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# Iowa Farm\*A\*Syst

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*A Farmstead Assessment System*

## Assessing Your Pesticide Storage & Management



*Simple      Confidential      Accurate*

## What is Iowa Farm\*A\*Syst?

Iowa Farm\*A\*Syst is a farmstead assessment system developed to assist rural residents in protecting their water resources, particularly their drinking water. Individuals can tailor the Iowa Farm\*A\*Syst program to meet their needs by choosing specific topics that fit their farmstead or acreage. The Iowa Farm\*A\*Syst program is based on a series of 12 publications, including the following:

- Assessing Your Farmstead Characteristics (EDC 264)
- Assessing Your Water Well Condition & Maintenance (EDC 265)
- Assessing Your Household Wastewater Management (EDC 266)
- Assessing Your Open Feedlot Manure Management (EDC 267)
- Assessing Your Confinement Livestock Manure Management (EDC 268)
- Assessing Your Milking Center Wastewater Management (EDC 269)
- Assessing Your Dead Animal Management (EDC 270)
- Assessing Your Pesticide Storage & Management (EDC 271)
- Assessing Your Fertilizer Storage & Management (EDC 272)
- Assessing Your Petroleum Storage & Management (EDC 273)
- Assessing Your Hazardous Materials Storage & Management (EDC 274)
- Assessing Your Emergency Response Planning for Manure Spills (EDC 328)

Each publication gives you a brief background on the subject and an assessment worksheet to evaluate on-farm practices affecting water quality. Also included are references to Iowa environmental laws and contact information for technical advice.

## Why should I use the Iowa Farm\*A\*Syst materials?

Seventy-five percent of Iowans get their drinking water from groundwater sources. These sources include private wells, in addition to municipal wells and rural water sources. If your drinking water comes from a private well, you have good reason to be concerned about the quality of your drinking water. A 1990 statewide survey of rural well water found that 45 percent of private wells are contaminated with coliform bacteria, 18 percent contain unsafe levels of nitrate, and 14 percent contain pesticides. The Iowa Farm\*A\*Syst publications help you to determine what environmental risks could threaten your family's health and financial security and suggest the resources to help make necessary changes.

## How do I start assessing my farmstead?

The 12 Iowa Farm\*A\*Syst publications are each designed to be stand-alone publications. However, the first step to assessing your farmstead should be to draw a map of the area, labeling any potential sources of contamination. *Iowa Farm\*A\*Syst Assessing Your Farmstead Characteristics* can help you get started. Every farmstead is unique. You need to evaluate your farmstead's site characteristics to determine the potential for groundwater and surface water contamination. You cannot change the features of your farmstead, but once you are aware of them you can modify your activities to minimize the potential for groundwater contamination. After you have mapped your farmstead, consider what management decisions may be affecting the quality of your water resources. This process will help you to prioritize which of the other Iowa Farm\*A\*Syst assessments you may want to complete.

**For more information or to download additional Iowa Farm\*A\*Syst publications,  
visit [www.iowafarmasyst.com](http://www.iowafarmasyst.com)**

**or**

**Contact Rick Robinson, Iowa Farm Bureau  
(515) 225-5432**

**Publications are also available through the Iowa State University Extension  
Distribution Center at [www.extension.iastate.edu/store/](http://www.extension.iastate.edu/store/) or 515-294-5247.**



## Pesticide Storage and Management

More than 22 million acres of cropland are treated with pesticides in Iowa each year. Pesticides also are used extensively in non-cropland areas such as cities, golf courses and around the home.

The substantial amount of pesticides used in Iowa each year makes careful handling, storage and application of all pesticides very important. The effects of pesticide mishandling can impact you, your family, your community and the environment.

**NOTE:** This publication does not summarize all the laws related to pesticide storage, disposal and recordskeeping practices in Iowa. Due to the complexity of Iowa Law, Iowa Department of Natural Resources (DNR) rules and Iowa Department of Agriculture and Land Stewardship (IDALS) rules concerning pesticides, you are advised to contact IDALS or your regional DNR field office if you have additional questions that are not addressed in this publication. Look in the “For More Information” section on page 14 of this publication for sources of assistance.

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**What is a pesticide?** A pesticide is a chemical used to kill, prevent or control pests. Some common pesticides include herbicides for weed control; insecticides for insect control; fungicides for control of fungi (mold); and rodenticides for control of rodents (mice and rats).

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## “How can I prevent pesticide contamination?”

### Preventing Pesticide Contamination

Before purchasing, handling, storing or applying a pesticide, read the label, understand and follow directions. Prior to buying a pesticide, make sure you have correctly identified the pest problem. If you have difficulty identifying and solving the problem, contact a crop consultant, agribusiness professional or Iowa State University Extension specialist for assistance. Also be aware that the pesticide you want to use may be too hazardous for some application conditions. Pesticide labels have a toll-free number on them for additional questions not answered by the label. “Off label” pesticide storage, handling or use violates Iowa and federal law. Not following label directions can endanger you, your family’s health and the environment.

If a pesticide does not have a label, or it can’t be used as the label describes, it must be treated as a hazardous waste. See the Iowa Farm\*A\*Syst *Hazardous Materials Storage and Management* (EDC 274) publication for proper disposal methods.

