

31 On-Farm Food Safety Resource Kit for Nova Scotia Farmers

When you share or sell produce from your farm to other people, ensuring that food is safe is of paramount importance. As our understanding of food hygiene has evolved, our food supply has become safer than ever before despite the emergence of new food safety threats (in the form of evolving pathogens and pervasive chemical contaminants). “Traditional” food safety practices may no longer be sufficient to ensure that food is safe for consumption. New guidelines and regulatory regimes have been developed to reflect current conditions and consumers’ expectations.

While there are specific practices that might be adopted for specific crops, there are some general principles of hygiene that should always be applied:

- **Wash hands.**

All farm workers should wash their hands after working with livestock and before picking fruits and vegetables or otherwise handling produce. Farm workers should also wash their hands after using the toilet, smoking or eating. (Note: if farm workers apply sunscreen and/or insect repellent, they should wash their hands after each application before handling produce.) Proper handwashing means using hot, potable, pressurized water, lathering with liquid soap for at least 15 seconds, drying hands with a single use towel, and using the towel to turn off the tap. For more information, see the Department of Agriculture fact sheet called The Basics of Employee Hygiene: www.gov.ns.ca/agri/foodsafety/factsht/OF-employee-hygiene.pdf

- **Use clean water.**

The water used to irrigate crops must be free of contaminants, both pathogens and harmful substances. The water used to wash fresh produce must be potable. Surface water and ground water used for irrigation and/or washing produce and equipment should be tested on a regular basis. For more information, see the Department of Agriculture fact sheet called Quality of Water Starts at the Source – Ensuring Your Water is Safe: www.gov.ns.ca/agri/foodsafety/factsht/OF-water-quality.pdf

- **Keep facilities and equipment hygienic.**
All packing and storage facilities should be thoroughly cleaned and disinfected on a regular basis. All equipment (washing tables, packing crates, etc.) that comes into contact with produce should be thoroughly cleaned and disinfected on a regular basis. Approved chemical disinfectants include sodium hypochlorite (i.e. Javex), quaternary ammonium and iodine. For more information on appropriate concentrations, disinfection methods and appropriate frequencies, see Bachmann and Earles, 2000: <http://attra.ncat.org/attra-pub/postharvest.html#harvest> (under the Postharvest and Storage Considerations heading, Sanitation subheading.)
- **Good postharvest practices keep food safe.**
Familiarize yourself with the best postharvest management practices for each of the crops you produce. Good postharvest management improves crop quality, lengthens storage time and reduces spoilage. Each of these factors enhances the safety of your fresh produce for consumers. The fact sheet *Postharvest Handling of Fruits and Vegetables*, produced by US National Sustainable Agriculture Information Services, is a good introduction to postharvest handling and provides a comprehensive directory of links to other sources of information: <http://attra.ncat.org/attra-pub/postharvest.html#harvest>
- **Raw manure can spread disease.**
When properly handled, manure can be a valuable fertilizer and soil amendment. But nobody wants manure in their food. Manure can contaminate food in a number of ways; for example, by seeping into irrigation water or through cross-contamination by farm workers who handle produce after working with animals. The following guidelines can ensure the safe co-existence of manure with fresh produce farms.

Although manure is an excellent source of fertilizer for crops, raw manure must be applied to crops with care. As a general rule, there should be at least four months between the time of manure application to harvest for crops that can be eaten raw or where the manure can come in contact with the edible part. This time period can be reduced to three months for crops that cannot be eaten raw or where the manure cannot come into contact with the edible part. (If you are involved in a food safety or organic certification program, the

requirements may differ.) The composting process kills the harmful pathogens in manure, so properly composted manure can be safely applied to fruit and vegetable crops.

Animals (domestic and wild) should be kept away from fruit and vegetable crops. Farm workers should wash their hands and change their footwear if they have been working with livestock and then move into a crop field.

Livestock cages, pens and stalls need to be cleaned out on a regular basis. Feeding troughs and watering equipment need to be kept clean.

While manure in small quantities rarely leads to contamination, having lots of raw manure piled up around your farm increases the risk of it contaminating food crops. Large volumes of manure should be regularly hauled away by an approved person to an appropriate location. Pests and vectors, such as flies and rodents, are attracted to manure and may spread disease or contaminate produce.

For more information on manure storage and disposal, see the Department of Agriculture's handbook on *Manure Management Guidelines*:

www.gov.ns.ca/agri/rs/envman/manureguide_2006lowres.pdf

See also the Department of Agriculture factsheet on Human Health Concerns Related to Soil Applications of Manure and Compost:

www.gov.ns.ca/agri/foodsafety/factsht/OF-human-health-risks.pdf

Canadian Horticultural Council's CanadaGAP (Good Agricultural Practices) Certification Program

This program consists of national food safety standards and a certification system for the safe production, storage and packing of fresh fruits and vegetables. CanadaGAP Certification is required by some national wholesale chains. For more information, call (613) 226-4880 ext. 215 or visit: www.canadagap.ca/en/welcome.aspx

Hazard Analysis Critical Control Point (HACCP)

HACCP is an internationally accepted food safety control program that can be applied on farms, in processing facilities and in retail outlets. HACCP

certification may be needed to access certain markets. For more information on HACCP certification, contact your nearest Department of Agriculture food safety specialist.

More information

For more links to information on on-farm food safety, visit:

www.gov.ns.ca/agri/foodsafety/farmfoodsafety.shtml

For a directory of Department of Agriculture food safety specialists, visit:

www.gov.ns.ca/agri/contactus/staffdir/division.asp?dept=agr&orgLevelID=117

For more information on food safety support from Perennia, visit:

www.perennia.ca/fs_overview.php

You can also refer to one of the following resources:

- Good Agricultural Practices Manual (OMAFRA)
www.omafra.gov.on.ca/english/food/foodsafety/producers/goodagpractices.pdf
- Food Safety Begins on the Farm: A Grower's Manual (Cornell)
<http://ecommons.library.cornell.edu/handle/1813/2209>

[Written by Rebecca Sooksom, THINKFARM Resource Coordinator, and reviewed by Nova Scotia Department of Agriculture Food Safety Staff and Perennia On-Farm Food Safety Staff. September 2012.]