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## EC98-746 Farm\*A\*Syst Nebraska's System for Assessing Water Contamination Risk: Introduction

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# Farm A Syst

## INTRODUCTION

### Nebraska's System for Assessing Water Contamination Risk

Groundwater provides nearly all the water for domestic use in rural Nebraska. It's essential that the quality of our groundwater, along with that of our surface water resources, be protected. It is especially important to protect the drinking water supply on any homesites where a private domestic well is used.

The risk to water quality of various activities at homesites and on surrounding lands varies. Identifying high-risk activities can help determine where to use limited financial and management resources. By increasing knowledge and using careful management, you can greatly reduce the risk of water contamination, often with little or no cost or effort.

Evaluating the activities around the homesite and on surrounding lands, and the location of buildings in relation to drinking water wells, is necessary to determine the potential risk to the water supply. The design and construction of structures and their location relative to the drinking water well; the condition of the well; the storage, handling, and disposal of potential contaminants at the homesite; and practices

on surrounding land are important factors in assessing risks. By identifying contamination risks around your homesite and surrounding land, and taking action to reduce the risks, you can better protect the health of your family and pets or livestock, prevent potential liability from water contamination, and avoid any difficulties in property transfer.

Your drinking water is least likely to be contaminated if you

follow appropriate management practices, recycle whenever possible, and dispose remaining wastes in an appropriate manner. Even with large separation distances, proper disposal practices are essential to avoid contamination that could affect the water supplies and health of others.

The Assessment System allows you to evaluate how your homesite and farm structures and activities, such as

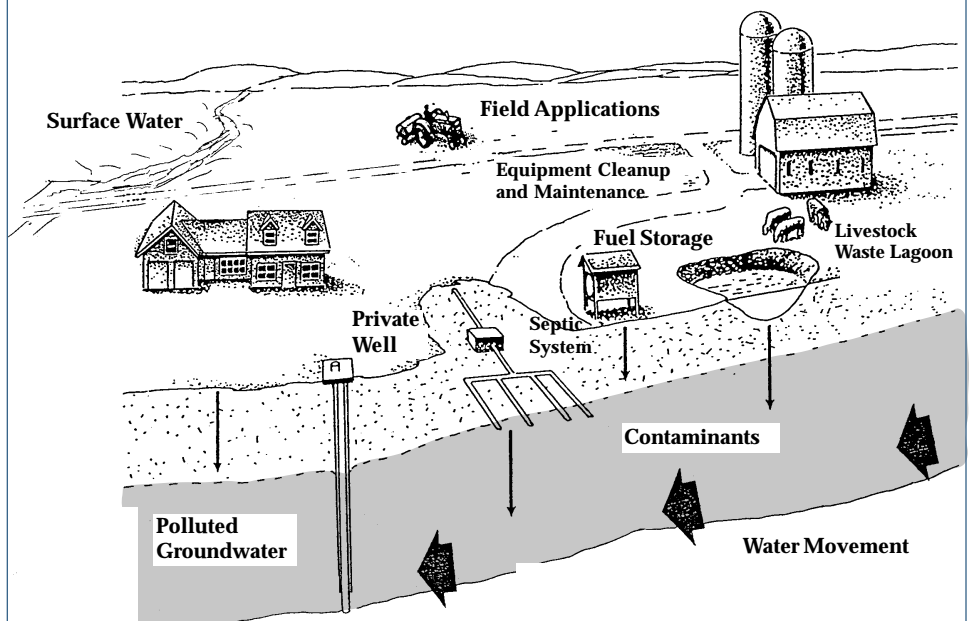


Figure 1. Many potential groundwater contaminants exist around the farm.

pesticide storage, fuel storage, or livestock facilities, might be affecting your drinking water and other water supplies. Some of the information will be reassuring, and some may encourage you to modify certain practices. Either way, you'll have the information you need to do the best possible job of protecting the water you depend on for your family's drinking water supply.

## What is the Assessment System?

The Assessment System (Farm\*A\*Syst) includes a series of worksheets to help you assess how effectively your practices protect your water quality, especially your drinking water. The worksheets ask about your homesite and farm structures and activities. Your answers will reveal how your practices might be affecting your well water and water quality in your area.

