increased awareness of local fruits and vegetables</li> <li>• Increased availability of local fruits and vegetables in BC schools</li> </ul>	<p>Students report increased acceptability, exposure, and willingness to try fruits and vegetables</p> <p>Students report increased awareness of local fruits and vegetables</p> <p>Students report increased availability of local fruits and vegetables</p>	<ul style="list-style-type: none"> <li>• Pre-post surveys with students, in class</li> <li>• Observation of produce distribution in sample of schools</li> <li>• Discussion groups with students (with small sample of the 19 new First Nations schools)</li> </ul>
<p><b>Outcomes</b></p> <ul style="list-style-type: none"> <li>• BCSFVNP implemented; produce being received by schools and distributed to students</li> </ul>	<p>Examples, wastage, # of servings returned from classroom to coordinator, footage, photos, testimonials, etc. of produce being acquired, distributed and then received by schools and distributed to students (i.e. program implemented as planned)</p>	<ul style="list-style-type: none"> <li>• Direct observation of produce distribution in sample of schools</li> <li>• Observation/documentation/case study of produce pathway from grower(s) to school(s)</li> </ul>

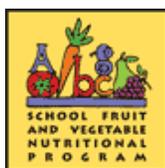
<b>Evaluation Activities Timeline</b>	
<b>Month</b>	<b>Activity</b>
<b>2012</b>	
January	<ul style="list-style-type: none"> <li>• Pre (early) surveys with students at 20 new First Nation Schools</li> </ul>
February	
March	<ul style="list-style-type: none"> <li>• Survey interviews with growers and distributors (increased business, strengthened relationships, etc.)</li> <li>• Start determining criteria for First Nations school site visits (e.g. close proximity, close relationships)- develop a list of 10-15 (could be First Nations schools that started in September)</li> </ul>
April	<ul style="list-style-type: none"> <li>• Observation of produce distribution in selection of First Nations schools (produce being received by schools and distributed to students)</li> <li>• Discussion groups with students- illustrations of impact of program (First Nations schools)</li> </ul>
May	<ul style="list-style-type: none"> <li>• Post surveys with students at 20 new First Nations schools</li> <li>• Electronic surveys with teachers &amp; coordinators at all First Nations schools (program process, implementation &amp; impact)</li> <li>• Arrange a meeting with Lindsay, Lisa, and Melanie to discuss approvals for public schools and which schools we want to focus on in September</li> <li>• Interviews with First Nations School Association &amp; other First Nations partners (acceptability/suitability of BCSFVNP model)</li> </ul>
June	<ul style="list-style-type: none"> <li>• Review and compile monthly logs submitted by school coordinators at all First Nations schools (BCSFVNP being implemented; produce received)</li> <li>• Interviews with AITC regarding implementation in First Nations schools (process evaluation) – First week in June</li> <li>• Report writing</li> </ul>
July	<ul style="list-style-type: none"> <li>• Report writing and reporting to First Nations Health Council via AITC</li> </ul>
August	<ul style="list-style-type: none"> <li>• Observation, interview, video with grower(s) (at farms) to document produce pathway to schools</li> </ul>
September	<ul style="list-style-type: none"> <li>• Pre surveys with new public schools and new First Nations schools</li> <li>• Observation, interview, video with distributor(s) to document produce pathway</li> </ul>
October	
November	
December	<ul style="list-style-type: none"> <li>• Review and compile monthly logs submitted by school coordinators (BCSFVNP being implemented; produce received)</li> </ul>
<b>2013</b>	
January	
February	
March	<ul style="list-style-type: none"> <li>• Interviews with growers and distributors (increased business, strengthened relationships, etc.)</li> </ul>
April	<ul style="list-style-type: none"> <li>• Observation of produce distribution in public schools (produce being received by schools and distributed to students) (with reactions and video if possible)</li> <li>• Discussion groups with students (public schools)</li> </ul>
May	<ul style="list-style-type: none"> <li>• Post surveys with new public schools and First Nations schools</li> <li>• Electronic surveys with teachers &amp; coordinators (program implementation &amp; impact)</li> <li>• Review and compile monthly logs submitted by school coordinators (BCSFVNP being implemented; produce received)</li> </ul>