When working with pesticides, always wear personal protective equipment and clothing listed on the pesticide label. Iowa Farm\*A\*Syst does not address personal protective equipment, because it is not a groundwater or surface water contamination issue. For information on personal protective equipment, contact your local Iowa State University Extension office and request the *Family Pesticide Safety* publication series (PM 1663 a-e) or *Private Pesticide Applicator Study Guide* (PAT 1).



## “What problems can result from improper pesticide storage and disposal?”

### Improper Pesticide Management

Improper pesticide storage and disposal can lead to serious illness and even the death of humans and animals. It also can cause irreversible environmental harm.

Acute symptoms of pesticide poisoning include skin, eye or throat irritations, nausea, headaches, muscle ache, and dizziness or conditions that mimic the flu. These symptoms usually occur within 12 to 24 hours of the poisoning. Other symptoms of pesticide poisoning can occur and depend on the product used or contamination source. If you have

questions about pesticide poisoning, call your doctor or the Poison Control number listed in your phone book. Check the pesticide label for information about treatment.

Pesticides that enter drinking water supplies are usually found in trace amounts that may lead to chronic health problems from prolonged exposure. Chronic symptoms may not become evident for weeks, months or even years. When symptoms finally develop, it may be difficult to determine their cause.

### Test your drinking water immediately

if you suspect that your well has been contaminated due to a chemical spill or backsiphoning incident. Refer to Iowa Farm\*A\*Syst Water Well Condition & Maintenance (EDC 265) for more information.



## “How do I properly store pesticides on my farm?”

### Pesticide Storage

If possible, it is best not to store any pesticides. Purchase only the amount that will be needed, thereby minimizing potential environmental risk and avoiding

the need for dedicated storage space. If you have to store pesticides, store the smallest quantity for the shortest amount of time possible.

#### Do you...

NO YES

... have any single, nonmobile containers on your farmstead that can hold more than 55 gallons or 100 pounds of dry pesticide?

If you answered YES, you must have a **diked-storage facility** on your farmstead. For assistance contact IDALS.

#### Do you...

NO YES

... store any pesticides on your farmstead for more than 30 days of the year?

... in any consecutive 30 day period, mix or transfer more than 300 gallons or 300 pounds of pesticide on your farmstead?

If you answered YES to BOTH questions, you are required to install a **mixing pad**. For assistance contact IDALS.

In-field mixing of pesticides is exempt from mixing pad requirements.



## “How do I build a diked-storage facility?”

### Diked-Storage Facilities

A diked-storage facility must be designed to meet specific state requirements. Some requirements are that it be made from watertight material, be anchored to prevent floatation, regularly

inspected, undergo regular maintenance to ensure against leakage and designed by a Licensed Professional Engineer. The plans must be submitted to IDALS before construction.

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**Mini-bulk tanks** or other forms of mobile storage are exempt from diking requirements.

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## “How do I build a mixing pad?”

### Mixing Pad Requirements

Some farms are required to maintain mixing/loading facilities. A mixing/loading pad is an area where all spilled materials can be collected, reclaimed and applied as directed by the pesticide label. The mixing pad area must be designed to meet specific state requirements.

Some requirements are that it be made from watertight material, be anchored to prevent floatation, be regularly inspected, undergo regular maintenance to ensure against leakage and be designed by a Licensed Professional Engineer. The plans must be submitted to IDALS before construction.



## “Are there special precautions I should take when mixing and loading pesticides?”

### Mixing and Loading Pesticides

The most basic rule of mixing pesticides is **never fill a sprayer tank directly from your well or water distribution system.**

Even if you follow safety guidelines, one mistake could contaminate your well, groundwater or rural water system for years. If you contaminate groundwater, a new well may not provide safe drinking water. A malfunction, such as an equipment failure leading to a backsiphoning incident, could contaminate your neighbors’ drinking water as well as your own.

There are four basic guidelines for mixing pesticides:

1. **Fill the sprayer tank with water from a mobile water tank.** Fill the mobile tank at your well and then take the tank out to the field to mix pesticides. A water tank also saves time by eliminating unnecessary trips back to the well for filling.
2. **Always use an anti-backsiphoning device—even on your water tank.** If a backsiphoning incident occurs, only the water tank will be contaminated.
3. **Make sure the hose never enters your sprayer tank.** Maintain at least a 6 inch air gap between the hose and top of the tank when mixing to prevent backsiphoning.
4. **Never leave a spray tank unattended while filling.**

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**When you finish applying pesticides, it is best to clean the sprayer in the field.** Rinsing out pesticide-contaminated tanks on the farmstead can lead to groundwater contamination.

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## “Are there special precautions I should take when storing pesticides?”

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**Secondary containment** is a safety measure designed to prevent pesticides from contaminating the environment before spills and leaks can be cleaned up. **Secondary containment** also simplifies pesticide clean up.

