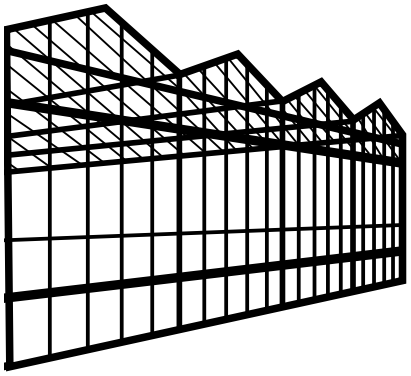
TIPS•FOR•TOURS

Greenhouse Tour Tips For

PRODUCERS



BC Agriculture in the Classroom Foundation
bcaitc.ca

BC GREENHOUSE GROWERS' ASSOCIATION

This document has been compiled by the
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in cooperation with:

British Columbia Greenhouse Growers' Association

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How to Market Your Farm for Tours!

In order to come they have to first know who you are and what you have to offer them in terms of their curriculum. Information about your farm can be shared in a:

- brochure;
- flyer;
- newsletter;
- farm website;
- social media.

Direct

For school tours, tourists, or other institutions, the method of notification will vary:

- make direct contact in September with schools;
- mail-out (Only consider schools within a 1 hour travel radius.)
- visit school principal with information package. Offer to visit the school on career days.

In-direct

Provide advertising brochures, flyers, newsletters to those groups who may receive queries on available farms for tours. Encourage them to visit your farm on their own or during a tour. Sources of potential referrals are:

- producer association, education support groups; BC Greenhouse Growers Association
- work with Agriculture in the Classroom;
- local Chamber of Commerce.

Knowing Your Audience

TIP: DURING THE VISIT
Class supervision is necessary during the entire visit. Don't be afraid to make rules for their safety around equipment and structures.

Knowing what to expect will help you to plan your tour accordingly in terms of:

- time at each activity or area
- depth and breadth of information.

To do this requires some help from the teacher in terms of what they are focusing on in class and the skill levels of the class. To provide you some preliminary assistance:

GRADES	STUDENT BEHAVIOUR	MATERIALS/ACTIVITIES
GRADES 1-2	Warm, receptive, excitable, shifting attention	Visuals important, puzzling objects grab interest
GRADES 3-4	Attentive, keen, more able to focus on the topic, able to sit and attend for longer periods	Short speeches OK puzzles/ problem solving or riddles possible
GRADES 5-7	Independent learners, outgoing, can be opinionated, limited social graces, argumentative, practical, ask questions	Able to think beyond themselves- more emphasis on global thinking, hands-on activities
GRADES 7-9	Teenagers, sometimes lively, social not inclined to ask question. More teacher participation. Students likely to bring pre-prepared questions	Informal or structured activities, cooperation activities possible
GRADES I0-I2	Young adults. More likely to ask questions and likely to come with prepared questions. Questions will be more sophisticated and pointed to an issue	Problem solving, extrapolation of ideas, more complex structures and their implications possible

New BC Curriculum Connections

GRADE	SUBJECT	CONTENT CONNECTION
KINDER	Science	- Basic needs of plants - Living things make changes to accommodate daily and seasonal changes
	Social Studies	- Relationship between the community and environment
GRADE 1	Science	- Names of local plants - Behavioural adaptations in the local environment
	Social Studies	- Relationship between the community and environment
GRADE 2	Science	- Similarities and differences between offspring and parent - Water sources including local watersheds - Water conservation and the water cycle
	Social Studies	- Diverse features of the environment - Relationship between the community and environment - Aspects of life shared across cultures (family, holidays, food, etc.)
GRADE 3	Science	- Biodiversity in the local environment
	Careers	- Connections to the community
GRADE 4	Science	- Sensing and responding to humans, environment,
GRADE 5	Science	- Interconnectedness with the environment
GRADE 6	Physical and Health Education (PHE)	- Practices to promote health and well-being; influences on food choices
	Social Studies	- Urbanization and migration of people - Economic policies and resource management - Globalization and trade
GRADE 7	Science	- Organisms have evolved over time - Survival needs
	Social Studies	- Human responses to particular geographic challenges and opportunities
	Careers	- Local and global needs and opportunities - Life and career planning

