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

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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 groundwater 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 sheets 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) 772-3311/3200
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
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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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