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### Pesticide Storage

- **Store pesticides in their original containers with the label intact.** Check all pesticide containers frequently for corrosion, leaks or loose caps. Read the label of each pesticide for specific storage requirements. If pesticide containers are damaged, place pesticides in a sturdy container that can be sealed. Transfer the label from the damaged container or obtain a new label.
- **Do not store pesticides in your home, basement or garage.** If stored in the home, the possibility that other family members or pets will come in contact with the pesticides is much greater. Basements are especially dangerous because most have floor drains. The drain is often a direct pathway to septic tanks and surface water. Indoor pesticide spills may also leave odors and pesticide residues in the home for a long time.
- **Do not store pesticides in livestock areas or feed storage areas.** The pesticide may be accidentally mixed with the animal feed or the animals may get loose and consume the pesticide.
- **Maintain secondary containment.** Secondary containment refers to structures built under and around the stored pesticide to contain leaks, spills and ruptured tanks. Do not allow surface water to drain into the secondary containment area. The secondary containment area needs to be big enough to handle spills. Secondary containment should be large enough to hold 110 percent of the contents of the largest container plus the displaced volume of storage tanks in the area. If storing dry pesticides, the secondary containment should have at least a 6 inch curb.
- **Use pallets to keep large drums and bags off the floor.** Shelves for smaller containers should have lips to keep containers from sliding off. Steel shelves are easier to clean than wood if a spill occurs. Store dry products above liquids to prevent spilling the liquid onto the dry product.
- **Pesticide storage areas should be at least 150 feet from private water wells, 400 feet from a public water supply and down slope from the well water supply.** Separation distances should be greater if a site has sandy soils or fractured bedrock. Do not store pesticides in a flood plain.

- **The mixing area should be as close as possible to the storage area.** This proximity minimizes the distance pesticides are carried.
- **Separate pesticides to prevent cross-contamination and misuse.** Herbicides, insecticides, fungicides and fumigants should be separated.
- **Lock the storage cabinets and buildings for added security.** Locks prevent theft and vandalism and protect the area from children, pets and livestock.
- **Provide signs or labels identifying the cabinet or building as a pesticide storage area.** Post signs that say “Danger – Pesticides, Keep Out!” above every door and window in a storage area. Provide adequate road access for deliveries and emergency equipment in case of a spill or a fire.
- **Post emergency contacts, such as medical, poison control, spill reporting and fire telephone numbers.**
- **Keep pesticides in a heated storage area as required by the label.** Some pesticides must be kept from freezing. Keep all pesticides in a dry, cool place, out of direct sunlight. Excessive heat or cold may cause the container to break.
- **Ensure that the storage area has adequate ventilation to prevent excessive buildup of fumes.** An exhaust fan improves ventilation.
- **Keep clean water, soap and hand cleaner in the storage area.** Water is an important part of first aid in a poisoning emergency.
- **Locate pesticide storage areas away from high-traffic areas.** The chance of an accidental spill or contact with the pesticide is minimized if the pesticide is stored in an area that is used infrequently.



## “What do I do if there is a pesticide spill?”

### Preparing for Potential Spills

You can follow all the steps for proper pesticide storage and handling and still have an accident. Having a plan ready for how to handle a spill will help you be prepared.

### If a Spill Occurs

- **Control the spill.** Identify the spill source and contain it, making sure the spill does not spread. If a small container is leaking, you may want to put it in a larger, watertight container.

- **Do not hose down the spill.** Water allows the spill to spread and greatly increases the chance of surface water and groundwater contamination.

- **Dike the spill with soil, sand, bales of hay or absorbent pads.** Make sure it

doesn't reach a body of water, including storm sewers, sanitary sewers or tile inlets.

- **Promptly sweep up and reuse the dry pesticide as intended.** Dry spills are usually easy to clean up.
- **Recover as much of liquid pesticides as possible and land apply at labeled rates.** It may be necessary to remove and field apply some contaminated soil. For the part of liquid spills that can't be recovered, clean up with absorbent clay, vermiculite, cat litter, oil dry or sawdust. After the spill has been cleaned up, it may be necessary to decontaminate the area. Read the pesticide label first. Contact the emergency phone number on the label for decontamination instructions.



## “Do I have to report pesticide spills on my farm?”

### Reporting Pesticide Spills

A pesticide spill must be reported if:

- The pesticide has the potential to leave the property by flowing over the surface or through sewers, tile lines, culverts, drains or utility lines.
- The pesticide has the potential to reach groundwater or any surface water body.

To report a pesticide spill:

- Call the DNR 24-hour telephone

number (515-281-8694) AND call your local law enforcement officials.

- The DNR will advise you on what other reports you may need to complete. **All spills must be reported within 6 hours of occurrence or discovery.**
- If you are unsure of whether to report the spill, contact the DNR for assistance.

Reporting a spill within six hours DOES NOT result in an automatic fine. However, the DNR may penalize you if you fail to report a spill within six hours, the spill causes a fish kill, is a prohibited discharge or you fail to take appropriate action to contain and/or cleanup the spill.



## “How do I dispose of my empty pesticide containers?”

### Empty Pesticide Containers

Unrinsed pesticide containers are a threat to the environment. Nearly 7 ounces of pesticide can remain in an unrinsed 5 gallon container, despite efforts to empty them thoroughly.

To help prevent groundwater and surface water contamination, make sure containers are triple-rinsed immediately after emptying. Never store empty containers for rinsing at a later date because the pesticide will dry, making it difficult to remove. Never reuse pesticide containers.

Plastic pesticide containers are accepted free-of-charge and recycled at participating landfills from May 1 through September 1 each year. All empty

containers must be triple-rinsed and have a hole punched in the bottom. Plastic labels and caps must be removed. Call your local landfill to find out their policy on plastic pesticide containers or contact the DNR or Agribusiness Association of Iowa for a list of landfills participating in the recycling program.