New BC Curriculum Connections

GRADE	SUBJECT	CONTENT CONNECTION
GRADE 8	Science	- Characteristics of life - Relationship of microorganisms with living things
	Social Studies	- Human responses to particular geographic challenges and opportunities, including climate, landforms and natural resources
	Careers	- Food Studies → social factors that influence food choices; variety of eating practices; local food systems - Entrepreneurship/Marketing → role of entrepreneurship in designing and making products/services (branding, pricing, record keeping); difference between consumer wants and needs
GRADE 9	Science	- Sexual reproduction - Matter cycles within biotic and abiotic components of ecosystems
	Applied Design, Skills and Technology (ADST)	- Food Studies → ethical issues related to food systems - Entrepreneurship/Marketing → flow of goods and services from producer to consumer; identification of a good/service
	Careers	- Factors affecting types of jobs in the community
GRADE 10	Sciences	- DNA structure and function - Patterns of inheritance - Applied genetics and ethical considerations
	Applied Design, Skills and Technology (ADST)	- Food Studies → simple and complex global food systems; causes and consequences of food contamination outbreaks - Culinary Arts → locally available food products
GRADE 11	Sciences	- Human actions and their impact on ecosystem integrity - Resource stewardship - Water distribution has a major influence on weather and climate - Levels of biotic diversity
	Social Studies	- Global agriculture practices - Demographic patterns of growth, decline and movement
	Applied Design, Skills and Technology (ADST)	- Food Studies → issues involved with food security; factors involved in the creation of food guides/labelling - Culinary Arts → BC agriculture practices
GRADE 12	Sciences	- Organ systems structure and function/interdependence - DNA/ gene expression - Land use, degradation and management - Conservation of water
	Social Studies	- Global agricultural practices

Safety First

Greenhouse Safety

Keep in mind that the greenhouse is home to you but is unfamiliar territory to be discovered by urban children or their teachers. They are likely not to be fully aware of any of the potential dangers.

To prepare the greenhouse for visitors, both for safety and good image, the following efforts are some examples of safety tips to insure a successful and safe visit:

- keep walkways clear;
- keep all passages and stairways safe and unobstructed - where possible install railings;
- check for nails, loose railings, sharp tools, loose buckets, etc.;
- remove access to the dog(s);
- rope off areas where you don't want them to go. But don't rely on the rope to keep them out. Choose spotters and/or clearly inform the teachers, supervisors that these areas are unsafe or inaccessible;
- inform your staff of the visitors;
- never leave any toxic products open and accessible;
- shut off all machinery or if can't, avoid areas where machinery is in operation. Remove all keys from ignitions;

TIP: Check with your direct farm marketing association for tour liability insurance

Insurance Needs and Liability

It is critical that you check your liability coverage with your insurance company prior to the visit. Most farm policies do NOT cover farm tours or consumer farm days. Be prepared to go over your tour plan and potential risks that are possible. Be clear on what monetary charges, if any, that may be applied to the visit and if any food or products will be dispensed. Keep your agent informed of any changes, machinery or equipment used and the frequency of visits.

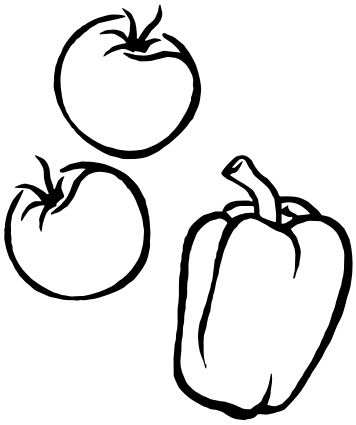
Food Safety

It is a much appreciated bonus if your farm is capable of providing a snack, particularly if it is a product that originates from your farm. However to insure no food borne illnesses result there are some precautions that should be taken.

- Provide a facility that all children can wash their hands (soap and warm water).
- Serve plain products-children's tastes are simpler than adults. Fancy flavours, spices or appearances may result in a negative response.
- It is the responsibility of the teacher not the producer to know his/her students' medical needs (i.e.: allergies to pollen or bees).

