

1998

EC98-453 Home*A*Syst : An Environmental Risk-Assessment Guide for the Home

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University of Nebraska Cooperative Extension EC98-453

HOME*A*SYST

An Environmental Risk-Assessment Guide for the Home

Nebraska Addendum

Home*A*Syst is a nationally written and supported environmental assessment program. This supplement provides information and explains how to obtain information on recommendations and regulations specific to Nebraska.

Additional Information for Assessment Tables

Each Home*A*Syst chapter includes assessment tables designed to help you rate your risks in regard to situations or practices discussed. This addendum provides **additional information related to three assessment tables**: Chapter 3, *Drinking Water Well Management*, well location assessment table; Chapter 7, *Yard and Garden Care*, yard and garden care assessment table; and Chapter 10, *Heating and Cooling Systems*, preventing loss of heated or cooled air assessment table. The additional information should help you more accurately rate your risk related to these issues.

Nebraska Recommendations

Each chapter in Home*A*Syst describes safe practices and gives recommendations for reducing or eliminating risks. To help you find additional information on a topic, each chapter also recommends books, publications, telephone hotlines, and other resources. This addendum lists **University of Nebraska Cooperative Extension publications** that provide Nebraska-specific information on the topics covered. Publications listed are available at local Cooperative Extension offices across Nebraska or on the Institute of Agriculture and Natural Resources web site <ianrwww.unl.edu/ianr/pubs/extnpubs.htm>. Some publications are free; the prices of others vary.

Nebraska Regulations

Home*A*Syst is a confidential self-assessment designed to help you evaluate your home and property for pollution and health risks. It is not designed to evaluate whether or not you are in compliance with environmental laws or regulations. This addendum lists **Nebraska agencies** that can provide information on relevant national and state laws and regulations.



Issued in furtherance of Cooperative Extension work, Acts of May 8 and June 30, 1914, in cooperation with the U.S. Department of Agriculture. Kenneth R. Bolen, Director of Cooperative Extension, University of Nebraska, Institute of Agriculture and Natural Resources.

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Nebraska Agencies providing information on **Laws and Regulations**

Nebraska Department of Environmental Quality

Suite 400, The Atrium
1200 N Street, P.O. Box 98922
Lincoln, NE 68509
(402) 471-2186

Chapter 2: Stormwater Management

Chapter 4: Household Wastewater: Septic Systems and Other Treatment Methods

Chapter 5: Managing Hazardous Household Products

Chapter 11: Managing Household Waste: Preventing, Reusing, Recycling and Composting

Nebraska Health and Human Services Systems

Regulation and Licensure
P.O. Box 95007
Lincoln, NE 68509-5007
(402) 471-2133

Chapter 3: Drinking Water Well Management

Chapter 6: Lead in and Around the Home: Identifying and Managing Its Sources

Chapter 9: Indoor Air Quality: Reducing Health Risks and Improving the Air You Breathe

Nebraska State Fire Marshal

Flammable Liquid Storage Tank Division
246 S 14th Street
Lincoln, NE 68508-1804
(402) 471-9465

Chapter 8: Liquid Fuels: Safe Management of Gasoline, Heating Oil, Diesel, and Other Fuels

Nebraska Energy Office

1111 O St., Suite 223
Lincoln, NE 68508
(402) 471-2867

Chapter 10: Heating and Cooling Systems: Saving Energy and Keeping Safe

Nebraska Department of Agriculture

Plant Industry
301 Centennial Mall South, 4th Floor
P.O. Box 94756
Lincoln, NE 68509-4756
(402) 471-2394

Chapter 5: Managing Hazardous Household Products (pesticides)

Chapter 6: Yard and Garden Care (pesticides)

Assessment Tables

Supplemental Information

Chapter 3, *Drinking Water Well Management*
Well Location Assessment Table, page 25.

The second risk in this table addresses **separation distances between well and pollution sources**. The following separation distances are required or recommended in Nebraska based on our soil and subsurface geology characteristics.

Minimum Required Distances Between Well and Potential Sources of Contamination.

Regulated by Title 178 chapter 12 regulations governing water well construction, pump installation, and water well decommissioning standards, Nebraska Health and Human Services Systems Regulations and Licensure.