Paper pesticide containers, seed corn bags and most plastic pesticide containers may be burned by farm operators if they originate on-site. This practice is allowed by law, but not recommended. All burning must take place at least one-quarter mile from any inhabited building, livestock or wildlife areas or water source. Only one day's accumulation or 50 pounds, whichever is less, may be



burned. Since the concentration of chemicals near the fire may be hazardous, the person conducting the open burning should take precautions to avoid inhaling the smoke. Additionally, be conscious of the wind direction to avoid adversely affecting those around you.

Some plastic containers cannot be burned because they contain hazardous

substances such as beryllium, selenium, mercury, lead, cadmium, or arsenic.

Open burning of these materials is against Iowa law. Check the pesticide label for instructions on whether or not it is safe to burn the container.



## “How do I dispose of unused pesticides?”

### Pesticide Disposal

**Regional Collection Centers (RCCs)** located throughout Iowa will accept pesticide waste from farms. Some RCCs may charge a nominal disposal fee for pesticide waste. Call ahead to your local RCC for more information on disposal fees or for an appointment. Phone

numbers for Iowa’s RCCs are located on page 19 of this publication.

**Toxic Clean Up Days**, held in various counties each year, accept pesticide waste from farms. Contact your local Iowa State University Extension office or Regional DNR office for more information.



## Pesticide Recordkeeping

Keeping up-to-date records of farm pesticide applications is important. The records you keep on pesticide use can help you improve your farming operation and may provide legal or financial protection.

Good recordkeeping is the key to a successful pest management program. Records can save you money by helping to determine the best pesticide management program. For example, good records can help you to evaluate how well a chemical worked, particularly if you have used reduced rates. Recordkeeping may also help to prevent herbicide carry-over injury and improve crop rotation decisions. Furthermore, records can help you to figure out how much pesticide you will need in the future, so that you will not have to store or dispose of extra chemical.

In addition to helping you to make better management decisions, records may protect you from legal action if

you are accused of improper pesticide use. Lenders and land developers may require records to evaluate potential environmental liability before lending money or buying land. Likewise, food processors may require records to evaluate the potential for pesticide residues. Finally, records can provide data to respond to surveys conducted by Federal agencies and universities that may impact future availability of some pesticides.

It is a good management practice to keep records on all pesticide applications on your farm. However, it is against the law to apply some pesticides (called restricted-use pesticides) without keeping accurate and up-to-date records. The information below explains federal and Iowa rules on pesticide recordkeeping and provides tips and tools for keeping accurate records.



## “What are restricted-use pesticides?”

Pesticides fall into one of two categories: general or restricted-use. If a pesticide is restricted for any use, it will be stated on the label (refer to label diagram on page 12).

General use pesticides are those that typically do not cause adverse effects on the user or on the environment when used in accordance with the label instructions. General use pesticides are available for purchase and use by the public.

Restricted-use pesticides are defined as those that may cause adverse effects on the environment, and/or the applicator and may be subject to additional regulatory restrictions. Restricted-use pesticides are only available to certified private applicators or certified commercial applicators and are subject to recordkeeping rules.



## “Are there special requirements when handling or applying restricted-use pesticides?”

Restricted-use pesticides are only available to certified private applicators or to certified commercial applicators. Certified private pesticide applicators are persons who are certified by the state to apply restricted-use pesticides in the production of an agricultural commodity on property owned or rented by the applicator or the applicator’s employer. In addition, individuals

who apply a restricted-use pesticide without compensation on the property of another person must be certified private pesticide applicators. Certified individuals may apply restricted-use pesticides on the property of other producers with whom they trade services as well. Federal regulation requires private pesticide applicators to keep records of all restricted-use pesticide applications.

**Certified commercial pesticide applicators** can apply general or restricted-use pesticides on the property of another person for compensation. Requirements and laws affecting certified commercial applicators are not discussed in this publication. For more information regarding certified commercial pesticide applicators call the Iowa Department of Agriculture and Land Stewardship (IDALS) Pesticide Bureau. The IDALS phone number is located on page 14 of this publication.



## “What types of information must be recorded when using restricted-use pesticides?”

State and federal regulation require that a number of different records be kept following application of restricted-use pesticides. The following points of information must be recorded within 14 days of the pesticide application and must be retained for 2 years from the date of application.

- **The brand or product name and the Environmental Protection Agency (EPA) registration number of the restricted-use pesticide that was applied.** Note that the registration number is not the same as the EPA Establishment Number, which is also on the label (refer to label diagram on page 12).
- **The total amount of the restricted-use pesticide applied.** Record the total quantity of pesticide product used, listing each restricted-use pesticide separately. Do not record the percentage of active ingredient or the amount of water used as a carrying agent.
- **The location of the application.** Record the actual location where the application of restricted-use pesticide was made. Options for recording the field location include:
  - ✓ County, range, township and section;
  - ✓ An identification system using maps and/or written descriptions

**Commercial applicators must provide a copy of the required records** to the person who hired them within 30-days of a restricted-use pesticide application.

