

PESTICIDE SAFETY TIPS ***for the WORKPLACE and FARM***

A Pictorial Guide to Best Pesticide Management Practices

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This publication is dedicated to the memory of four men who at all times did their best for their customers, their communities, and their professional organizations. They led by example, showing others the path to excellence.

Chris Bitler

Extension Educator, Newton County

Herb Carter

Branch Manager, Westland Co-op

Ron Kohlhagen

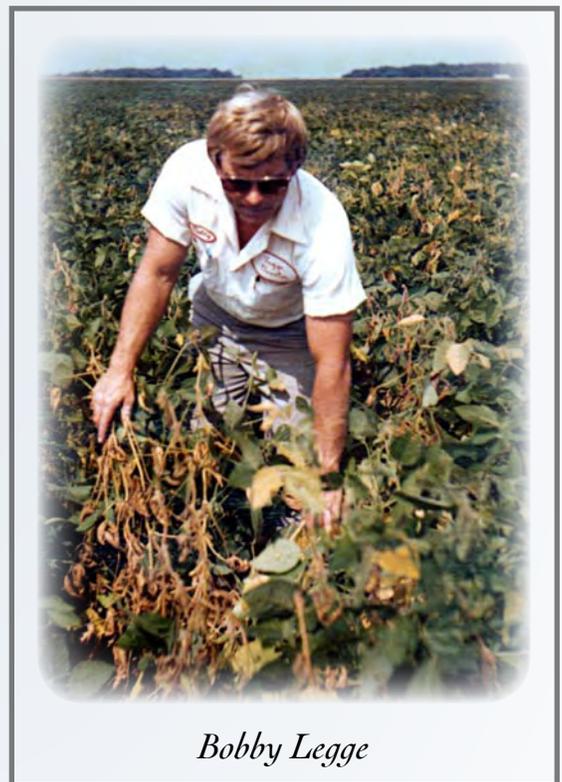
Farmer and Supervisor, Jasper County Weed Board

Bobby Legge

President, Legge Elevator Company



Herb Carter (right)



Bobby Legge

Pictures of Chris Bitler and Ron Kohlhagen were unavailable.

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product *At Rest...*



Business Owner/Farmer
provides innovative solutions
to solve specific problems



product *In Action!*



The Label
provides detailed instructions
to ensure proper use

IN THE
VEHICLE



AT THE
WORKSITE



AT THE
FACILITY



HUMAN
SAFETY



ENVIRONMENTAL
PROTECTION



PRODUCT
EFFECTIVENESS



Safe pesticide use... going beyond the label
Protecting the business, the community, and the environment

Pesticide Safety Tips for the Workplace and Farm

A Pictorial Guide to Best Pesticide Management Practices

Introduction

You've heard it before: THE LABEL IS THE LAW! It is considered a legal document that provides the applicator with specific information on use, environmental precautions, and personal protective equipment requirements. When pesticide label directions are followed correctly, pests are controlled effectively with minimal impact on people, nontarget species, and the environment.

It is important to realize that the pesticide label represents only the minimum standards for using a product safely. Among other factors to consider are well contamination, the safe transportation of pesticides, and good storage practices. But the product label is not designed to address these types of issues in detail; instead, government groups such as the Environmental Protection Agency, state departments of agriculture, and environmental management write regulations.

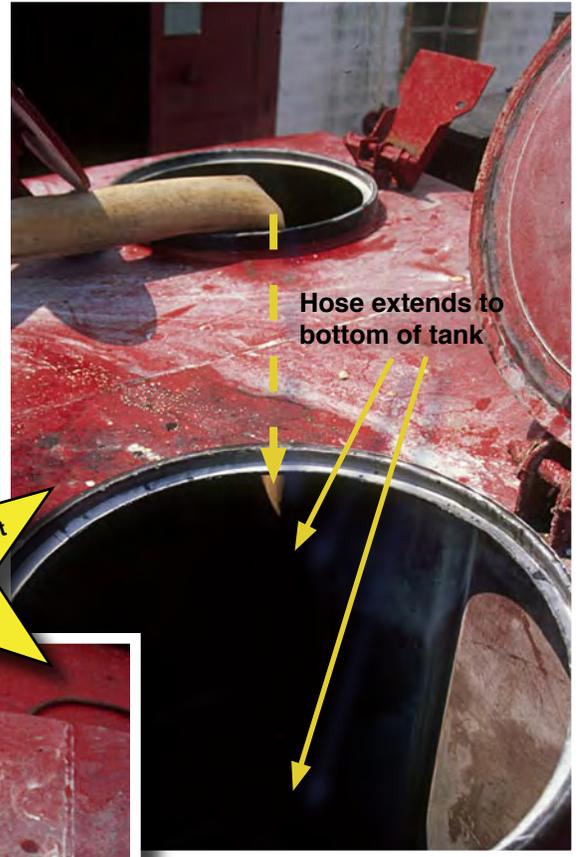
Pesticide safety regulations govern the day-to-day activities of the commercial pest management industry as well as farm operations. They require the business owner and the grower to meet specific objectives. But although regulations imply that you need to “build a better mousetrap” they generally don't tell you how. Regulations typically leave the details on and methods by which to meet the objectives up to the business owner or grower, thereby