- | | |
|--------------|---|
| 10 feet | depressions that could retain stagnant water
pump pits and tank pits
sewer lines
frost-proof hydrants |
| 10 - 50 feet | sewer lines within this distance must be watertight when subjected to pressure equivalent of a column of water 10 feet high. |
| 50 feet | septic tank |
| 100 feet | cesspool or seepage pit
privy
any other subsurface disposal system
any known or suspected source of contamination or pollution |

Minimum Recommended Distances Between Well and Potential Sources of Contamination.

Not addressed by Title 178 chapter 12 regulations governing water well construction, pump installation, and water abandonment standards, Nebraska Health and Human Services Systems Regulations and Licensure.

- | | |
|----------|---|
| 10 feet | cistern |
| 25 feet | animal barn pen with concrete floor |
| 50 feet | sewage holding tank
animal shelter or yard |
| 100 feet | gasoline and liquid petroleum products |

Table 7. Characteristics and adaptation of principle turfgrasses in the Central Great Plains.

Turfgrass species	ADAPTATION								CULTURAL PRACTICES					COMMENTS
	Statewide	Soil	High temperature tolerance	Cold temperature tolerance	Drought tolerance	Shade tolerance	Wear	Texture	Nitrogen requirement	height in inches	Preferred mowing requirement	Irrigation Disease problems	Insect problems	
Kentucky bluegrass	yes	well-drained soil, pH from 6.0 to 7.0	fair	good	medium	poor	medium	medium	medium to high	1.5 to 2.5	yes	some	some	Use a blend of three or more improved cultivars.
Tall fescue	yes	wide range of soils, pH from 4.7 to 8.5	good	poor	excellent	good	good	coarse	low to medium	1.75 to 3.5	seldom	seldom	seldom	Good low maintenance turfgrass. Direct low temperature kill is a problem.
Perennial ryegrass	yes	medium to high fertility soil, pH from 6.5 to 7.0	poor	very poor	fair	fair	good	medium	medium to high	1.5 to 2.5	yes	same	same	Some improved cultivars are available with improved mowing quality and improved high and low temperature tolerance.
Creeping red fescue	yes	dry-sandy, infertile soil, pH from 5.5 to 6.5	fair	medium	good	excellent	poor	fine	low	1.0 to 2.5	yes	some	seldom	Mixes well with Kentucky bluegrass, should be included in mixes where shade is a problem.
Chewings fescue	yes	sandy, infertile soil, pH from 5.5 to 6.5	fair	medium	good	excellent	poor	fine	low	1.0 to 2.5	yes	some	seldom	Rapid establishment on sandy areas, bunch-type grass, shade tolerant.
Hard fescue	yes	sandy, infertile soil, pH from 5.5 to 6.5	fair	medium	good	good	poor	fine	low	1.25 to 2.5	some	some	seldom	Somewhat better disease resistance than creeping red fescue. Mixes well with Kentucky bluegrass.
Creeping bentgrass	yes	well drained fertile soil, pH from 6.0-8.0	good	excellent	poor	fair	poor	fine	high	.1 to .5	yes	yes	yes	Use in Northern Great Plains limited to golf course greens and fairways.
Zoysiagrass	yes	well-drained, fertile soil, pH from 6.0 to 7.0	excellent	medium	excellent	good	excellent	medium	low to medium	0.5 to 1.0	seldom	seldom	seldom	Slow to establish but forms a dense, weed resistant turf.
Buffalograss	yes	fine-textured soil, tolerates alkaline conditions	excellent	medium	excellent	very poor	fair	medium	low	0.5 to 3.0	no	seldom	seldom	Good low maintenance turfgrass, somewhat susceptible to phenoxy herbicide injury.
blue grama	yes	wide range of sandy soils, tolerates alkaline conditions	excellent	good	excellent	poor	fair	medium	low	1.5 to 3.0	no	seldom	seldom	Mixes well with buffalo-grass. Not recommended in monostands.

The last three risks in this table address the recommended amount of insulation. The following R values are recommended in Nebraska based on climate, housing structure, and installation. R value ranges are given for insulation materials commonly used in Nebraska. Ranges are used due to varying recommendations, base recommendations, and variations in products and in their performance after installation. Check with local code officials and funding agencies for varying requirements.