- that accurately identifies the location;
- ✓ The legal property description.
- The size of the area treated. Match the terms used in the directions for use section of the product label. For example, use acres for field crops, linear feet for fencerows and rights of way, or the number of animals treated for livestock and poultry records.
- The crop, commodity, stored product or site to which the pesticide was applied. This includes general references such as corn, soybean

- or alfalfa, not specific scientific or variety names. Commodity also includes stored products such as grain or other agricultural products to which a restricted-use pesticide may be applied. Site includes fencerow, livestock or poultry.
- The month, day and year on which the restricted-use pesticide application occurred.
- The name and certification number of the certified applicator who applied the restricted-use pesticide.

**Restricted-use designation**

**Restricted-use designation**

**Manufacturer**

**Brand name**

**Use**

**Common name**

**Chemical name**

**EPA registraton number**

**Ingredients**

**Signal word**

|                               |        |  |
|-------------------------------|--------|--|
| Active Ingredient:            |        |  |
| chlorpyrifos: O,O-diethyl-O-  |        |  |
| (3,5,6-trichloro-2-pyridinyl) |        |  |
| phosphorothioate              | 44.9%  |  |
| Inert Ingredients             | 55.1%  |  |
| Total                         | 100.0% |  |

*No endorsement of products or firms is intended, nor criticism implied of those not mentioned.*



## “Is a special form required to maintain restricted-use pesticide records?”

No. Applicators may fit the record-keeping requirements into their current recordkeeping scheme. An example of a form is located on page 17 of this publication. Additional copies of this form can be requested from your county Iowa State University (ISU) Extension office (request form PAT 11A) or printed from the ISU Extension web site at [www.extension.iastate.edu](http://www.extension.iastate.edu).

ISU Extension also has developed a recordkeeping pocket guide that may

help you comply with the restricted-use pesticide rules. The pocket guide is an effective tool to help farmers stay in compliance with restricted-use pesticide rules and also has space to enter general field records such as fertilizer use, manure applications and seed varieties. Pocket guides also can be requested from your county ISU Extension office (request ICM 1, *Field Records for Integrated Crop Management, Restricted-Use Pesticide Applications and Manure Applications*).



## “Who can request my restricted-use pesticide records?”

Private pesticide applicators are required to provide access to their restricted-use pesticide records to authorized representatives of the U.S. Department of Agriculture and the Iowa Department of Agriculture and Land Stewardship. Records can be requested

for up to two years after the date of application. Additionally, licensed health care professionals, such as doctors, nurses or emergency medical technicians, may access your records when treating individuals who may have been exposed to restricted-use pesticides.



## “Are there penalties for violation of pesticide recordkeeping laws?”

Yes. A certified pesticide applicator who violates pesticide recordkeeping rules will be subject to a fine of up to \$550

for the first violation. For subsequent violations, the penalties will be \$1,100 or more for each violation.



## For More Information

Iowa Department of Natural Resources  
Information 515-281-5918

[www.iowadnr.com](http://www.iowadnr.com)

24 hour Emergency Response

Spill Reporting 515-281-8694

### DNR Environmental Services Division

#### Field Offices

Atlantic 712-243-1934

Des Moines 515-725-0268

Manchester 563-927-2640

Mason City 641-424-4073

Spencer 712-262-4177

Washington 319-653-2135

- Assists with understanding Iowa Law requirements.
- Documents spill reports made to the DNR Emergency Response Unit.
- Coordinates with local officials.

### Regional Collection Centers

Refer to page 19 of this publication for a list of counties served by RCCs and contact information.

- Collects and disposes of unused pesticides.
- Collects and disposes of household hazardous material.

### Ag Container Recycling Council

[www.acrecycle.org](http://www.acrecycle.org) 314-647-8338

Contact Tri-Rinse Inc. for information about pickup of rinsed ag chemical containers.

- In most areas, there is no collection fee for growers and commercial applicators. In some areas, an on-site fee may be charged.
- Preparing containers for recycling is important. Refer to page 8 in this publication for information about triple-rinsing or power rinsing containers for recycling.

Iowa Department of Agriculture and  
Land Stewardship

Pesticide Bureau 515-281-8590

[www.agriculture.state.ia.us/  
pesticidebureau.htm](http://www.agriculture.state.ia.us/pesticidebureau.htm)

- Administers and enforces Iowa pesticide laws.
- Clarifies on farm secondary containment requirements.

### Iowa State University Extension

[www.extension.iastate.edu](http://www.extension.iastate.edu)

Contact your county extension office.

The county director, area crops specialist, or area ag engineer can answer your questions or direct you to other extension specialists.

- Assists with locating a local engineer.
- Provides publications on a variety of topics available at Iowa State University Extension county offices or from the Extension Distribution Center, Ames, IA (515-294-5247). Many of the publications are available online at [www.extension.iastate.edu/store/](http://www.extension.iastate.edu/store/)

### Midwest Plan Services

[www.mwps.org](http://www.mwps.org) 800-562-3618

- Develops a variety of objective, university-based agricultural publications.
- Distributes publications on pesticide storage and secondary containment facilities including NRAES-78 *On Farm Agrichemical Handling Facilities* and MWPS-37 *Designing Facilities for Pesticide and Fertilizer Containment*.

### Agribusiness Association of Iowa

[www.agribiz.org](http://www.agribiz.org) 800-383-1682

- Locates landfills that accept properly rinsed empty pesticide containers.