allowing flexibility for adaptation to various sites and operations. The purpose of this publication is to illustrate examples of the ingenuity of pest management professionals—farmers and commercial applicators alike—in developing business solutions to reduce the risk that pesticides pose to people and the environment. Their solutions are field-tested: they work, and they are cost effective and simple to implement.

The Goal: Prevent Off-Site Movement

The Problem: Backflow

A hose left inside a spray tank forms a direct conduit between the tank and the well; and if pesticides are siphoned into a well it is nearly impossible, not to mention extraordinarily expensive, to clean it up. These pictures show a hose placed in a tank (right) and the same hose immersed and left in the tank—which contains pesticides—as it fills (below).



Example of what
~ NOT ~
to do!



Solution 1: Build an Air Gap

Eliminate the pesticide/well connection by creating an air gap between the water hose and the spray tank.

A suspended hose allows an air gap above the tank.



The operator must hold the hose to fill the tank. Spills enter the floor drain and are contained in a permanently sealed cement basin.

Contents of the basin can be pumped out and used appropriately.

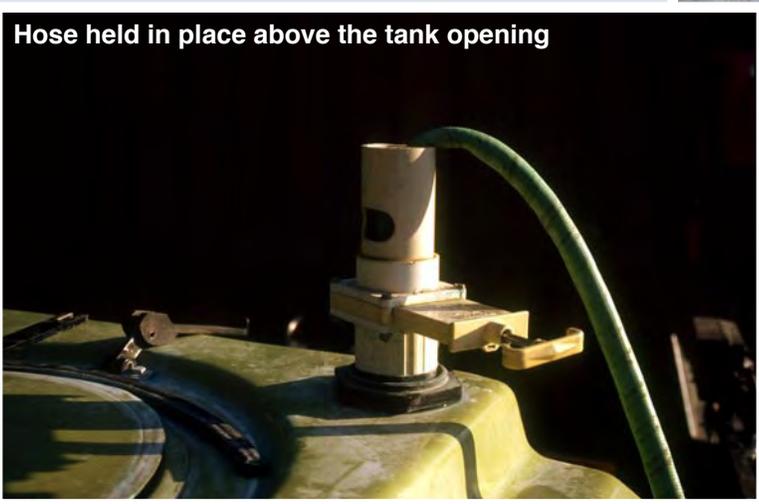


An outdoor version of the suspended hose technique



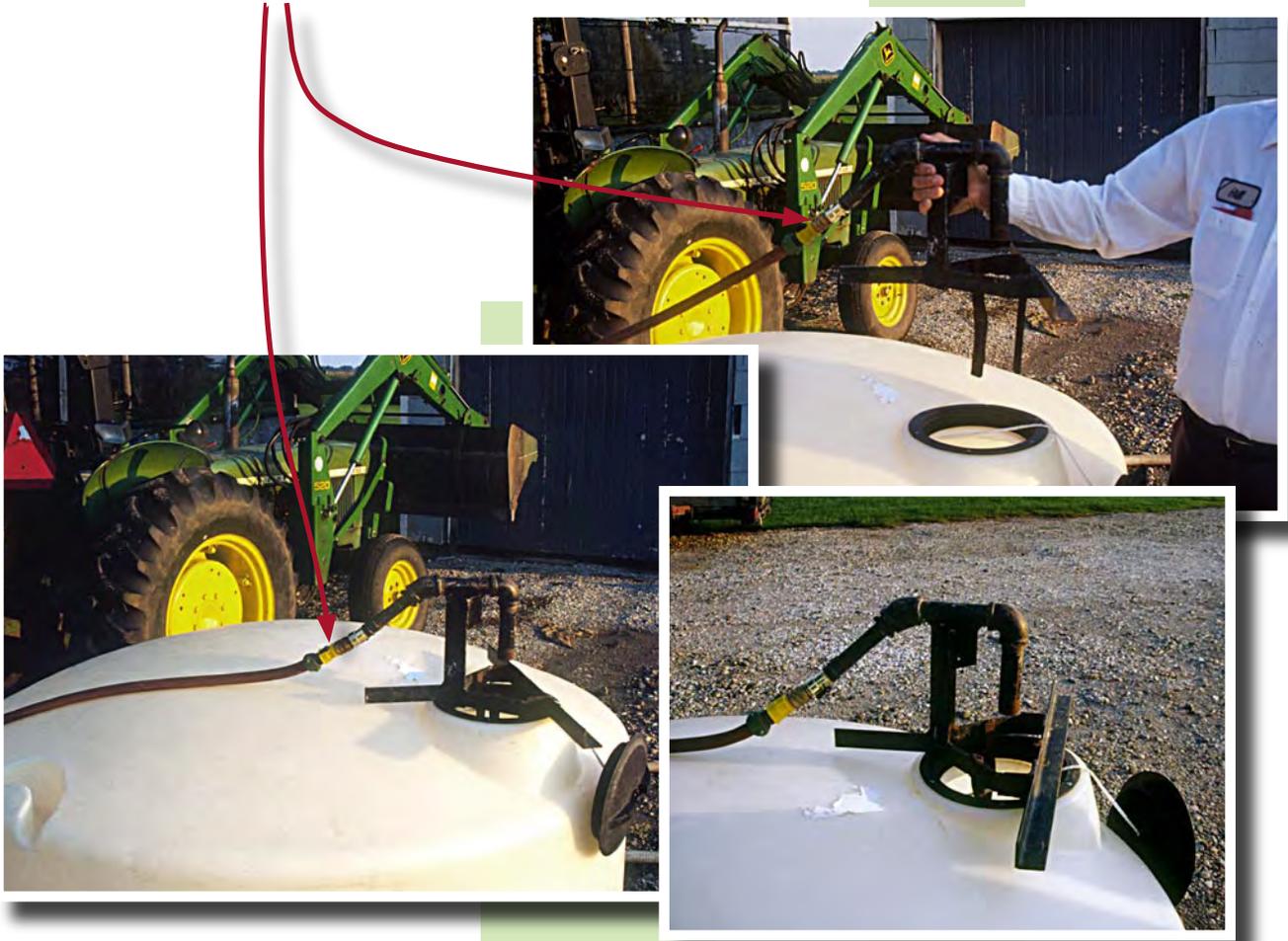
The water pipe in each example is suspended in mid air, leaving an air gap between it and the fill tank.

A water hose is securely coupled with a wheel rim (below), to create an air gap device. In use, the rim is placed over the opening in the tank being filled, elevating the hose above the tank and forming an air gap.



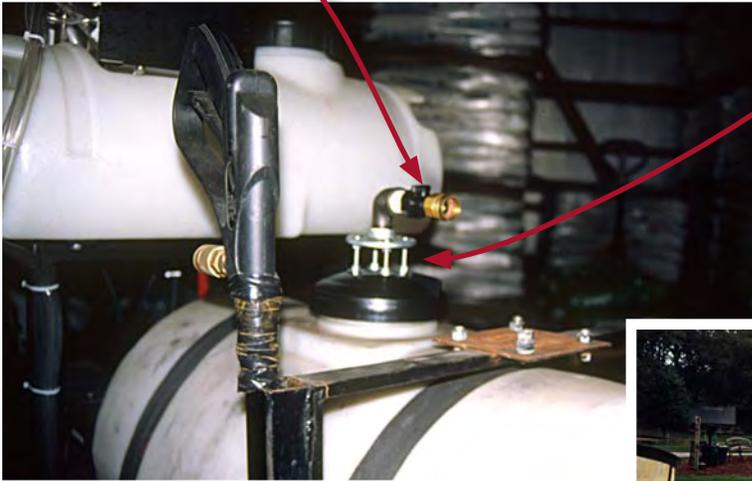
Hose held in place above the tank opening

This is an example of a simple, innovative device built to ensure an air gap. It is constructed of three steel prongs (only two visible) and two pieces of iron long enough to fit across the biggest tank opening you have. The prongs fit into the tank and are held in place by the weight of the iron crossbar. Notice the handy quick-connect mechanism between the hose and the air gap device.