June	<ul style="list-style-type: none"> <li>• Interviews with AITC (process evaluation)</li> </ul>
July	<ul style="list-style-type: none"> <li>• Data organization and analyses</li> </ul>
August - October	<ul style="list-style-type: none"> <li>• Generation and sharing of reporting materials and evaluation communication products</li> </ul>

## Appendix B- Stakeholders Who Provided Input into Logic Model

Name	Organization
Brenda Lennox	Ministry of Agriculture
Lindsay Babineau	Agriculture in the Classroom Foundation
Charito Elderfield	Ministry of Education
Lori Sellars	First Nations Health Council
Gerry Kasten	Vancouver Coastal Health
Lisa Forster-Coull	Ministry of Health
Melanie Kurrein	Ministry of Health
Kerry MacKelvie O'Brien	Context Research
Lindsay Richardson	Context Research

## Appendix C- Baseline Survey for Students



### BC School Fruit and Vegetable Nutritional Program Pre-Program Survey for Students January 2012

The BC School Fruit and Vegetable Nutritional Program deliver fresh, local fruits and vegetables to BC schools. We want to know if this program changes what you know and like about fruits and vegetables. This is not a test - there are no right or wrong answers. To help us understand how this program is going in your school, please take your time and answer every question as honestly as you can.

Name: \_\_\_\_\_

Date: \_\_\_\_\_ Grade: \_\_\_\_\_

1) Rate each statement below on whether you agree, feel 'in the middle' (neutral, you don't feel strongly about it), disagree or don't know. Please circle your response for each item.

EXAMPLE: I like doing surveys	 Agree	 In the middle	 Disagree	? Don't know
I like the taste of fruit	Agree	In the middle	Disagree	Don't know
I like the taste of vegetables	Agree	In the middle	Disagree	Don't know
My family eats lots of vegetables and fruit	Agree	In the middle	Disagree	Don't know
My friends eat lots of vegetables and fruit	Agree	In the middle	Disagree	Don't know
Eating vegetables and fruit makes me feel better	Agree	In the middle	Disagree	Don't know

<b>2) Do you think it is better to buy and eat fruit and vegetables grown in British Columbia?</b> Please <u>circle</u> your response.	<b>Yes</b>	<b>No</b>
<b>Explain:</b>		

3) Does your school give you fresh fruits and vegetables for snacks? Please circle your response.

On most school days	One or two times a week	One to three times a month	Not often (one or two times a year)	My school doesn't give me fruits or vegetables
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4a) Please <b>circle</b> the fruits and vegetables that you think are <b>GROWN IN BC</b>	4b) Please <b>circle</b> all of the fruits and vegetables you have tried at <b>SCHOOL</b>	4c) Please <b>circle</b> all of the fruits and vegetables you have tried at <b>HOME</b>
 Apples	 Apples	 Apples
 Bell Peppers	 Bell Peppers	 Bell Peppers
 Carrots	 Carrots	 Carrots
 Blueberries	 Blueberries	 Blueberries
 Broccoli	 Broccoli	 Broccoli
 Cabbage	 Cabbage	 Cabbage
 Cauliflower	 Cauliflower	 Cauliflower
 Peaches	 Peaches	 Peaches
 Mini Cucumbers	 Mini Cucumbers	 Mini Cucumbers
 Lettuce	 Lettuce	 Lettuce
 Mandarin Oranges	 Mandarin Oranges	 Mandarin Oranges
 Pears	 Pears	 Pears
 Plums	 Plums	 Plums
 Tomatoes	 Tomatoes	 Tomatoes

5. Please **circle** the number to rate the extent to which you agree or disagree with each statement.

**5a) I am often trying new and different fruits and vegetables.**

Strongly Agree	Agree	Sort of Agree	No Opinion	Sort of Disagree	Disagree	Strongly Disagree
7	6	5	4	3	2	1