## Assessment: Pesticide Storage and Management

Evaluate your potential risk for having unsafe drinking water as a result of improper pesticide storage and management. The evaluation areas are in the shaded "Risk" column. Choose the risk category that best fits your situation. Note how likely you are to have drinking water problems, as indicated by "low risk," "moderate risk" and "high risk."






Take special note of the critical evaluation points. If you fail to meet these standards, your drinking water supply is in immediate danger.



Those situations that violate Iowa law are indicated by '!' and printed in bold text.

| RISK   | LOW RISK  | MODERATE RISK   | HIGH RISK   |
|--|---|---|---|
| <b>Pesticide storage</b>                             |   |   |   |
| <b>Amount stored</b><br>                             | <input type="checkbox"/> No pesticide stored at any time.<br><input type="checkbox"/> Less than 55 gallons  | stored at any time.   | <input type="checkbox"/> 55 gallons or more stored at any time.   |
| <b>Length of storage</b><br>                         | <input type="checkbox"/> No pesticide stored at any time.   | <input type="checkbox"/> Pesticide stored less than 30 days.  | <input type="checkbox"/> Pesticide stored more than 30 days.  |
| <b>Spill or leak control</b>                         | <input type="checkbox"/> Concrete or other impermeable floor surface does not allow spills to soak into soil AND<br><input type="checkbox"/> Curb installed on floor to contain leaks and spills. | <input type="checkbox"/> Impermeable surface with curb installed. Has some cracks OR<br><input type="checkbox"/> No cracks but lacking curb.<br><input type="checkbox"/> No spill containment OR            | <input type="checkbox"/> Pesticides stored on permeable surface such as gravel, wood or a dirt floor.   |
| <b>Containers</b>                                    | <input type="checkbox"/> Pesticides are stored in original containers that are in good condition, clearly labeled and have no holes, tears or weak seams.   | <input type="checkbox"/> Pesticides stored in old containers, OR<br><input type="checkbox"/> Metal containers show sign of rusting OR<br><input type="checkbox"/> Labels partially missing or hard to read. | <input type="checkbox"/> Pesticides stored in containers that have holes or tears that allow chemicals to leak OR<br><input type="checkbox"/> No labels on containers.  |
| <b>Storage location</b>                              | <input type="checkbox"/> Pesticides stored away from high-traffic areas.  |   | <input type="checkbox"/> Pesticides stored in high-traffic areas.   |
| <b>Security</b>                                      | <input type="checkbox"/> Pesticides stored in fenced or locked area separated from all other activities OR<br><input type="checkbox"/> Stored in a totally enclosed building.                     |   | <input type="checkbox"/> Storage area open to activities that could damage containers or spill chemicals OR<br><input type="checkbox"/> Not stored in a fenced and locked area OR<br><input type="checkbox"/> Building is not totally enclosed. |
| <b>Liquid or dry formulation</b>                     | <input type="checkbox"/> Only dry pesticides stored, no liquids.  | <input type="checkbox"/> Some liquid pesticides, mostly dry.  | <input type="checkbox"/> All liquid pesticides stored.  |
| <b>Pesticide toxicity</b>                            | <input type="checkbox"/> Pesticide labeled with the signal word: CAUTION  | <input type="checkbox"/> Pesticide labeled with the signal word: WARNING  | <input type="checkbox"/> Pesticide labeled with the signal word: DANGER/POISON  |
| <b>Location of well or water distribution system</b> | <input type="checkbox"/> Pesticide storage area is 150 feet or more from water source AND<br><input type="checkbox"/> Well is upslope from pesticide storage.                                     |   | <input type="checkbox"/> <b>Pesticide storage is less than 150 feet from a private well* OR</b><br><input type="checkbox"/> <b>Well is downslope from pesticide storage.</b>  |

\* Iowa law governing pesticide and fertilizer storage sets a 150 feet minimum separation distance from private wells. Conversely, according to Iowa law governing private wells, the minimum separation distance from pesticide and fertilizer storage is 100 feet.

