

# Well-A-Syst

A voluntary program to assist private drinking well users evaluate and modify practices to protect their drinking water supply

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## Livestock Management

### Why should you be concerned?

Livestock operations can generate large amounts of manure. This manure can be a valuable resource. However, improper handling of manure in barnyards, holding areas, and feedlots can cause bacteria, micro-organisms, and nitrates to seep into the ground water and contaminate your water supply.

1. Do you have livestock operations on your property?
2. Do you house livestock within 150 feet of a water supply?
3. Do you store manure within 250 feet of a water supply system?
4. Do you dispose of dead animals on your property?
5. Do you spread manure on your fields?

If you answered “yes” or you do not know the answer to any of these questions, use this worksheet to address those issues. The information will help you develop a voluntary plan of action to reduce the contamination risks to your well.

### 1. Do you have livestock operations on your property?

Livestock operations can release bacteria, other micro-organisms and nutrients into ground water. Manure should be treated as a resource rather than a waste product. Proper use of manures can reduce fertilizer purchases, improve soil quality and reduce pollution risks. Maintain records of all manure applications and use properly calibrated equipment. Develop a manure management plan.

### 2. Do you house livestock within 150 feet of a water supply?

Livestock operations should be located at least 150 feet downhill from private water supplies (including abandoned wells and neighboring wells) and 500 feet from public water supply systems. The minimum distance from the well to the pollution source will increase in distance depending on the number of animals, amount of manure stored, slope of the land, vegetation, and the type of soil on your land. If you have a livestock operation on your property, test your water annually for bacteria and nitrates.

### 3. Do you store manure within 250 feet of a water supply system?

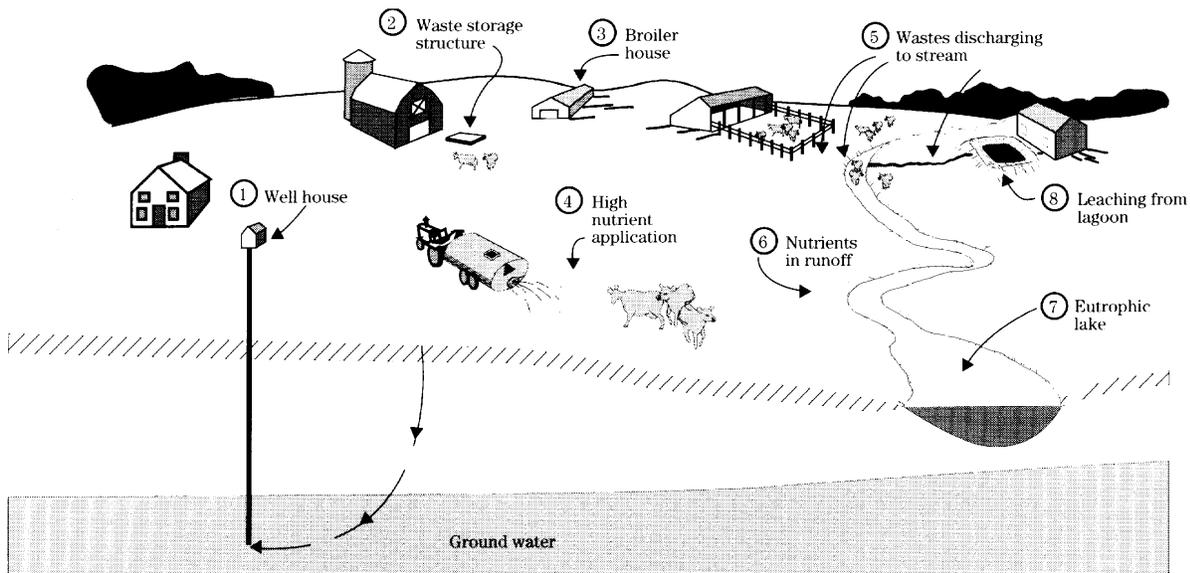
Avoid manure storage within 250 feet of your well. Depending on the number of animals, amount of manure stored, and type of soil, double the distance to 500 feet. To alleviate runoff pollution, locate the facility downhill from your well. In addition, design the facility to prevent unplanned off-site movement of manure. Reduce the volume of stored manure by frequently spreading on crop ground at rates the crop can utilize, as long as the ground is not frozen.

#### 4. Do you dispose of dead animals on your property?

Decomposing animals can be a concentrated source of nutrients, bacteria and other potentially harmful micro-organisms. Small animals can be best disposed of by composting, while a rendering service is generally better for larger animals. Check your local and state laws before disposing of dead animals.

#### 5. Do you spread manure on fields?

Store manure in an approved storage system until it can be used to provide crop nutrients. Make sure to credit nutrients in your nutrient management plan.



1. Contaminated well: Well water contaminated by bacteria and nitrates because of leaching through soil. (See item 4.)
2. Waste storage structure: Poisonous and explosive gases in structure.
3. Animals in poorly ventilated building: Ammonia and other gases create respiratory and eye problems in animals and corrosion of metals in building.
4. Waste applied at high rates: Nitrate toxicity and other N-related diseases in cattle grazing cool-season grasses; leaching of  $\text{NO}_3$  and micro-organisms through soil, fractured rock, and sinkholes.
5. Discharging lagoon, runoff from open feedlot, and cattle in creek: (a) Organic matter creates low dissolved oxygen levels in stream; (b) Ammonia concentration reaches toxic limits for fish; and (c) Stream is enriched with nutrients, creating eutrophic conditions in downstream lake.
6. Runoff from fields where livestock waste is spread and no conservation practices on land: P and  $\text{NH}_4$  attached to eroded soil particles and soluble nutrients reach stream, creating eutrophic conditions in downstream lake.
7. Eutrophic conditions: Excess algae and aquatic weeds created by contributions from items 5 and 6; nitrite poisoning (brown-blood disease) in fish because of high N levels in bottom muds when spring overturn occurs.
8. Leaching of nutrients and bacteria from poorly sealed lagoon: May contaminate ground water or enter stream as interflow.

## Glossary

### *compost*

a controlled process to decompose organic matter by microorganisms

### *nitrate*

a water soluble and mobile form of nitrogen; a necessary compound for plant growth but can produce health risks when excess amounts reach drinking water supplies

## Contacts

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# Well\*A\*Syst Worksheets

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Private Drinking Water Well Management  
Cistern Management  
Site Assessment  
Septic System Management  
Household Hazardous Waste Management

Livestock Management  
Fertilizer Management  
Pesticide Management  
Petroleum Storage Management

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