**5b) It makes me nervous to eat a fruit or vegetable that I've never tried before.**

Strongly Agree	Agree	Sort of Agree	No Opinion	Sort of Disagree	Disagree	Strongly Disagree
7	6	5	4	3	2	1

**5c) If I don't know what a fruit or vegetable is, I won't try it.**

Strongly Agree	Agree	Sort of Agree	No Opinion	Sort of Disagree	Disagree	Strongly Disagree
7	6	5	4	3	2	1

**5d) At school, I will try a new fruit or vegetable.**

Strongly Agree	Agree	Sort of Agree	No Opinion	Sort of Disagree	Disagree	Strongly Disagree
7	6	5	4	3	2	1

**5e) I don't like to eat fruits or vegetables that I have never had before.**

Strongly Agree	Agree	Sort of Agree	No Opinion	Sort of Disagree	Disagree	Strongly Disagree
7	6	5	4	3	2	1

**5f) I am very picky about the foods I will eat.**

Strongly Agree	Agree	Sort of Agree	No Opinion	Sort of Disagree	Disagree	Strongly Disagree
7	6	5	4	3	2	1

**5g) I will eat almost anything.**

Strongly Agree	Agree	Sort of Agree	No Opinion	Sort of Disagree	Disagree	Strongly Disagree
7	6	5	4	3	2	1

## Appendix D- Survey Instructions for Teachers

The BC School Fruit and Vegetable Nutritional Program aims to improve the nutritional health of BC children by delivering local fruits and vegetables to all BC schools. We want to know if this program changes what students know and like about fruits and vegetables. To help us understand how this program impacts students at your school, please follow the instructions below.

### *Baseline Survey Instructions*

1. Please review the survey and familiarize yourself with the information that is being collected.
2. Find a time to do the survey in class. It should take about 10 minutes (or less) to complete. Distribute the survey to students in your class. Let them know that this is not a test, and that their participation helps the program improve.
3. Please encourage students to take their time and complete the survey accurately. Please provide assistance to any students that require additional help.
4. For students in grade 3-6, please read out each question, line by line, with the corresponding instructions.
5. On page 1, question 1, encourage students to line up the appropriate response with each question (perhaps use a ruler to follow along the right line).
6. On page 2, encourage students to line up their responses with the appropriate column.
7. On page 2, ask your students to think about gardens, farms, or fruit trees and bushes they may have seen around or near the community when they are circling fruits and vegetables that they think are grown in BC.
8. On page 3, question 5f, "picky" refers to children who are selective and don't choose many foods.
9. Please return completed copies of the survey to the BC School Fruit and Vegetable Nutritional Program Coordinator at your school.
10. Thank you for participating!

\*If you need assistance, or have questions, please contact Lindsay Richardson at 604-637-0115 or [lrichardson@contextresearch.ca](mailto:lrichardson@contextresearch.ca).

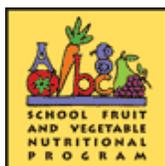
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### *BC School Fruit and Vegetable Nutritional Program Partners*

*With funding from the BC Ministry of Health and the First Nations Health Council, the BC Agriculture in the Classroom Foundation administers the BC School Fruit and Vegetable Nutritional program, and is working with Context Research, a local consulting firm, to understand how the program unfolds at First Nations schools around the province, and how students react to the program. The First Nations School Association supports these efforts in evaluation, and is helping out as a welcome program partner to make the right connections at First Nations Schools.*



## Appendix E- Interview Guide for Growers and Processors



### BC School Fruit and Vegetable Nutritional Program Survey for Growers & Processors 2012

The BC School Fruit and Vegetable Nutritional Program (BCSFVNP) delivers fresh, local fruits and vegetables to BC schools. We want to learn about your involvement with the program. To help us understand how this program is working for you, please take your time and answer the questions below.