A water hose can be coupled with the air gap device mounted above the spray tank.

A permanent air gap device is secured to the sprayer lid with four bolts; a quick-connect mechanism facilitates connection of the hose to the device.



A plastic tube mounted on a golf course sprayer (below) creates an air gap.



The water hose suspended from the ceiling stops at the top of the tank mounted on the truck bed (below).



A "swing arm" elevates the hose above the tank in each of these examples.



Solution 2: Install A Water Tank

Filling application equipment from a water holding tank rather than directly from a well or public water system eliminates the possibility of contamination caused by backflow.



Stainless steel outdoor water tank



Plastic outdoor water tank



The water tank mounted on the trailer above is filled directly from a well. The water used to fill the sprayer comes directly from the tank, not the well.



Metal water tank inside a farm building

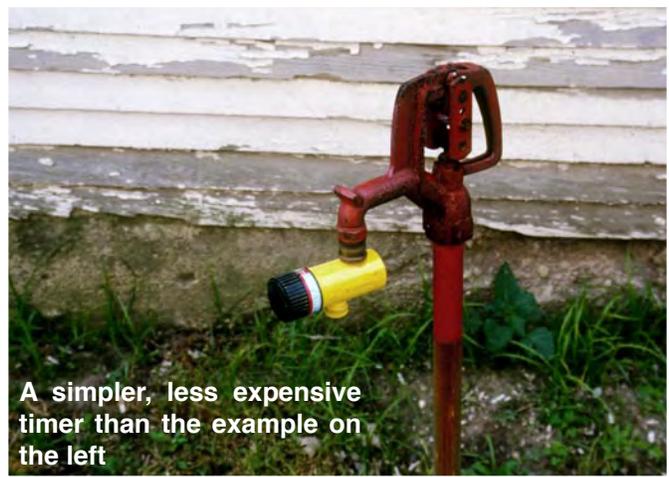
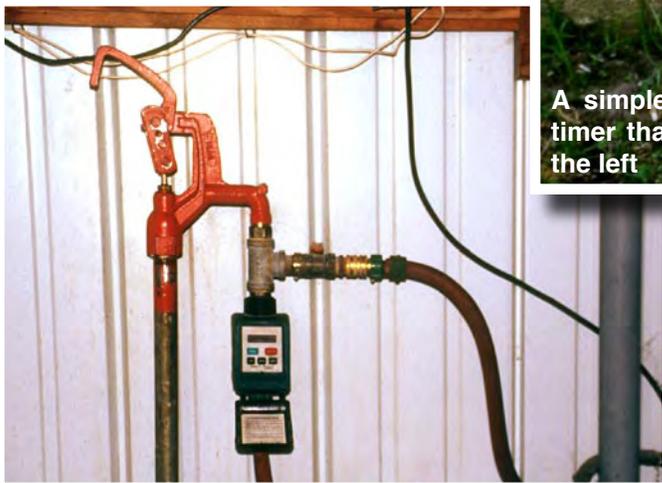
Solution 3: Incorporate an Inductor

Install an inductor (mixing tank). Pesticides and water are poured separately into the inductor and the mixture is then pumped into the sprayer. This method is often used when mixing at the job site.



Solution 4: Install Timers, Floats, and Backflow Devices

Water tanks are often refilled while the applicator is away making an application; so install a timer or a float to shut the water off automatically when the holding tank is full. Also install a backflow device to keep the mixture from being siphoned into the water supply.



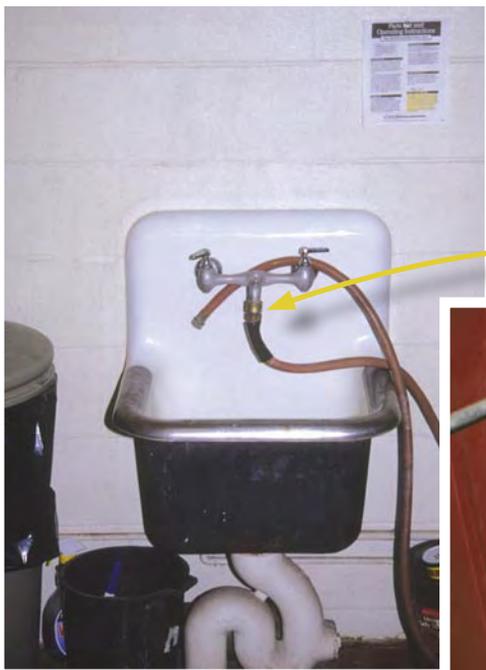
A simpler, less expensive timer than the example on the left



