



## Lesson: The Environment – The Hatcher Family’s *Green* Farm

**Objective:** To understand what impact a dairy farm can have on the environment and what steps that a farmer can take to make sure that there is no harm to the environment.

Also, what does it mean to the consumer drinking the milk that they are drinking milk from an environmentally friendly or *green* farm.

### Introduction

Have the class prepare a K-W-L chart about what they Know about the environment on a dairy farm, what they Want to know and for when you return, what they Learned. This can be done as in interactive exercise or have the class prepare individual charts to be shared and completed after the tour.

Some suggested questions to get the conversation going:

- When the cows eat the grass does that leave the fields open to erosion?
- Are pastures the ultimate in recycling?
- How much does a farm smell?
- What happens to the waste from the cows?
- What about dust created by the cows?
- Is there any effect on the lakes, streams and waterways that run through a dairy farm?
- How do you protect our water source?
- What agencies monitor the dairy farmer?
- What are the two ways of removing manure from dairy housing?
- Who makes/enforces the farm regulations?
- Does the farm give back anything to the environment?
- What kind of recycling do you do on a farm?

### Vocabulary

manure	runoff	nutrient management
manure lagoon	compost	soil testing
effluent	conservation buffer	surprise visit
fertilizer	Environmental Protection Agency (EPA)	sterilization
organic fertilizer	Natural Resources Conservation Service	trucking
commercial fertilizer	Tennessee Department of Agriculture	<b>need more words on the environment...</b>
waste water		

Have students define each word and use each word in a sentence.

Place each word in a hat and ask a student to pull a word out of a hat and use that word in a sentence.

## **Water Conservation**

Hatcher Family Dairy uses water carefully and responsibly in our milking parlors and in manure management and storage. For example, wastewater is recycled to flush feed alleys and irrigate fields. One benefit of fertilizing the soil with cow manure is to help conserve water. When manure is used as a soil treatment, the water-holding capacity of soil is increased by 20 percent, resulting in reduced groundwater needed to grow crops.

## **Waste Management**

We are required to follow detailed manure recycling plans. These plans are continually updated to reflect new technologies. Every farm must abide by clean water laws. We protect the water on and near our farm through a variety of practices to minimize potential runoff from our operations. Manure is spread on grazing fields according to detailed nutrient management plans. These plans take into account the types of soil on the farm, the terrain of the fields and soil moisture levels. The federal government offers incentives to help dairy farmers protect the water supply. For example, many farmers receive technical assistance when they upgrade their irrigation systems and manure storage facilities.

## **Air Quality**

We protect our air quality by following proper manure storage practices and maintaining clean facilities. When applying manure to our fields, we work to schedule around our neighbors' plans.

## **Farm Management Practices**

Hatcher Family Dairy does not use any conventional pesticides. We use an integrated pest management (IPM) program which combines various techniques to keep flies and other pests at bay. While all farmers use certain fuels, oils, gases, paints, solvents and degreasers to maintain everyday farm operations, we ensure that they are properly stored and disposed of. Protecting the environment is the responsibility of everyone, including dairy farmers.

## **Exercises**

1. Have the class draw the lifecycle of grass on a dairy farm.
2. Have the class write a paragraph about what they think is the most important part of recycling.
3. Have the class write a paragraph/essay on the importance of having a *green* dairy farm.
4. Have a class discussion on the importance of a clean dairy farm environment.
5. Have a class discussion on what they think would happen if dairy farms weren't so clean.
6. Have a discussion on the benefits of being certain that there are no chemicals or other contaminants in milk.