Suggested R Values in Nebraska:

Ceiling Below Ventilated Attics -	R 38 when heating with most types of fuel R 49 when heating with electric
Exterior Walls -	R 11 - 22
Floors and Basements Over Unheated Crawlspace -	R 19 - 25
Crawlspace Walls (if crawlspace dry) -	R 11 - 19
Above Grade Masonry -	R 10 suggested minimum

Nominal R Values for Various Thicknesses of Insulation

R Value	Batts or Blankets in Inches		Loose and Blown Fill in Inches				
	<i>glass fiber</i>	<i>rock wool</i>	<i>glass fiber</i>	<i>rock wool</i>	<i>cellulose fiber</i>	<i>vermiculite</i>	<i>perlite</i>
R 11	3 1/2 - 5 1/4	3 - 3 3/4	5	4	3 - 3 3/4	5	4
R 13	4	3 1/2	6	4 1/2	3 1/2	6	5
R 19	6	5 - 6 1/4	8 1/2	6 1/2	5 - 6 1/2	9	7
R 22	6 - 7 1/2	6	10	7 1/2	6	10 1/2	8
R 26	8	7	12	9	7	12 1/2	9 1/2
R 30	9 - 10	8 - 9 1/2	13 1/2	10	8	14	11
R 33	10 1/2	9	15	11	0	15 1/2	12
R 38	12 - 13	10 1/2 - 12	17	13	10 - 13	18	14

NOTE: Consult the manufacturer's recommendations for applications and R-value as products may deviate from these R-Values and thicknesses. Specific R Values depend on density, aging, installation, and the structure of the home. Some insulation products shift or decrease in thickness after installation due to compaction. Infiltration at seams is a factor. Sources: ASHRAE, U.S. Dept. of Energy for Zones 1, 2 and 3 for NE.

Rigid Insulation Board/Foam - R Values Given Per Inch

<i>expanded polystyrene molded beads</i>	<i>polystyrene extruded</i>	<i>phenolic</i>	<i>polyisocyanurate unfaced (density factor)</i>	<i>glass fiber board</i>	<i>polyurethane foam</i>	<i>expanded perlite</i>
R Value/inch 3.85 - 4.5	5	8	6.26 - 7.04	4 - 4.33	6.25 - 5.56	2.78

University of Nebraska

Cooperative Extension Publications

Chapter 1: Site Assessment: Protecting Water Quality Around Your Home

- GP45 A Gardener's Guide for Soil and Nutrient Management in Growing Vegetables
- G1209 Evaluating the Landscape of a Prospective Home
- G1341 Landscapes for Shade
- EC748 Farm*A*Syst Site Evaluation

Chapter 2: Stormwater Management

Chapter 3: Drinking Water Well Management

- MP43 So You Need a Water Well?*
- MP37 Guidelines for Decommissioning Water Wells—How to Plug Water Wells*
- NF81 Plugging Abandoned Wells
- G989 Drinking Water: Bacteria
- G1274 Drinking Water: Hard Water
- G1275 Drinking Water: Sulfates and Hydrogen Sulfide
- G1279 Drinking Water: Nitrate-Nitrogen
- G1280 Drinking Water: Iron and Manganese
- G1282 Drinking Water: Man-made Chemicals
- G1333 Drinking Water: Lead
- TBA Drinking Water: Copper
- TBA Drinking Water: Fluoride
- G98TBA Drinking Water: Nitrates and Methemoglobinemia
- EC2502 Perspectives on Nitrates
- G1255 Shock Chlorination of Domestic Water Supplies
- G946 Water Treatment Equipment: Water Softeners
- NF94 Packaged Water Conditioners
- G976 Water Treatment Equipment: A Buyer's Guide
- G1079 Home Water Treatment Equipment: An Overview
- NF338 Making Decisions: Household Water Saving Equipment
- G1191 Glossary of Water Related Terms
- G1128 Understanding Groundwater
- G907 Water Testing Laboratories
- EC766 Farm*A*Syst Drinking Water Well Condition
- EC765 Farm*A*Syst Improving Drinking Water Well Condition

* Available from: Conservation and Survey Division,
University of Nebraska-Lincoln, 113 Nebraska Hall, P.O.
Box 880517, Lincoln, NE 68588-0517,
Phone: (402) 472-7523

Chapter 4: Household Wastewater: Septic Systems and Other Treatment Methods

- G448 A Septic Tank System for Sewage Treatment
- G512 Home Sewage Treatment Systems
- G514 Soils, Absorption Fields and Percolation Tests for Home Sewage Treatment
- G559 Mound Sewage Treatment Systems
- EC772 Farm*A*Syst Household Wastewater Treatment