Preparing for the Visit

Your Farm Your Industry



School children are future consumers. Making a positive impression about greenhouse growing has the potential to shift future consumption trends. You, as a greenhouse producer play an important part in communicating key messages about agriculture and the food produced for everyone. You are an expert at taking care of detailed business decisions, staff, crops, land stewardship, etc, but may not be trained in public speaking and public relations. Doing some homework ahead of time can help you say and do the right things.

Food is not created at the super market, yet many school children believe that this is where their food comes from. The challenge for farm tour guides is to change this misconception. You can in fact inspire consumer confidence and spur on vegetable consumption. To ensure the paradigm is changed positively requires several things:

- Facilities that are maintained in a manner that represents a clean, healthy environment that is both comfortable and healthy for the workers.
- The farm represents the "norm" of the industry and dispels the "Old MacDonald's Farm" myth. Don't be afraid to show that yours is a professional operation that provides employment and food.
- Avoid circumstances that would reflect negativity on greenhouse growers or the industry in general – e.g. open buckets of chemicals everywhere.
- Always, present vegetables as wholesome food with high food value.

Preparing for the Visit

Knowing beforehand, both the teacher and yourself, what sequence of stops and the points addressed at each stop will help in providing a successful tour. Plan in advance:

- where will they go;
- what will they do;
- what will they see
- how will you address their questions;
- how will you assure supervision and safety throughout the time of their visit.

Base your plan on your greenhouse layout, taking advantage of any science info spots, and natural collection areas. Consider the size of the areas, age of the children, experience of the supervisors and the degree of risk and/or complexity of any tasks. Create Activity Stations.

TIP: KEEP IT SIMPLE

It's sometimes too easy to fall into the trap of telling them everything you know. Remember these students will not know greenhouse language and terms and the message has to be simple and basic. Pick just one or two things that you want the students to learn at different locations in the greenhouse. Talk in terms that students can understand, for example:

"We like to say that our plants live in a health spa 24 hours a day, 7 days a week."

Information Sharing Form

Teacher to Farmer - for the teacher to fill out.

Before the Tour

- Pre-Visit the farm and go over tour plan if possible
- Provide list of participants
- Arrangement of specific activities or achievement of specific goals

Things the Farmer Needs to Know

Teachers name _____

School name _____

Contact number _____

Age level of the group _____

Number of children and supervisors (does not include one teacher per class) _____

Children Supervisors

Recommended ratios of children to adults:

Primary (K-Grade 3): 6 children to 1 adult
Intermediate (Grade 4-7): 10 children to 1 adult
Secondary (Grade 8-12): supervisors if any children with special needs or behaviour challenges

Topics the teacher would like introduced _____

If there are any special needs children (eg. wheel chair accessibility) or children with allergies (eg. hay allergies)

_____

What are the hours, days or months that the visit is preferred

Farmer to Teacher - for the farmer to fill out.

Things the teacher needs to know

Name of farm _____

Contact name _____

Contact number _____

Type of farm _____

What specific limitations are there (eg. they must be gone by 2 pm end of shift) _____

Appropriate clothing (eg. closed tow shoes, no flip flops, no heals, etc.) _____

Restriction on group sizes. If they will need to be divided into supervised smaller groups _____

Any monetary charges for visit or for snacks _____

Contract required: Yes ❑ No ❑

Location of the farm

- Provide a map with a clearly marked route. Indicate distance from the school.
- The type of parking facilities and distance to the assembly area. Is there capacity fro cars (carpooling) or buses.
- Where to assemble upon arrival

Develop Activity Stations

Developing "activity stations" is a great way to focus school age children and their energies as well as provide them some tremendous hands-on experiences. All learners, children and adults, like a break from listening to actually doing something.

Challenging their skills and observations helps to consolidate what they've learned. Always keep in mind safety, and complexity as it relates to the age of the child and group size.

Activities

The following offers some example activities. Discuss your plans with the teacher before the visit.

Boiler Room / CO_2 Station

1. While touring the boiler room, explore how the use of CO_2 reduces the impacts of climate change with students.
2. Talk about ways greenhouse growers act as stewards of the environment.
3. How does carbon dioxide get used by the plant?
4. What chemical in the leaf contributes to photosynthesis?
5. Share how the greenhouse reduces its footprint in terms of land, and recycling of CO_2.