A standard livestock watering trough float



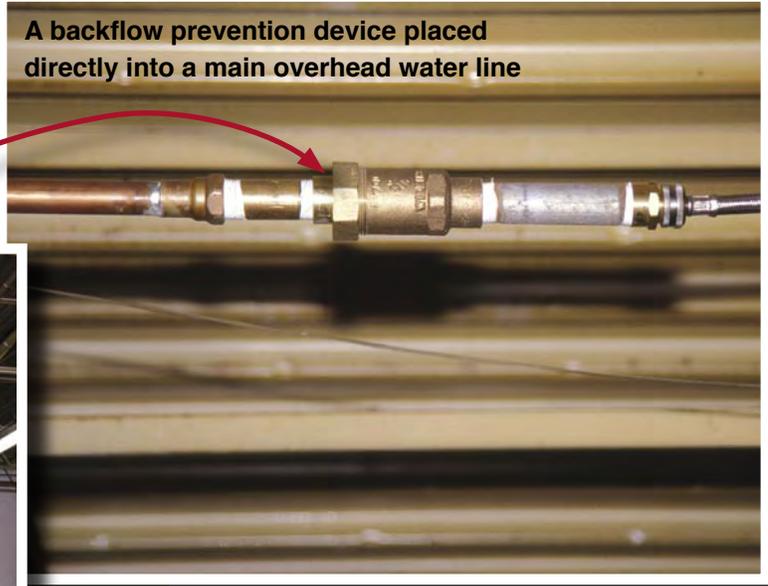
A standard ball float



These are examples of inexpensive backflow devices attached to indoor and outdoor faucets.



The backflow device installed in this water line is shown from two angles as the sprayer is being filled: at ceiling height (right) and from ground level (below).



A backflow prevention device placed directly into a main overhead water line



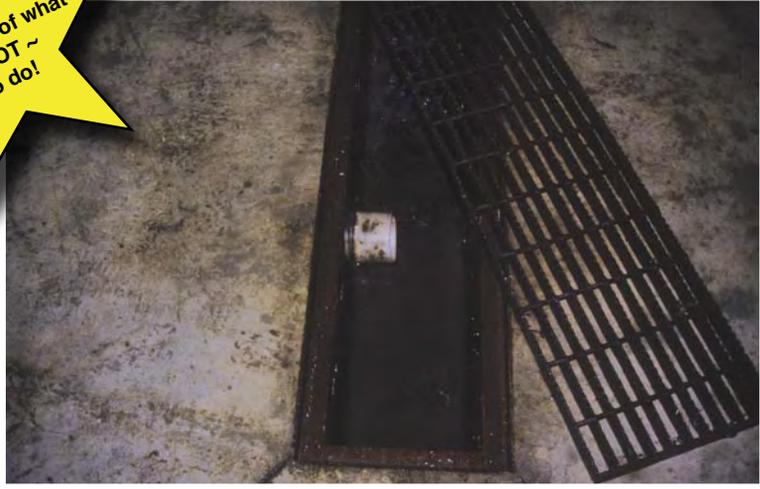
This is a backflow device to prevent siphoning of spray mixture into the well.



The Problem: Sewer and Septic System Contamination



Open indoor drains connected to sewers and septic fields pose significant risk when parked trucks or stored containers leak pesticides into them.



Solution 1: Seal Floor Drains

Temporarily seal floor drains with removable plugs when storing pesticides, equipment, or service vehicles indoors. The plug can be removed as necessary.

Expansion plug used to seal drain



Plugs can be purchased to fit any opening. Turning the screw in the plug expands it to fill the opening.





A PVC pipe is attached to the drainpipe (left) which is then extended upward with an elbow. The elbow is threaded to accommodate a screw cap.

A PVC pipe is attached horizontally to the original drainpipe (right) and a threaded cap is used to seal or open the floor drain.