- EC771 Farm*A*Syst Improving Household Wastewater Treatment
- EC451 Pollution Prevention for Farms, Acreages and Households

Chapter 5: Managing Hazardous Household Products

- NF189 Handling Wastes: Household Appliances (White Goods)
- NF190 Handling Wastes: Household Fluorescent Lighting and PCB Ballasts
- NF191 Handling Wastes: Household Cleaning and Maintenance
- NF192 Handling Wastes: Household Batteries
- NF193 Handling Wastes: Household Solvents
- NF194 Handling Wastes: Household Paints and Paint Related Products
- NF195 Handling Wastes: Vehicle Batteries
- NF196 Handling Wastes: Used Oil and Antifreeze
- NF197 Handling Wastes: Tires
- NF312 Handling Waste: Household Remodeling Jobs and Debris
- G514 Protective Clothing and Equipment for Pesticide Applicators
- G1150 Rinsing Pesticide Containers
- EC2501 Pesticide Safety Telephone Hotlines
- G473 Disposal of Excess Pesticides and Related Waste
- G715 Signs and Symptoms of Pesticide Poisoning
- G1001 Spray Drift of Pesticides
- G937 The Pesticide Label
- G1007 Pesticide Management and Safety on Home Grounds
- EC441 Hazardous Household Waste Management: For Your Health and Environment's Sake
- G1211 Safety in Children's Arts and Crafts Projects
- NF126 Health and Safety in Arts and Crafts
- NF332 Toll-Free and Other Numbers; Contacts for Environmental Issues Affecting Residences
- NF44 Paint Removers; Hazards and Precautions
- EC451 Pollution Prevention for Farms, Acreages and Households
- EC754 Farm*A*Syst Hazardous Materials and Waste Management
- EC753 Farm*A*Syst Improving Hazardous Materials and Waste Management
- EC769 Farm*A*Syst Pesticide Storage and Handling
- EC767 Farm*A*Syst Improving Pesticide Storage and Handling
- EC770 Farm*A*Syst Fertilizer Storage and Handling
- EC769 Farm*A*Syst Improving Fertilizer Storage and Handling
- EC763 Farm*A*Syst Petroleum Product Storage
- EC762 Farm*A*Syst Improving Petroleum Product Storage

Chapter 6: Lead In and Around the Home: Identifying and Managing Its Sources

- G1378 Testing Nebraska Young Children for Lead
- G1379 Remodeling Nebraska Homes Containing Lead-Based Paint

Chapter 7: Yard and Garden Care

TURF

- NF65 Recommended Turfgrass Cultivars
- G1016 Cool Season Turfgrass for Nebraska
- G1297 Buffalograss: An Alternative Native Grass
- G517 Kentucky Bluegrass Lawn Calendar
- G558 Tall Fescue Lawn Calendar
- G877 Zoysiagrass Lawn Calendar
- NF131 Vegetative Buffalograss Management Calendar
- G751 Thatch Prevention and Control
- EC1872 A Guide to Turf Diseases in Nebraska
- NF56 Selecting a Lawn Care Company
- G1045 Turfgrass Weed Prevention and Management
- EC1557 Integrated Turfgrass Management for the Northern Great Plains

GROUND COVERS

- G697 Ground Covers: Their Establishment and Maintenance
- G698 Selecting a Ground Cover

TREES AND SHRUBS

- G1014 Ornamental Shrubs for Nebraska
- G1326 Crabapples for Nebraska Landscapes
- EC1540 Common Tree and Shrub Pests
- EC1738 Tree Planting Guide
- G1195 Care of Newly Planted Trees
- NF112 Damaged Trees: How to Select an Arborist or Tree Service
- G1036 Environmental Stress and Tree Health
- EC1224 Pruning Shade Trees
- EC1870 Guide to the Identification of Diseases of Shrubs
- G856 Hedges
- EC1764 Windbreak Establishment
- EC1767 Windbreaks for Rural Living
- G1310 Ornamental Grasses in Nebraska Landscapes

FLOWERS

- G344 Annual Flowers for Specific Uses in Nebraska
- G1214 Perennial Flowers for Water-Wise Gardeners
- G828 Growing Perennials
- G1015 Perennials
- G1074 Wildflowers for the Home Landscape