IPM / Insects / Hydroponics

Explain what Integrated Pest Management is and why it is important.

Consider an activity with the following:

1. 7 leaves so students can divide into 7 groups
2. 15 magnifying glasses, 2 per leaf
3. Provide pencils for drawing out the answers
4. 1 microscope for close up views of plant parts and insects
5. Create a sequence for students to go through and see each part of the display
6. Place samples of beneficial or good insects such as lady bug nymphs and bumble bees, on table along with a jar and leaf infested with aphids.
7. Have students work in pairs to view.
8. Have fresh material in a cooler if the group is large

Develop Activity Stations

Activities continued

Irrigation/Hydroponics

1. Explore the benefits and use of substrate. Is it organic or inorganic? Why is this important? Have samples of coir and rockwool set up on a table for students to view. Ask students to observe and touch the types of media and describe what they see. Have students touch the samples and describe what they feel like.
2. Have students observe and comment on the water hold capacity of each sample.
3. Give students time to make notes in their Passport to Growing.

Plants

1. Talk about the life cycle and care of the plants in a greenhouse.
2. Discuss how the greenhouse acts as a sustainable ecosystem.
3. Share how the greenhouse is monitored, and what climatic controls are monitored for optimal production.
4. How does greenhouse production and vegetables meet the needs for a sustainable secure food source for BC consumers?

Careers

Talk about the variety of jobs in the greenhouse. What educational requirements are there for few specialized greenhouse jobs such as a technician?

Grading, Packing and Marketing

1. Have students watch a video about grading, packing and marketing of greenhouse vegetables (or see at some greenhouses)
2. Discuss the types of market segments the greenhouse fulfills. Explore the influence of free trade and international markets with students.
3. Work with your marketing representatives who can speak to the group about grading the vegetables, transport to market and where they can find the produce, also the career opportunities around marketing.
4. Place a number of samples of greenhouse vegetables for students to look at, take selfies with, and offer samples for students to taste or take with them.

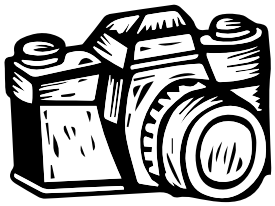
Above All - Have FUN !

Meeting the Group at the Bus

TIP: Set aside an area that would be appropriate for a group photo – think of a farm image how it will look to a consumer.

Keep your discussion brief. Remember the children may have been on the bus for a while and will be anxious. Take them right to the first station and do your introductions there. Divide the students into manageable groups (5-10) with an adult supervisor. Be prepared with additional staff if necessary.

- Introduce yourself and your business.
- Let them know this is your place of work and your home.
- State your rules and your expectations. Adults are to listen carefully and be a part of the tour.
- Remember to speak clearly for everyone to hear.
- Have yourself and your staff attired in clean clothes.
- Remind them that sudden movements, pulling strings or containers can create dangers for themselves and impair production outputs for you.
- Always be on the lookout for potential hazards. Remember, what may seem obvious to you as a danger, may not be to them.
- Students or teacher/supervisors may want to collect memories, for example they may:



1. Take pictures for school displays. If you want some pictures, drawings or stories written by the children ask-they are usually happy to comply;
2. Group photo-choose an appropriate place, taking into consideration background and the resulting image;
3. Record audio/video; must have permission to film farm premises.

Summary and Evaluation of Tour

Maintaining your clients and ensuring positive word of mouth references, requires continual improvements. To evaluate the success of the tour and where you could improve ask the group before they leave:

- what they remember and what they learned;
- what they liked and did not like;
- invite them to write a story, letter or draw a picture about your farm and the visit.

Evaluation Form

Please fill out this evaluation for the farm tour you participated in today. Thank you.
Send completed form to: _____

This program increased my students understanding and appreciation of agriculture and farming.

Strongly Disagree ❑ Disagree ❑ Neutral ❑ Agree ❑ Strongly Agree ❑

This program helped my students understand where their food comes from and/or gain an understanding of how food is produced.