Your responses will help us evaluate 1) new or enhanced partnerships/relationships that have resulted from the BCSFVNP and (2) support and/or increased business for growers & produce distributors. Lindsay Richardson, from Context Research, will arrange a time to talk about your answers.

Your Name: \_\_\_\_\_

Name of Business: \_\_\_\_\_

#### **Are you a grower? A grower/processor? Or a Processor? (Please circle)**

##### **1.) Please describe your business.**

- a) Where are you located?
- b) How large is your operation? (acreage? Coop? Are you representing a number of growers?)
- c) What produce do you supply to the BCSFVNP program?
- d) How long have you been providing produce for the program?
- e) How often do you supply produce?

##### **2.) Have you changed your operation's practices as a result of providing produce to the BCSFVNP?**

- a) Have you planted/sourced additional acreage specifically to support this program? Please describe this increase in terms of percentage.
- b) What additional crops have you planted and or sourced?
- c) How much (% increase in volume)?
- d) Do you use any season extension practices as a result of the program? (e.g. greenhouse, etc).
- e) Has there been an increase to your business as a result of you providing produce to the BCSFVNP?

**4.) Overall, is the program profitable for you?**

*For example:*

- a) Are the prices you receive at fair market value/ competitive?
- b) What would it take to make the program more profitable for you?
- c) Do you have any additional costs from the program? What are they?

**5.) Have you developed or strengthened relationships as a result of the BCSFVNP? If yes, with whom? Have relationships resulted in new business?**

**6.) Has your marketing plan changed as a result of this program? How?**

**7.) Other than revenue, what are the benefits to you for participating in the BCSFVNP?**

**8.) Why did you want to be involved in the BCSFVNP?**

**9.) From your perspective, what are the benefits of the BCSFVNP?**

*For example:* to children, families, growers, schools?

**10.) From your perspective, is the BCSFVNP sustainable after funding from the Ministry of Health is over? What is needed to make the program sustainable?**

**11.) How could the BCSFVNP be improved?**

**12.) Any other comments?**

## Appendix F- List of Produce Partners - Interviewees

<b>Name</b>	<b>Organization/Business</b>	<b>Role with BCSFVNP</b>
Murray Driediger	BC Fresh	Supplier/Grower/Processor
Tom Stearns	BC Tree Fruits	Supplier/Grower/Processor
Robert Slade	Direct Organics	Supplier/Grower/Processor
Troy Harker	Harker's Organics	Supplier/Grower/Processor
Walt Breeden & Steve Young	Oppenheimer Group	Supplier/Grower/Processor
Tony DeMaria	Tamarac Fresh Cut Foods	Supplier/Grower/Processor
Harvey Krause	South Adler Farms	Supplier/Grower/Processor
Jeff Madu	Windset Farms	Supplier/Grower/Processor
Norm Desilets	Saputo Dairy Products Canada	Carrier
Lana Metz	Dynamex Canada Limited	Carrier
Randy Bobier	Papason Trucking Ltd.	Carrier
Owen Fike	Overwaitea Food Group	Carrier

## Appendix G- Interview Guide for First Nations Partners and Champions

Suitability/acceptability of the BCSFVNP in First Nation Schools	
Question	Answer
1. Why is the BC School Fruit and Vegetable Nutritional Program important for FN schools?	
2. What does the program mean for FN students?	
3. Is the program well suited for FN schools? <ul style="list-style-type: none"> <li>• Is the program feasible/acceptable?</li> </ul>	
4. Do any adaptations need to be made to the program for First Nation Schools?	
5. Do you feel that the program is well aligned with your school's/FNSA's/FNHC's (Health Authority's) goals for student health and/or nutrition? How so? How could it be a better match?	
6. Has this program had any indirect/unintended benefits? (i.e, a benefit not explicitly linked to the program's activities, but related/desirable ... for example, the school was inspired to start a community garden? Meal program? Deliver curriculum around food skills/knowledge? New goals in healthy eating?)	
7. Do you feel this program (or aspects of it) is sustainable in FN Schools? How could it be? (i.e., is there a way to integrate the program so that there isn't a need for external funding?)	
Impact of the BCSFVNP in First Nation Schools	
Question	Answer
1. Has a student talked to you about the snack program? What did they tell you?	
2. Have you noticed a positive effect of the BCSFVNP on students' willingness to try fruits and vegetables	
3. Have you witnessed students eating fruits or vegetables from the BCSFVNP that they had never tried before? Could you tell me story of such a time?	
4. Has <u>YOUR</u> knowledge of local fruits and vegetables increased because of the BCSFVNP	
5. What have you learned?	
6. How has the program changed the <u>availability</u> of produce to students? [i.e. quantity, quality, diversity of produce available]	