| RISK  | LOW RISK  | MODERATE RISK  | HIGH RISK   |
|---|---|--|---|
| <b>Pesticide mixing</b>   |   |  |   |
| <b>Mixing and loading on farmstead</b>  | <input type="checkbox"/> Concrete pad with curb keeps spills contained.   |  | <input type="checkbox"/> No mixing/loading pad on farmstead.  |
| <b>Backflow prevention on water supply</b><br> | <input type="checkbox"/> Anti-backflow device installed at water source or hydrant AND<br><input type="checkbox"/> 6 inch air gap maintained between the sprayer tank and hose.   |  | <input type="checkbox"/> No anti-backflow device installed at water source or hydrant AND<br><input type="checkbox"/> No air gap maintained. (Water hose inserted in the tank.)   |
| <b>Water source for mixing</b><br>             | <input type="checkbox"/> Separate water tank used for mixing in field.  | <input type="checkbox"/> Hydrant is located away from well AND<br><input type="checkbox"/> Anti-backflow device is used.   | <input type="checkbox"/> Anti-backflow device is not used AND<br><input type="checkbox"/> Hydrant is located next to well.  |
| <b>Observation of tank filling</b>  | <input type="checkbox"/> Constant observation.  |  | <input type="checkbox"/> Observation is not constant.   |
| <b>Mixing and loading</b>   | <input type="checkbox"/> Closed system, such as a hose, used for all liquid and dry product transfers.  | <input type="checkbox"/> Closed system used for most liquids and some liquid and dry products hand poured.<br><input type="checkbox"/> Sprayer fill port easy to reach.  | <input type="checkbox"/> All liquids and dry products are hand poured.<br><input type="checkbox"/> Sprayer fill port difficult to reach.  |
| <b>Sprayer cleaning</b>   | <input type="checkbox"/> Sprayer washed in field AND<br><input type="checkbox"/> Rinsate collected and applied to crop.   | <input type="checkbox"/> Sprayer washed on pad at farmstead AND<br><input type="checkbox"/> Rinsate collected and applied to crop.   | <input type="checkbox"/> <b>Sprayer washed out on farmstead OR</b><br><input type="checkbox"/> <b>Rinsate sprayed less than 100 feet from well OR</b><br><input type="checkbox"/> <b>Rinsate dumped on farmstead or in field.</b>                                   |
| <b>Pesticide disposal</b>   |   |  |   |
| <b>Container disposal location</b><br>       | <input type="checkbox"/> Containers triple-rinsed and taken to licensed landfill OR<br><input type="checkbox"/> Containers returned to dealer OR<br><input type="checkbox"/> One day's supply, or less than 50 pounds, of pesticide bags are burned in field. | <input type="checkbox"/> Triple-rinsed containers disposed of on farm.   | <input type="checkbox"/> <b>Disposal of partially filled plastic or paper containers on farm OR</b><br><input type="checkbox"/> <b>Pesticides containers not triple rinsed.</b>   |
| <b>Restricted-use pesticide application</b>   |   |  |   |
| <b>Private pesticide applicator certification status and recordkeeping practices</b>  | <input type="checkbox"/> Do not apply restricted-use pesticides.  | <input type="checkbox"/> Apply restricted-use pesticides AND<br><input type="checkbox"/> Maintain a current Private Pesticide Applicator certification AND<br><input type="checkbox"/> Comply with all recordkeeping requirements. | <input type="checkbox"/> <b>Apply restricted-use pesticides AND</b><br><input type="checkbox"/> <b>Do not have a current Private Pesticide Applicator Certification OR</b><br><input type="checkbox"/> <b>Do not comply with all recordkeeping requirements.!!!</b> |

 Critical  
 Violates Iowa law



# Private Applicator Restricted-Use Pesticide Records<sup>1</sup>

| Applicator Name/<br>Certification No. | Date<br>M/D/Y | Location of<br>Application <sup>2</sup> | Crop<br>or Site<br>Treated | Pest <sup>3</sup> | Brand or<br>Product<br>Name <sup>4</sup> | EPA<br>Registration No. | Size of<br>Area<br>Treated | Rate/<br>Unit <sup>5</sup> | Total<br>Amount<br>Applied |
|---------------------------------------|---------------|---|----------------------------|-------------------|--|-------------------------|----------------------------|----------------------------|----------------------------|
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<sup>1</sup>Private applicators are required to maintain application records for restricted-use pesticides for a minimum of 2 years from the date of application. It is the responsibility of the private applicator to follow the recordkeeping requirement authorized by the Food, Agriculture, Conservation, and Trade Act of 1990.  
<sup>2</sup>Location includes any of the following: a) county, range, township, and section; b) maps or written descriptions; c) FSA/NRCS identification system; and d) legal property description.  
<sup>3</sup>Not required.  
<sup>4</sup>Chemical formulation is required if part of the brand name.  
<sup>5</sup>Expressed as ounces, pounds, gallons, etc.

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**IOWA STATE UNIVERSITY**  
University Extension

