Best Management Practices

helping aquatic species at risk

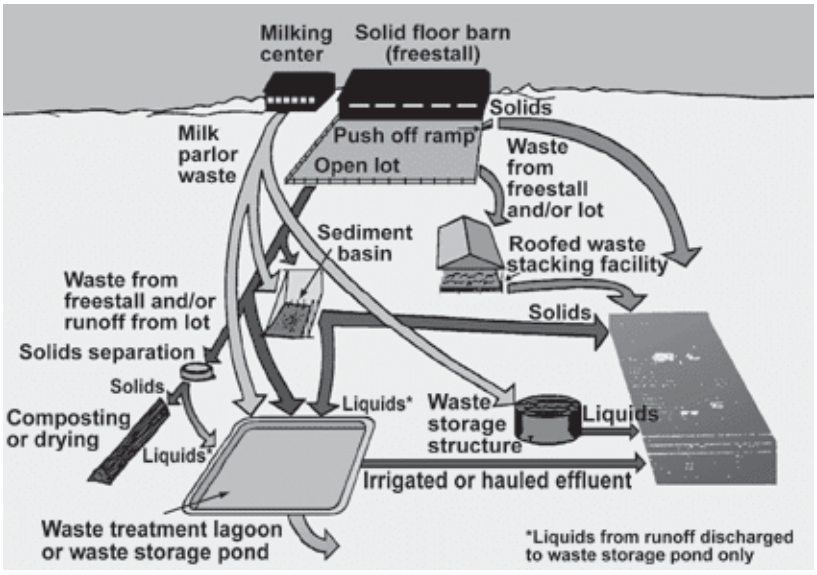
Milkhouse Wastewater

The Sydenham River in southwestern Ontario is the only major watershed which lies completely within the Carolinian Life Zone and is relatively undisturbed by industrial development. This has made the river a biological treasure. The Sydenham River supports an incredible variety of aquatic life, or what we call biodiversity. At least 82 species of fish and 34 species of freshwater mussels have been found here, making it one of the most species rich watersheds in all of Canada. Several species in the Sydenham River are found nowhere else in Canada, and some remain at only a few locations globally. Many of these species at risk have been nationally listed as endangered, threatened, or of special concern by the Committee on the Status of Endangered Wildlife in Canada. You can help too. By adopting Best Management Practices (BMPs), you can help protect the Sydenham River and its tributaries. This series of fact sheets will assist you in deciding which BMPs are right for your property.

Disposal of the water used to clean milking equipment is a major concern to the environment. If the wastewater enters field tiles and is leaked into the river and streams, the results can be devastating to the river and the life that is sustained by it.

The chemicals in cleaning products used to clean out the milk lines have a detrimental effect on the river and water system. A phosphate detergent released into the river system may cause algae growth in the streams and lakes. The growth of algae takes up the oxygen in the water and leaves poor water oxygen conditions for fish and insects inhabiting the river. Cleansers that are not phosphate based (even natural cleansers) also have a negative effect on the health of the river. Many of the non-phosphate cleansers are nitrogen based. If these cleansers are released into the surface water they will have the same effect as the phosphorus. Nitrogen will eventually end up in the water table since nitrogen is not fixed in the soil.

- Technical advice and grants may be available to assist in implementing Best Management Practices on your property.
- If your project involves work in or near a watercourse, you may require permits including a Fill, Construction or Alteration to watercourse permit from the Conservation Authority.
- Call before you begin your project.



source:http://cru.cahe.wsu.edu/CEPublications/eb1746-f10/eb1746-f10.html

"Working Towards Healthy Watersheds"

Natural cleansers do not clean the wash water enough to be sent into the watercourse and may not sufficiently reduce the bacterial count of the water.

Milk that is deposited into the river, even when diluted with water, has a lasting negative effect on the environment and the life that feeds from the stream. Bacterial growth in decomposing milk can transmit disease to the animals drinking the water downstream of where milk water enters. This, as well as the oxygen depleting effect decomposing milk has in the water, are strong reasons to ensure proper disposal of milk wash water.

The Sydenham River has many rare species of fish, mussels, and turtles. These species depend on the good water quality. Improper disposal of milk house waste water is one more factor causing stress to these organisms. By following proper milkwater disposal practices, you can help protect species at risk and help improve water quality.

Washwater from milking can be handled and disposed in several different ways that will keep the environment safe.

- collect and store the washwater in a separate storage system.
- combine with manure storage
- create a sediment tank system.

Separate Storage

The wastewater created from cleaning milking equipment can be collected and stored in a separate concrete or earthen storage that has the ability to hold over 200 days volume of waste. The washwater can then be stored until appropriate application times. The earthen structure has a lower building cost, however, there must be sufficient clay content in the subsoil to ensure that the storage will not allow the waste to escape into the groundwater. The storage should be separated from any wells by a minimum of 90 m.

Combined Storage

Wastewater from the cleaning process can also be stored with existing liquid manure and contaminated runoff storages. The washwater will dilute the manure and make it easier to pump. For information concerning manure storages, refer to the Best Management Practices fact sheet entitled *Manure Storage*.

Sediment Tank and Treatment Trench System

There is also the option of the milk washwater draining into an underground tank that holds 5-7 days of washwater. In this situation, the milk lines should be pre-rinsed with 1-5 gallons of water, depending on the number of lines. This water can be fed to calves older than 6 weeks. The amount of wastewater can be reduced by using less water per cycle. One water conservation method available is a milking centre sink which can reduce volumes by up to 45%. From the location of the tank, the water is passed to a weeping bed of trenches filled with crushed stone. The water then seeps into soil in which the phosphorus is absorbed by clay, calcium or iron. In order for this system to work, it must be placed in the proper site. Consult your local building official to determine site possibilities. The level of sludge in the tank should be regularly checked and pumped when necessary. Milk and manure should never be washed down into the system. If a milk spill occurs, the tank should be pumped immediately. The system should be located at a minimum distance of 15 m from a drilled well, and 30 m from a dug or bored well.

St. Clair Region Conservation Authority
205 Mill Pond Cr., Strathroy, ON, N7G 3P9
(519) 245-3710 E-Mail stclair@scrca.on.ca
www.scrca.on.ca

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