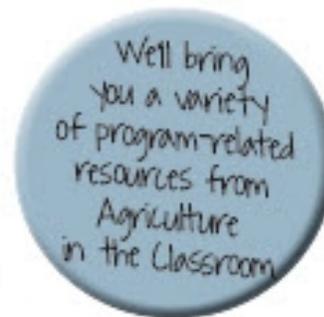
## Appendix H- List of First Nations Interviewees: Partners and Champions

Name	School/Location
Sharon MacDonald	Blueberry River First Nations
Ramona Linger	Head of the Lake School
Shelley Jones	Jean Marie Joseph School
Paddy Pearson	Ntamtqen Snm'a?m'aya?tn
Bill Dietrich	Sts'ailes Community School
Alex McQueen	Tsay Key Dene School
Barb McLeod	Eliza Archie School
Ernie Hill	Hartley Bay
Bernice McKenzie	Stu"ate Lelum Secondary School
Karen Aoki	Wagalus School
Susan Balfour	Sts'ailes Community School

## Appendix I- Evaluation Invitation Letter

We want to visit you!

BC Agriculture in the Classroom Foundation has partnered with Context Research to find out how the BC School Fruit and Vegetable Nutritional Program is working for your school. Sharing your experience will help us showcase the program to decision-makers, and could help influence future program funding decisions.



We will work with your school to determine a convenient time (in May) to come see the program in action at your school. Two members of our evaluation team and a representative from Agriculture in the Classroom will visit.

This is what your school's involvement would look like:

- Help us identify classrooms to observe produce being distributed.
- Identify interview and discussion group participants.
- Distribute and collect photo/video release-consent forms from parents (we will provide this).
- Help us find a quiet location for the student discussion group.
- Allocate about 20 minutes of class time for us to help with final surveys.

Here's what we'd like to do at your school:

- Observe the snack distribution and consumption, and talk about the program with students, staff and program coordinators.
- Take photos and video to illustrate what the program looks like in your school, and celebrate your accomplishments. We'll use this for reporting on the evaluation to key program partners.
- Lead small discussion groups (about 10 students, about 20 minutes) with students to hear their thoughts about the fruit and vegetable snacks.
- Assist with post-program surveys.

Please get in touch to volunteer for a visit, and to ask any questions.  
We look forward to hearing from you!