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# RCC Contact Information

| Areas Served  | Main Facility Name                     | Phone                            | Areas Served   | Main Facility Name   | Phone  |
|---|--|----------------------------------|--|--|--|
| Adair Co.   | Metro Waste Authority                  | 641-743-8343 fax<br>641-743-0133 | Johnson Co.  | Iowa City RCC  | 319-356-5170<br>319-887-6112<br>319-887-6113<br>319-887-6160 |
| Appanoose   | Rathbun RCC                            |                                  | Jones Co.  | Clinton Co. SWA  | 563-243-4749   |
| Audubon Co.   | Prairie RCC/<br>www.praireswa.org      | 712-563-3589                     | Keokuk Co.   | SEMCO  | 319-456-6171   |
| Benton Co.  | ECICOG - Jennifer Ryan<br>319-365-9941 | 319-472-2211<br>319-454-6392     | Keokuk Co.   | Satellites   | 641-622-3080   |
| Boone Co.   | Metro Waste Authority                  | 515-433-0591                     | Kossuth Co.  | Landfill of North Iowa                                       | 515-924-3739   |
| Bremer  | Bremer Co. RCC                         | 319-352-4574                     | Lee Co.  | HazChem Center<br>of Southeast Iowa                          | 319-753-8758<br>877-429-2436                                 |
| Buchanan Co.  | Bremer Co. RCC                         | 319-440-1080                     | Linn Co  | Cedar Rapids /<br>Linn Co SWA<br>http://solidwasteagency.org | 319-373-4771<br>319-373-4771                                 |
| Buena Vista,<br>Cherokee and<br>Plymouth Co.  | PCB                                    | 712-225-3749                     | Lucas Co.  | Metro Waste Authority<br>(SCISWA)                            | 641-828-8545   |
| Butler Co.  | Bremer Co. RCC                         | 319-267-2070                     | Madison Co.  | Metro Waste Authority  | 515-462-3083   |
| Carroll Co.   | Metro Waste Authority                  | 712-792-5001                     | Mahaska Co.  | Mahaska County RCC   | 641-673-9266   |
| Cass Co.  | Prairie RCC/<br>www.praireswa.org      | 712-243-1991                     | Marion Co.   | Metro Waste Authority<br>(SCISWA)                            | 641-828-8545   |
| Cedar Co.   | Clinton Co. SWA                        | 563-243-4749                     | Marshall Co.   | Metro Waste Authority  | 641-752-0646   |
| Cerro Gordo   | Landfill of North Iowa                 | 641-357-5452                     | Mitchell Co.   | FMC RCC  | 877-982-4288   |
| Chickasaw Co.   | FMC RCC                                | 877-982-4288                     | Monona Co.   | Monona Co. RCC   | 712-353-6300   |
| Cities of Kalona & Riverside in Washington Co.<br>Iowa City RCC   |  | 319-356-5170                     | Monroe Co.   | Metro Waste Authority<br>(SCISWA)                            | 641-828-8545   |
| Cities of Klemme, Garner, Forest City, Joice, Hanlontown,<br>Northwood, Kennset, Manly, Grafton, Nora Springs<br>Landfill of North Iowa |  | 641-357-5452                     | Muscatine Co.  | Waste Commission of<br>Scott County                          | 563-263-9689   |
| City of Armstrong in Emmet Co.<br>Dickinson RCC   |  | 712-338-4786                     | Page Co.   | Council Bluffs RCC   | 712-542-4215   |
| Clarke Co.  | Prairie RCC/<br>www.praireswa.org      | 641-342-2662                     | Polk Co.   | Metro Waste Authority  | 888-603-2739<br>515-967-5512                                 |
| Clinton Co.   | Clinton Co. SWA                        | 563-243-4749                     | Pottawattamie  | Council Bluffs RCC   | 877-366-9812<br>712-328-4985                                 |
| Crawford Co.  | Metro Waste Authority                  | 712-792-5001                     | Poweshiek Co.  | Metro Waste Authority<br>(SCISWA)                            | 641-828-8545   |
| Dallas Co.  | Metro Waste Authority                  | 515-967-5512                     | Scott Co.  | Waste Commission of<br>Scott County                          | 563-381-1300   |
| Delaware Co.  | Dubuque Co. RCC                        | 563-589-1720                     | Shelby Co.   | Metro Waste Authority  | 712-792-5001   |
| Des Moines Co.  | HazChem Center<br>of Southeast Iowa    | 319-753-8758<br>877-429-2436     | Sioux City   | Sioux City RCC   | 712-279-6222<br>712-279-6292                                 |
| Dickinson Co.   | Dickinson RCC                          | 712-338-4786                     | Sioux, Lyon, Osceola, O'Brien Counties,<br>Small Communities<br>of Clay Co | NIASWA RCC   | 712-324-4026   |
| Dubuque Co.   | Dubuque Co. RCC                        | 563-589-1720<br>563-589-4354     | Story Co. Resource<br>Recovery Plant                                       | Metro Waste Authority  | 515-239-5137<br>1-877-639-5661                               |
| Floyd Co.   | FMC RCC                                | 641-982-4288                     | Tama Co.   | ECICOG - Jennifer Ryan<br>319-365-9941                       | 641-484-3341<br>641-484-5061                                 |
| Franklin Co.  | Landfill of North Iowa                 | 641-357-5452                     | Union Co.  | Prairie RCC/<br>www.praireswa.org                            | 641-347-5022   |
| Greene Co.  | Metro Waste Authority                  | 515-967-5512                     | Van Buren  | HazChem Center<br>of Southeast Iowa                          | 319-753-8758<br>877-429-2436                                 |
| Grundy Co.  | Metro Waste Authority                  | 319-824-6967                     | Warren Co.   | Metro Waste Authority  | 515-961-9410   |
| Hardin Co.  | Metro Waste Authority                  | 641-939-5808                     | Washington Co.   |  | 319-653-6373   |
| Harrison Co.  | Metro Waste Authority                  | 712-644-3093                     | Wayne-Ringgold-<br>Decatur   | Prairie RCC/<br>www.praireswa.org                            | 641-773-5229   |
| Henry Co.   | HazChem Center<br>of Southeast Iowa    | 319-753-8758<br>877-429-2436     |  |  |  |
| Howard Co.  | FMC RCC                                | 877-982-4288                     |  |  |  |
| Iowa Co.  | ECICOG - Jennifer Ryan<br>319-365-9941 | 319-828-4401                     |  |  |  |
| Jackson Co.   | Clinton Co. SWA                        | 563-243-4749                     |  |  |  |
| Jasper Co.  | Metro Waste Authority                  | 641-792-3866                     |  |  |  |
| Jefferson Co.   |  | 641-472-2952                     |  |  |  |



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