A series of fact sheets suggests things you can do to modify practices and directs you toward additional information and assistance if it is needed.

**The Farm\*A\*Syst package is a voluntary and confidential opportunity for concerned agricultural producers and rural residents. As a user, you decide what to do with the results and keep them for your personal records.**

Farm\*A\*Syst focuses on the effects of farm practices and structures on drinking water supplies. In addition, Farm\*A\*Syst will provide general information on potential contamination risks to ground-water and surface water. Farm\*A\*Syst is designed as a "self assessment" tool for agricultural producers and rural residents. A detailed environmental site assessment would require that a professional environmental consultant be hired.

## Should you complete Farm\*A\*Syst?

As a private water user, you alone are responsible for your drinking water quality. Farm\*A\*Syst will help you identify potential problems. Reviewing the fact sheets in the complete Farm\*A\*Syst packet will help you develop an appropriate response to potential problems.

## How does Farm\*A\*Syst work?

The Farm\*A\*Syst package provides a series of worksheets that you complete to determine the risk to water quality. The risk information along with the accompanying fact sheets will enable you to begin to determine actions you can take to protect water quality. Six of the Farm\*A\*Syst worksheets help you assess the pollution potential of your structures and activities that are found on most rural homesites and farms today.

Select the worksheets appropriate for your site:

- *Drinking Water Well Condition*
- *Pesticide Storage and Handling*
- *Fertilizer Storage and Handling*
- *Petroleum Product Storage*
- *Hazardous Materials and Waste Management*
- *Household Wastewater Treatment*

Five of the Farm\*A\*Syst worksheets are appropriate for farms, ranches, or acreages with livestock. Skip these worksheets if you do not have livestock:

- *Livestock Manure Storage*
- *Livestock Yards Management*
- *Land Application of Livestock Manure*
- *Silage Storage*
- *Milking Center Effluent Treatment*

The following Farm\*A\*Syst worksheets focus on field practices that may contribute to the risk of groundwater contamination:

- *Irrigation Wellhead Protection*
- *Crop Pest Management*
- *Crop Nutrient Management*

An assessment of a site with Farm\*A\*Syst includes a site evaluation which helps you assess how soil and geologic features affect water pollution on your farm or homesite. An overall evaluation unit combines the results of the individual worksheets allowing you to:

- Compare potential contamination sources to see where improvements are needed most.

- Determine where to spend your time and money most effectively to protect the groundwater that supplies your drinking water.

Plan on spending 15 to 30 minutes to complete each worksheet you select. Reading the management information provided in the fact sheets will take more time.

As you work through the risk evaluation, the fact sheets provide information on factors influencing pollution risks, health and legal concerns related to specific pollutants and resources to help you set priorities and take action to minimize water pollution potential on your farm, ranch, or homesite.

Local University of Nebraska Cooperative Extension offices may be able to provide information that will assist you in completing the Farm\*A\*Syst worksheets or direct you to other sources of information. These offices are in the following locations:

**Adams**, Hastings, (402) 461-7209  
**Antelope**, Neligh, (402) 887-5414  
**Boone**, Albion, (402) 395-2158  
**Box Butte**, Alliance, (308) 762-5616  
**Boyd**, Butte, (402) 775-2491  
**Brown, Rock, Keya Paha**, Ainsworth, (402) 387-2213  
**Buffalo**, Kearney, (308) 236-1235  
**Burt**, Tekamah, (402) 374-2929  
**Butler**, David City, (402) 367-7410  
**Cass**, Weeping Water, (402) 267-2205  
**Cedar**, Hartington, (402) 254-6821  
**Cent. Sandhills Area**,  
 (Blaine, Thomas, Grant, Hooker),  
 Thedford, (308) 645-2267