Contact us:  
Lindsay Richardson  
lrichardson@contextresearch.ca  
604-637-0115



## Appendix J- Site Visit Observation Tool

Who received the snacks from the Saputo driver?	
Who inspects the snacks after they arrive? <ul style="list-style-type: none"> <li>Describe the process</li> </ul>	
How did students get the snack? <ul style="list-style-type: none"> <li>Describe the distribution process.</li> <li>Where did they eat the snack?</li> </ul>	
Are there people other than students eating the snack? <ul style="list-style-type: none"> <li>Who? Describe [i.e., adults, teachers, families, younger children]</li> </ul>	
Where there any supporting or promotional materials? <ul style="list-style-type: none"> <li>Describe signage, any other promotions</li> </ul>	
Did anyone encourage students to eat the snack? Describe: <ul style="list-style-type: none"> <li>Who was offering encouragement</li> <li>Qualitative nature of encouragement (what did they say, specific examples/quotes)</li> <li>How many children were encouraged</li> </ul>	
Did any teachers talk about the snack or local produce? <ul style="list-style-type: none"> <li>Who?</li> <li>What did they say?</li> </ul>	
Are there children who appear interested/curious about the snack? How many? Describe: <ul style="list-style-type: none"> <li>questions asked</li> <li>body language</li> <li>comments about trying for the first time</li> </ul>	
Are there children who seem positive/excited/happy about the snack? <ul style="list-style-type: none"> <li>Describe comments</li> <li>Describe body language</li> <li>How many children appear positive/excited/happy</li> </ul>	
What is the overall feeling around the snack? <ul style="list-style-type: none"> <li>Positive energy? Excitement? Engagement? Interest? Chaos? Negativity? Lack of interest?</li> <li>Describe this towards the end of the lunch time.</li> </ul>	
How many students took/received the snack? <ul style="list-style-type: none"> <li>How many students took more than one snack</li> </ul>	
Were any of the snacks thrown own/ not fully eaten?	

## Appendix K- Student Discussion Guide

Focus Area	Question	Answer
Interest and engagement	What do you like most about the fruit and vegetable snack program? <i>Probe:</i> eating produce, etc.	
Willingness to Try/Exposure Increased availability	Do you eat more fruits and vegetables on days when the snack program is offered?	
Willingness to Try/Exposure	Did you eat a fruit or vegetable first time at school because of the snack program? What did you try? Can you tell me what it was like?	
Knowledge of local produce	Why is it important to buy and eat fruit and vegetables grown in BC?	
How salad bar is received	What do you tell your parents or family about the snack program? <i>Probe:</i> taking knowledge/experience home	
How salad bar is received	What are your favourite fruits and vegetables from the snack program? <ul style="list-style-type: none"> <li>• Why do you like eating fruits and vegetables? Why is it important for you to eat them?</li> <li>•</li> </ul>	
How salad bar is received	What don't you like about the fruit and vegetable snack program?	

## Appendix L- Electronic Survey for Teachers and Coordinators

Please take a few minutes to complete this survey about the BC School Fruit and Vegetable Nutritional Program. The program is funded by the Ministry of Health and administered by the Agriculture in the Classroom Foundation (AITC). Your school is participating in the program.

Completion of this survey will help us understand what you think about the program and how the program has changed what students, teachers and coordinator know and like about local produce. This survey should take you about 5 minutes to complete. Your answers will remain confidential and will never be linked with you in reporting on this Initiative. If you have questions about this survey, you can contact Lindsay at [lrichardson@contextresearch.ca](mailto:lrichardson@contextresearch.ca).

Prior to submitting, please provide your name and email address on the last page of this survey and we will enter you in a draw for a \$50 Chapters Gift Card. We can only accept one survey and one email address per person for the draw.

### Background Information

1. Name of School:
  
2. Your role with the program:
  - a. Teacher
  - b. The BC School Fruit and Vegetable Nutritional Program Coordinator
  - c. Principal/Vice-Principal
  - d. Volunteer
  - e. Parent
  - f. Other (please specify)

### Program Process & Implementation

3. Do you feel that you have the necessary information and materials to implement the program?
  - a. Yes
  - b. No. Please explain what you need:
  
4. How often do you correspond with the BC School Fruit and Vegetable Nutritional Program?
  - a. Daily
  - b. Weekly
  - c. Monthly
  - d. Every 2-3 months
  - e. I do not communicate with the BC School Fruit and Vegetable Nutritional Program
  
5. How does the BC School Fruit and Vegetable Nutritional Program communicate with your school?
  - a. Phone calls
  - b. Emails
  - c. Faxes
  - d. Via messages on their website
  - e. Via provision of print materials
  - f. They do not communicate with our school
  
