FREQUENTLY ASKED QUESTIONS: AGRICULTURAL WATER

Agricultural water is an essential element used for multiple purposes (e.g., irrigation, agricultural chemical application) in the production of fruit and vegetables. However, water may also be a source of biological or chemical contamination. The risk of contamination is dependent on the quality of the agricultural water source and the way in which it is stored, handled and used in the operation.

Q: What should I look for when assessing my irrigation water source?

A: You should identify sources of biological and chemical contamination around your water source and upstream (if you draw water from a canal, stream or river). If you have a well, you should also ensure the well is working properly, in good condition (e.g., casing is intact and fits properly) and the land around the well head is properly graded. Use the chart provided in your CanadaGAP® manual, Appendix K – Production Site and Agricultural Water Source Assessment, to help with your assessment.

Q: What can I do keep animals out of my agricultural water source?

A: While you may not be able to fully prevent wild animals from accessing your water source, there are some actions you can take to minimize the risk. Steep and/or rocky banks around ponds and canals can discourage birds from nesting and prevent other wildlife such as deer from being able to access the water. Netting may be useful for smaller ponds. Barriers such as fencing or ditches can also be useful, particularly with domestic animals or small water sources.

Q: If I think there is a problem with my agricultural water, can I still use it?

A: If water test results are above the Canadian irrigation water quality guidelines, this does not automatically mean that your product is contaminated. Some methods of irrigation and some crops are at greater risk than others from being affected by poor quality irrigation water. For example, drip irrigation is lower risk than overhead, while some crops may be more easily contaminated than others. If you are overhead irrigating, particularly crops that may be higher risk, and test results indicate a problem, stop using that source until you identify and resolve the source of contamination, and follow-up testing indicates that the water is safe to use. If the water has tested positive for pathogens such as *E. coli* O157:H7 or Salmonella — stop using that water source immediately. It is strongly recommended that you seek expert advice if your irrigation water tests indicate the presence of pathogenic bacteria or consistent, ongoing contamination.

Q: Do I need to test my agricultural water?

A: Irrigation water testing is not required, but it is strongly recommended. The test will provide a general idea of the quality of the water and help to determine if possible contamination is present. Surface water quality, especially constantly flowing sources (e.g. river) is highly variable so tests may only give a snapshot of what is happening at the time. Water testing may also provide evidence of a producer's due diligence. Guidelines for testing irrigation water are provided in your CanadaGAP manual, Appendix G – Water Testing.

Q: I have decided to test my agricultural water. Where should I take the sample from?

A: Take the sample from the point where the water contacts the product, such as the irrigation nozzles or the drip tape. This will tell you if there is any contamination, either in the source or in the pipes. You can also sample the source, but this will not indicate if there is contamination in the pipes. If you are sampling out of an irrigation system, allow the system to run for at least 15 minutes before taking a sample at the end of a drip line or sprinkler head. When sampling surface water, use a weighted pail or sampling cup to get the sample as close to the intake as possible.

Q: What else can I do if I have problems with my irrigation water?

A: After assessing the source, if you determine that it may be contaminated, use an alternate source. If no alternate source is available, consider some of the following:

- **Control runoff.** This can be done by grading the land so the runoff flows away from the water source
- **Create buffers** by planting sod strips, grass waterways or vegetative buffers
- **Control manure.** Spread manure during dry weather or incorporate manure within 24 hours of spreading
- **Leave a manure-free protective strip** at least 10 meters wide around surface water sources
- **Prevent chemical hazards** by ensuring all equipment is well-maintained and that equipment is not cleaned, maintained or drained where the water source may become contaminated
- **Store irrigation pipes and equipment** away from potential sources of contamination (e.g., manure, domestic animals, chemicals)
- **Install an aeration** or filtration system
- **Irrigate in the morning** to increase rapid drying and reduce pathogen survival with ultra violet light
- **Allow as long a period as possible** between irrigating or manure spreading and harvest
- **Ensure proper operation** of sewer/septic system

SOURCES OF BIOLOGICAL CONTAMINATION

- Animals and birds, both wild (e.g., deer) and domestic (e.g., cattle, dogs)
- Improper manure storage—either on site or on neighbouring sites
- Other sources of fecal contamination such as campsites, outside toilets, septic beds
- Recreational use (e.g., swimming and boating)

SOURCES OF CHEMICAL CONTAMINATION

- Runoff or agricultural chemical spray drift on site or on neighbouring sites
- Improper storage of chemicals or equipment
- Upstream industrial uses (e.g., landfills)

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