



Agricultural Environmental Management *Safeguarding Your Family's Drinking Water*

By Barbara Silvestri

Our continuing series on New York State's Agricultural Environmental Management (AEM) Program focuses this quarter on an issue that's close to home: the water that your family drinks. In addition to protecting the environment, AEM planning can help you to ensure that the water your family drinks stays clean and healthy. The *Farmstead Water Supply Evaluation Worksheet* is the first step.

The main factors that determine the safety of your water supply are the condition of your well or spring and its proximity to sources of contamination. For example, a cracked well casing may allow bacteria, nitrates, oil, pesticides or other contaminants to enter the well more easily. Spilling pesticides or fuel near a well can result in the contamination of your family's, and your neighbors', drinking water supplies. Feedlots, barnyards, septic systems, and even wildlife are potential sources of pathogens and nitrates. Fertilizer applications and waste storage areas can also be sources of nitrates. Pathogens, petroleum products, pesticides, and nitrates can pose serious health hazards if they get into drinking water supplies.

Maintaining your well or spring development properly can prevent dangerous and costly problems for your family down the road. If the groundwater that supplies your well or spring becomes contaminated, it can be very difficult to clean up. The only options may be to treat the water, drill a new well, or obtain water from another source. If contamination affects your or your neighbors' wells, you may be responsible for clean up costs.

The good news is that simple maintenance and management practices can greatly reduce these risks. Conducting an AEM Risk Assessment can help assess your farm's water supply and identify opportunities to increase safety. Signed into law in 2000, New York State's AEM Program provides a voluntary and confidential way to assess a farm's environmental practices and then address any concerns identified.

The AEM *Farmstead Water Supply Evaluation Worksheet* helps farmers identify risks to their water supply safety. Some of the factors assessed by the worksheet are listed below:

- **What is the location of your water supply relative to pollution sources?**
 - It is safest for the water supply to be upslope of any pollution sources with surface water diverted away from the water supply. Runoff water collecting and ponding around the wellhead may pose a risk.
 - Risk is reduced if the farmstead water supply is sufficiently separated from contamination sources like septic systems, petroleum storage tanks or silos. Having separate water supplies for household and livestock use can also minimize risk.
 - The water supply is safest if the well head is not in an area that periodically floods. If there is a stream near the well, the stream water could also affect well water quality.
- **For drilled wells, what is the condition of the well?**
 - Risk is reduced by having a clean steel, plastic or wrought iron casing at least six inches in diameter with no holes or cracks. The cap should be tightly secured with a screened vent that faces the ground. There should be a pitless adapter or sanitary well seal for pump lines or electric cables.
 - A deep casing with a screen is safest.

- A casing that rises at least 1-2 feet above the ground surface will help prevent flooding contamination.
- Thorough grouting around the well casing and concrete (or soil) sloping away from the casing at the surface will both minimize contamination risk.
- **What are your management practices?**
 - Water should be tested every spring for the presence of bacteria and the concentration of nitrates.
 - The best scenario would be to have consistently satisfactory water quality with no bacteria or pesticides detected, and nitrates less than 5 mg/l as N. If contaminants are occasionally found, the problem should be investigated further, corrective action taken and the well disinfected.
 - Water supply and plumbing system should be inspected annually and records kept of maintenance performed.
 - Any unused wells on the farm should be capped and protected, and abandoned wells should be plugged.

Safeguard your family and your neighbors by taking some time to assess your water supply situation as part of a complete AEM Risk Assessment with a member of your local AEM team of resource professionals. They can equip you with the information you need to make smart decisions that will protect the water your family and neighbors rely on.

If you would like to schedule a free, confidential AEM Risk Assessment for your farm, including a *Farmstead Water Supply Evaluation*, contact your County Soil and Water Conservation District. Other resources include your local Cornell Cooperative Extension educators and staff at your county Health Department.

To learn more about AEM, view the Worksheets (including the *Farmstead Water Supply Evaluation Worksheet*), or to locate your Conservation District office, visit: www.nys-soilandwater.org

Check the next issue for more information on how AEM is helping over 11,000 farm families statewide farm cleaner and greener, and how you can use AEM to your advantage on your farm.