6. Do you know what to do when there is a problem with the delivery and/or produce?
  - a. Yes
  - b. No

7. With respect to the program elements listed below, how would you rate your satisfaction with the BC School Fruit and Vegetable Nutritional Program so far? (Likert scale 1-4)
  - a. Produce quality
  - b. Produce variety
  - c. Volume of produce
  - d. Delivery of produce
  - e. Ease of distribution
  - f. Produce packaging
  - g. Very dissatisfied
  - h. Dissatisfied
  - i. Satisfied
  - j. Very satisfied
8. Do any changes need to be made to make the program more acceptable for First Nations schools and students?
9. How often was produce received and distributed as planned?
  - a. Every time
  - b. Almost every time ... there were a few times when it didn't go perfectly
  - c. About half the time
  - d. Not often – we had various problems with delivery and distribution
10. What makes it easy or hard to implement the BC School Fruit and Vegetable Nutritional Program? What could be done to improve the program?

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#### Program Impact

11. How is the program received by the students?
  - a. The majority of students are excited and look forward to the produce
  - b. *Some* students are excited about the produce
  - c. Students seem indifferent
  - d. I don't know
12. Have you noticed a positive effect of the BC School Fruit and Vegetable Nutritional Program on students' willingness to try fruits and vegetables?
  - a. Yes
  - b. No
  - c. Too early to tell
  - d. I don't know
13. Has YOUR knowledge of local fruits and vegetables increased because of the BC School Fruit and Vegetable Nutritional Program?
  - a. Yes
  - b. No
14. At your school, has teachers' knowledge of local fruits and vegetables increased because of the BC School Fruit and Vegetable Nutritional Program?
  - a. Yes
  - b. No
  - c. Too early to tell
  - d. I don't know

15. At your school, has students' knowledge of fruits and vegetables increased because of the BC School Fruit and Vegetable Nutritional Program?
- Yes, for most students
  - Yes, for some students
  - No
  - Too early to tell
  - I don't know
16. Have you noticed a positive effect of the BC School Fruit and Vegetable Nutritional Program on coordinators' or volunteers' knowledge of safe handling practices for produce?
- Yes
  - No
  - Too early to tell
  - I don't know
17. Do you believe that the BC School Fruit and Vegetable Nutritional Program has increased the availability of fruits and vegetables in your school?
- Yes
  - No

## Appendix M- Interview Guide: Agriculture in the Classroom

<b>Recruit FN schools</b>	
What do you enjoy most about your role?	
What are the facilitating factors/barriers for recruiting FN schools? <ul style="list-style-type: none"> <li>• Illustrative story to highlight facilitators/barriers?</li> </ul>	
What have been your key learnings in relation to recruiting FN schools?	
What is unique to FN communities? <ul style="list-style-type: none"> <li>• What should be done differently?</li> </ul>	
<b>Build/maintain relationships with growers/processors/carriers?</b>	
Facilitating factors/barriers for building relationships with growers, processors, & carriers? <ul style="list-style-type: none"> <li>• Illustrative story to highlight facilitators/barriers?</li> </ul>	
What have been your key learnings from building/maintaining relationships with growers/processors/carriers?	
What did you do to strengthen relationships with suppliers? <ul style="list-style-type: none"> <li>• How did you ensure they had all of the necessary information to deliver produce?</li> </ul>	
What has been the impact of the strengthened relationships over time?	
<b>Implement Program</b>	
Were any adaptations made to the BCSFVNP model for FN schools? <ul style="list-style-type: none"> <li>• Explain</li> </ul>	
What have been the key learnings associated with administering the BCSFVNP for FN schools? <ul style="list-style-type: none"> <li>• Successes/challenges</li> <li>• Unintended benefits/consequences</li> </ul>	
<b>Moving Forward</b>	
How do you want to move forward in FN schools? <ul style="list-style-type: none"> <li>• What are the priorities going forward in FN schools?</li> </ul>	
What do you feel is the most significant change in the program this year? <ul style="list-style-type: none"> <li>• What is the impact of this change?</li> </ul>	
Other comments?	