Strongly Disagree ❑ Disagree ❑ Neutral ❑ Agree ❑ Strongly Agree ❑

This program is a valuable curricular-linked learning experience for my students.

Strongly Disagree ❑ Disagree ❑ Neutral ❑ Agree ❑ Strongly Agree ❑

I will use the resources provided to me from the tour.

Strongly Disagree ❑ Disagree ❑ Neutral ❑ Agree ❑ Strongly Agree ❑

I would recommend this tour to another school/teacher.

Strongly Disagree ❑ Disagree ❑ Neutral ❑ Agree ❑ Strongly Agree ❑

I would consider taking part in another farm tour in the future.

Strongly Disagree ❑ Disagree ❑ Neutral ❑ Agree ❑ Strongly Agree ❑

Please provide feedback on the tour, presenter, resources, or other elements you have identified that you would like to see AITC address for the future:

School Name: _____ Farm Name: _____

Teacher Name: _____ Farm Contact: _____

Number/Grade of students: _____ Type of tour _____
(dairy, ranch, greenhouse):

Let's Talk About It!

Most people now are at least 2 or 3 generations removed from their farming roots. Concepts about agriculture rely on stories that may be years old, myths or from the news media. Awareness of how farms function will be a mixture of new and old, and issue oriented. To minimize confusion, be frank, brief and clear when answering questions.

The following touches on some of the areas and the types of information that will be of interest. Depth and specific topics will vary with your own comfort level and with the age of the children and the class subject matter. Discuss this with the teacher before they arrive to allow you some time to prepare.

BC Agriculture in the Classroom Foundation

A non-profit, charitable organization that works with educators to bring local agriculture to BC's students. Together with farmers, teachers, and agriculture specialists, BCAITC teaches students about the story of our food in British Columbia. Through programs, students learn about where their food comes from, how to grow their own food, and why farms and agriculture play such an important role in our communities and society.

BC Greenhouse Growers' Assoication

Represents greenhouse vegetable farmers in British Columbia. Growers produce 96 percent of all of B.C.'s greenhouse vegetable production. The BC Greenhouse Growers' Association is committed to delivering services and research programs to its members to help keep them globally competitive and to keep a vibrant and sustainable greenhouse vegetable sector in B.C., while providing high-quality and safe greenhouse vegetables to consumers. Greenhouse growers are the farmers for British Columbia's 21st Century who grow world-class products in harmony with the environment.

Bell Peppers

Plump crisp and hollow, this variety of sweet pepper is cultivated for its fruits ranging in colours including red, yellow, orange, green, white, and purple. Botanically speaking, bell peppers are fruits; however, they are considered vegetables in culinary contexts. In the greenhouse, bell peppers are also planted into plugs, transplanted and pruned to maximize fruit production. The fruit will ripen 6 to 9 weeks after the fruit forms (depending on the time of year). Peppers are harvested when the fruit is at 85% of full colour.

Let's Talk About It!

Carbon Cycles

Carbon cycles through the environment as follows:

- CO_2 is removed from the atmosphere by photosynthetic plants and stored in the plant tissue
- CO_2 is returned to the atmosphere via respiration in all living organisms.
- CO_2 is one of the inputs of photosynthesis and as such CO_2 plays an important role in increasing crop productivity.

Climate Change

A change in global or regional climate patterns, in particular a change apparent from the mid to late 20th century onwards and attributed to many factors, including industrialization.

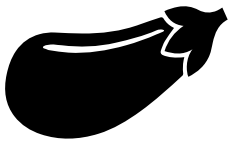
Coir

A type of growing medium in hydroponics that does not to provide nutrients, but allows the plant roots to grow in a moist environment. It takes the place of soil, so the roots can support the plants weight and hold it upright.

Cucumbers

It is possible to grow 1 - 4 crops of greenhouse cucumbers a year. Cucumbers are very sensitive to environmental factors so care must be taken at all stages of growth. Seeds are planted in plugs, transplanted carefully to protect their fragile roots, fertilized and watered. A mature cucumber plant can use 4L of water per day. Excess leaf growth is pruned to encourage fruits to form. Cucumber vines are trained to grow up support wires. Cucumber harvest starts in 2 to 3 weeks after planting.