VEGETABLE GARDENING

- G548 Organic Gardening in the Backyard
- G781 Container Gardening in Nebraska
- G902 Intensive Gardening Techniques
- G1343 Fall Vegetable Gardening
- G1363 Container Gardening in Nebraska

OTHER

- G810 Garden Compost
- G1257 Mulches for the Home Landscape
- G1061 Conserving Water in the Landscape
- G1121 Winter Deicing Agents for the Homeowner

- G1181 Evaluating Your Landscape Irrigation System
- G1182 Checking the Performance of Your Landscape Irrigation System
- EC1869 Guide to the Identification of Physiological Disorders of Landscape Plants
- EC1555 Insect Pest Management Strategies for Yard and Garden
- G1346 Plants for Shade Landscapes
- G1209 Evaluating the Landscape of a Prospective Home
- G1007 Pesticide Management and Safety on Home Grounds

Chapter 8: Liquid Fuels: Safe Management of Gasoline, Heating Oil, Diesel, and Other Fuels

Chapter 9: Indoor Air Quality: Reducing Health Risks and Improving the Air You Breathe

- NF58 Radon Reduction in Residences
- NF59 Radon Reduction in New Home Construction
- RP393 Fine Particle Pollution - Residential Air Quality
- CC399 Protecting Self and Environment During Remodeling
- NF330 Healthy Air for Healthy Nebraskans: Testing for Indoor Air Pollutants
- NCR312 Moisture Problems in the Home
- NF199 Making Choices About Salvaging Flood Damaged or Wet Furniture
- NF198 Making Choices About Cleaning Flood Damaged Bedding and Household Linens
- NF200 Making Choices About Salvaging Wet or Flood Damaged Carpet
- NF47 Formaldehyde in the Home
- G600 Chimneys: Their Installation and Upkeep
- G626 Air Properties, Relative Humidity and Temperature

Chapter 10: Heating and Cooling Systems: Saving Energy and Keeping Safe

- HEG157 Weatherizing Your Home - Caulking
- HEG158 Weatherizing Your Home - Weatherstripping
- NF88 Nebraska Solar Energy Companies
- HEG174 On the Light Side: Incandescent and Fluorescent
- NF40 Insulation Information for Nebraska Homeowners
- NF345 Making Decisions: Energy Guides and Major Appliances

Chapter 11: Managing Household Waste: Preventing, Reusing, Recycling, and Composting*

- G338 Open Burning
- NF181 Don't Dump It: The Ban on Private Property Disposal of Solid Waste
- RP396A Household Waste Management
- RP396B Household Waste Management: Yours, Mine and Ours
- RP494 Precycling and Recycling: Consumer Options
- RP495 Precycling and Recycling: Consumer Decisions
- G810 Garden Compost

*See also resource listing under Chapter 5

Home*A*Syst Evaluation — Detach and Return (Voluntary)

UNL Internal Review Board Approved Evaluation #97-09-005. Please leave off any identification.

Assessment Area	After reading <i>Home*A*Syst</i> , how great a risk/problem is this item for your household?					After reading <i>Home*A*Syst</i> , what have you done about any problem or risk areas?	After reading <i>Home*A*Syst</i> , what do you plan to do to solve any problem or risk areas?
	Little or No Risk/Problem				Great Risk/Problem		
1. Protecting Water Quality Around the Home	1	2	3	4	5		
2. Stormwater Management	1	2	3	4	5		
3. Drinking Water Well Management	1	2	3	4	5		
4. Household Wastewater: Septic Systems and Other Treatment Methods	1	2	3	4	5		
5. Managing Hazardous Household Products	1	2	3	4	5		
6. Lead In and Around the Home	1	2	3	4	5		
7. Yard and Garden Care	1	2	3	4	5		
8. Liquid Fuels: Safe Management	1	2	3	4	5		
9. Indoor Air Quality: Reducing Risks and Improving Air	1	2	3	4	5		
10. Heating and Cooling Systems: Saving Energy and Keeping Safe	1	2	3	4	5		
11. Managing Household Waste: Reducing, Reusing, Recycling, and Composting	1	2	3	4	5		

Return to your local Cooperative Extension office OR to Shirley Niemeyer, University of Nebraska-Lincoln, Room 205 HE Bldg., P.O. Box 830804, Lincoln, NE 68583-0804.