**Chase**, Imperial, (308) 882-4731  
**Cherry**, Valentine, (402) 376-1850  
**Cheyenne**, Sidney, (308) 254-4455  
**Clay**, Clay Center, (402) 762-3644  
**Colfax**, Schuyler, (402) 352-3821-26  
**Cuming**, West Point, (402) 372-6006  
**Custer**, Broken Bow, (308) 872-6831  
**Dakota**, Dakota City, (402) 987-2140  
**Dawes**, Chadron, (308) 432-3373-74  
**Dawson**, Lexington, (308) 324-5501  
**Deuel**, Chappell, (308) 874-2705  
**Dixon**, Concord, (402) 584-2234  
**Dodge**, Fremont, (402) 727-2775  
**Douglas**, Omaha, (402) 444-7804  
**Dundy**, Benkelman, (308) 423-2021  
**Fillmore**, Geneva, (402) 759-3712  
**Franklin**, Franklin, (308) 425-6277  
**Frontier**, Curtis, (308) 367-4424  
**Furnas**, Beaver City, (308) 268-3105  
**Gage**, Beatrice, (402) 223-1384  
**Garden**, Oshkosh, (308) 772-3311/3320  
**Garfield, Loup, Wheeler**, Burwell, (308) 346-4200  
**Gosper**, Elwood, (308) 785-2390  
**Greeley**, Greeley, (308) 428-2835  
**Hall**, Grand Island, (308) 385-5088  
**Hamilton**, Aurora, (402) 694-6174  
**Harlan**, Alma, (308) 928-2119  
**Hayes**, Hayes Center, (308) 286-3312  
**Hitchcock**, Trenton, (308) 334-5666  
**Holt**, O'Neill, (402) 336-2760  
**Howard**, St. Paul, (308) 754-5422  
**Jefferson**, Fairbury, (402) 729-3487  
**Johnson**, Tecumseh, (402) 335-3669  
**Kearney**, Minden, (308) 832-0645  
**Keith-Arthur**, Ogallala, (308) 284-6051  
**Kimball-Banner**, Kimball, (308) 235-3122  
**Knox**, Center, (402) 288-4224  
**Lancaster**, Lincoln, (402) 441-7180  
**Lincoln**, North Platte, (308) 532-2683  
**Logan, McPherson**, Stapleton, (308) 636-2332  
**Madison**, Norfolk, (402) 370-4040  
**Merrick**, Central City, (308) 946-3843  
**Morrill**, Bridgeport, (308) 262-1022

**Nance**, Fullerton, (308) 536-2691  
**Nemaha**, Auburn, (402) 274-4755/4756  
**Nuckolls**, Nelson, (402) 225-2381  
**Otoe**, Syracuse, (402) 269-2301  
**Pawnee**, Pawnee City, (402) 852-2970  
**Perkins**, Grant, (308) 352-4340  
**Phelps**, Holdrege, (308) 995-4222  
**Pierce**, Pierce, (402) 329-4821  
**Platte**, Columbus, (402) 563-4901  
**Polk**, Osceola, (402) 747-2321  
**Red Willow**, McCook, (308) 345-3390  
**Richardson**, Falls City, (402) 245-4324  
**Saline**, Wilber, (402) 821-2151  
**Sarpy**, Papillion, (402) 593-2172  
**Saunders**, Ithaca, (402) 624-8030  
**Scotts Bluff**, Gering, (308) 436-6622  
**Seward**, Seward, (402) 643-2981  
**Sheridan**, Rushville, (308) 327-2312  
**Sherman**, Loup City, (308) 745-1518  
**Sioux**, Harrison, (308) 668-2428  
**Stanton**, Stanton, (402) 439-2231  
**Thayer**, Hebron, (402) 768-7212  
**Thurston**, Walthill, (402) 846-5656  
**Valley**, Ord, (308) 728-5071  
**Washington**, Blair, (402) 426-9455  
**Wayne**, Wayne, (402) 375-3310  
**Webster**, Red Cloud, (402) 746-3417  
**York**, York, (402) 362-5508

#### District Offices

**Northeast Research and Extension Center**, Norfolk, (402) 370-4000  
**Panhandle Research and Extension Center**, Scottsbluff, (308) 632-1230  
**South Central Research and Extension Center**, Clay Center, (402) 762-3535  
**Southeast Research and Extension Center**, Lincoln, (402) 472-3674  
**West Central Research and Extension Center**, North Platte, (308) 532-3611

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