Eggplant



The large egg-shaped fruit is from an Old World plant, eaten as a vegetable. Its skin is typically dark purple, but the skin of certain cultivated varieties is white or yellow. In the greenhouse the eggplant seedling will have three to four true leaves by the time they are ready to be transplanted. About four square feet per plant is the required greenhouse spacing and is the same production space that is used for tomato plants. By the time the plants are a foot tall, they should be supported in their vertical position with vine twine.

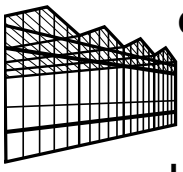
Environmental Stewardship

Use resources efficiently to reduce waste and minimize on the negative impacts on the environment. Translate reduced consumption and waste into financial savings. Provide a healthy, more efficient and effective working environment.

Let's Talk About It!

Field Grown Vegetable

Field vegetable production is dependent on practices that provide well drained soils, adequate irrigation and good fertilization. Careful management is necessary for pest control.



Greenhouse

Is a building covered in glass, plastic or fibreglass. Temperature, ventilation, humidity, light, water and carbon dioxide can all be increased or decreased to produce the best possible greenhouse growing environment.

Hydroponics

A cultivation method of growing plants without soil by using mineral nutrient solutions in a water solvent. The plant is supported by materials such as coir or rockwool.

Integrated Pest Management, or IPM

Is a system that supports a balanced approach to suppressing pests in an effective, economical and environmentally sound way. Use of predator bugs to manage plant damaging insects ensure a virtually pesticide free environment. For example, we use lady bugs for control, has a big appetite for eating aphids that threaten our produce. We also use a variety of other 'good' bugs.

Nutrient Cycling

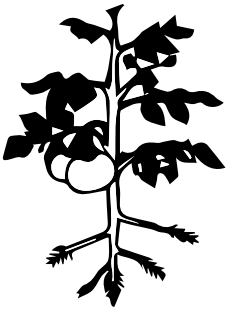
Is one of the most important processes that occur in an ecosystem. The nutrient cycle describes the use, movement, and recycling of nutrients in the environment. Valuable elements such as carbon, oxygen, hydrogen, phosphorus, and nitrogen are essential to life and must be recycled in order for organisms to exist. Nutrient cycles are inclusive of both living and non-living components and involve biological, geological, and chemical processes.

Photosynthesis

Green plants use sunlight to synthesize foods from carbon dioxide and water. Photosynthesis in plants generally involves the green pigment chlorophyll and generates oxygen as a byproduct.

Let's Talk About It!

Parts of a Plant



Fruit is the sweet and fleshy product of a plant that contains seed and can be eaten as food.

Leaf is green in colour filled with chlorophyll.

Flower produces a fruit, with seed.

Seed from a plant, capable of developing into another plant.

Root takes in water and food from the irrigation water, and anchors the plant.

Stem transports water and nutrients through the plant, like a straw that supports the leaves and fruit.

Respiration

The process of the plant which uses the sugars made in photosynthesis to make energy, with the byproduct of CO_2

Rockwool

Is a common growing media used in hydroponics. Rockwool is a sterile, porous, non-degradable medium that is composed primarily of granite and/or limestone which is super-heated and melted, then spun into a small threads like cotton candy. The rockwool is then formed into blocks, sheets, cubes, slabs, or flocking. Rockwool sucks up water easily so you'll want to be careful not to let it become saturated, or it could suffocate your plants roots, as well as lead to stem rot and root rot.

Transpiration

The process of plants taking up water through their roots and "sweating" it through their leaves. It helps the plant to stay cool.

Tomatoes

Are also called "vining" tomatoes. They will grow and produce fruit until killed by frost and can reach heights of up to 10 feet although 6 feet is considered the norm. They will bloom, set new fruit and ripen fruit all at the same time throughout the growing season.

USMCA
United States Mexico Canada Agreement

Is an agreement among the United States, Canada and Mexico that replaced the North American Free Trade Agreement (NAFTA) in September of 2018. It promotes free trade between the three nations without a government applying tariffs, subsidies, or prohibitions on goods and services. USMCA is also referred to as CUSMA and New NAFTA.