

## *Introduction*

### FARMSTEAD EVALUATION

Eighty percent of Pennsylvania's rural residents rely on groundwater for their drinking water. Surface water is part of every landscape, from the smallest headwater drainageway to rivers like the Susquehanna that drain into the Chesapeake Bay. Many farmers rely on well water for their farms and homes, and they may also use surface water to supplement the needs of their livestock or to irrigate crops. Some farm activities have the potential to contaminate wells and streams. Key areas where on-farm water contamination occurs include:

- barnyards and pasture lots
- milkhouses
- septic system drainage areas
- pesticide and fertilizer handling areas
- water wells
- stream corridors

Previous notions that soil and rock layers remove all contaminants from groundwater before it reaches our wells are not necessarily true. The best way to keep contaminants out of well water is to reduce the potential for pollutants to end up in the groundwater. Preventing groundwater contamination is far easier and less expensive than cleaning it up. Once groundwater is polluted, the solutions include treating the water as it is pumped or obtaining water from a new source.

Degradation of surface-water quality can affect livestock, fish, water-based recreation, and municipal water systems. Sediment, bacteria, nitrogen, phosphorus, and pesticides are major pollutants that move from farmsteads to drainageways and streams. Responsible management of potential pollutants on farms reduces the possible negative impacts of poor water quality on farm families, neighbors, and livestock.

### PURPOSES

There are two purposes of the Pennsylvania Farm•A•Syst worksheets. The first is to determine which farmsteads are already managed in an environmentally sound way. These farmsteads ensure the protection of surface and groundwater. The second is to promote awareness of existing site conditions

or practices that threaten the quality of groundwater and surface water. After identifying potential contamination sources, it is easier to develop future plans for change that fit the means and needs of individual sites.

### CONTENTS

The introduction includes a preliminary screening quiz that can help prioritize which Pennsylvania Farm•A•Syst worksheets to complete. It also includes a farmstead map worksheet, which is hand drawn by the evaluator to locate important features that may impact water quality. The worksheets can be used individually or together for a more complete evaluation. As part of Pennsylvania Farm•A•Syst, worksheets are available to evaluate:

- Water Well Condition and Construction
- Pesticide and Fertilizer Storage and Handling
- Household Wastewater Treatment System
- Barnyard Conditions and Management
- Milkhouse Wastewater Management
- Stream and Drainageway Management

The Pennsylvania Farm•A•Syst worksheets are designed as part of an educational program. A sample post-evaluation survey is available for a group or agency wishing to sponsor the evaluations in a certain area and wanting to receive feedback from those who complete the worksheets.

### SCORING

The scoring indicates the potential for contamination based on site conditions and management practices. It does not indicate exactly how much water quality will be affected. Only extensive site investigations can provide such information.

### ADDITIONAL INFORMATION

More worksheets may be added later, and will be available from the same sources as these six worksheets. Questions about the worksheets or technical assistance should be directed to your local conservation district, Penn State Cooperative Extension office, or USDA Natural Resources Conservation Service (NRCS) field office.

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