Solution 2: Disconnect Sink Drains from Sewer Outlets

Spilled pesticides can escape through drains.



The pipe beneath the sink (right) is disconnected so that drainage is contained in a bucket. It is important to dispose of the bucket contents appropriately.





Sink with discharge line directed to a sump



Sink empties into specially marked containers



Drainage from the sink is directed into a floor sump; contents are then used to refill spray tanks.

The Problem: Contamination from Pesticide Spills

A pesticide spill at any facility can lead to serious soil and water contamination. Large spills can lead to regulatory involvement and costly cleanup of the contaminated area. Small spills over time can also lead to serious pollution at the site.



A pesticide tank balanced precariously on a sandy slope

Solution: Place in Secondary Containment
All Pesticides Stored Outdoors



Equipment parked over a containment pad



The Problem: Unrinsed or Inadequately Rinsed Pesticide Containers

Pesticide containers are not legally empty until they have been rinsed free of residue. Unrinsed containers are considered *hazardous waste* and cannot be legally deposited in a landfill. Disposal of unrinsed containers in a landfill can lead to contamination of ground water as well as the landfill itself. Your own facility might be subject to contamination if you put off rinsing containers: the longer unrinsed containers "sit," the harder they become to rinse clean and the greater their potential for polluting your property.



Solution 1: Purchase Products in Containers that Do Not Need to Be Triple Rinsed

Mini-bulks, water-soluble bags, and plastic jugs containing granular materials are examples of pesticide packaging that does not need to be triple rinsed.



Solution 2: Triple- or Pressure-Rinse Plastic Containers

In the picture below a puncture gun is used to rinse a container, with all of the rinsate flowing directly into the spray tank. This method virtually assures that you will use every bit of chemical in the jug; that is, *all that you paid for!*



The tank above has been modified with a rinse jet that fits into the opening of a plastic jug; the rinsate drains directly into the spray tank.

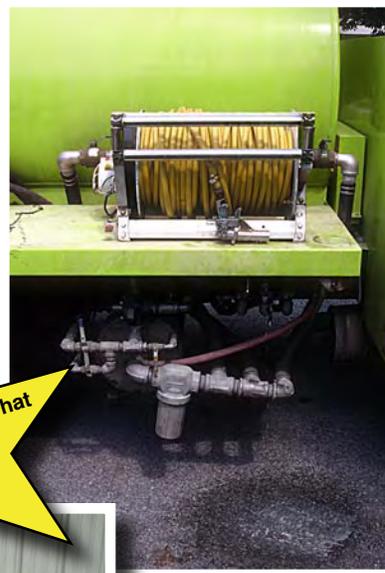
The Goal: Safe and Proper Storage of Pesticides and Containers

The Problem: Unused Pesticides

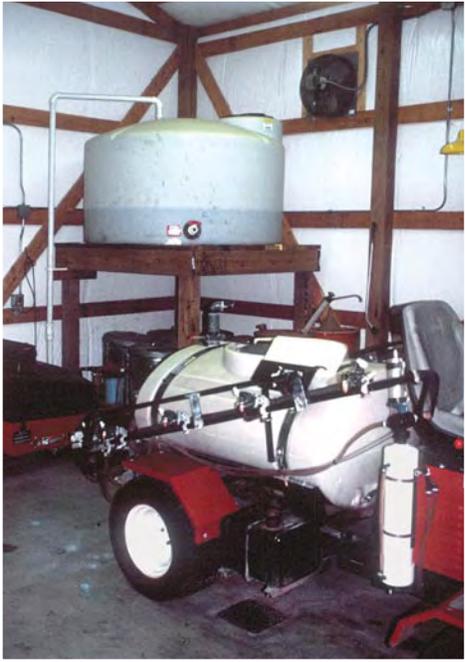
Pesticides—concentrates, mixes, residues—that are not recovered after a leak or spill can make their way into soil and water in and around your facility. The resulting contamination not only reduces your property value but may also trigger enforcement procedures. Cleanup costs can be astronomical.



Examples of what
~ NOT ~
to do!



Solution 1: Reclaim Pesticides



A floor sump (left) collects any spilled pesticides which are then transferred to a holding tank in the back of the shop.



A lawn care company designed their floor to slope toward a center drain (above) which can be emptied into a holding tank in the back of the shop.



A bucket is used to collect any materials that are released from the nozzle (above).



An excellent example of dedicated tanks used to store recovered pesticides

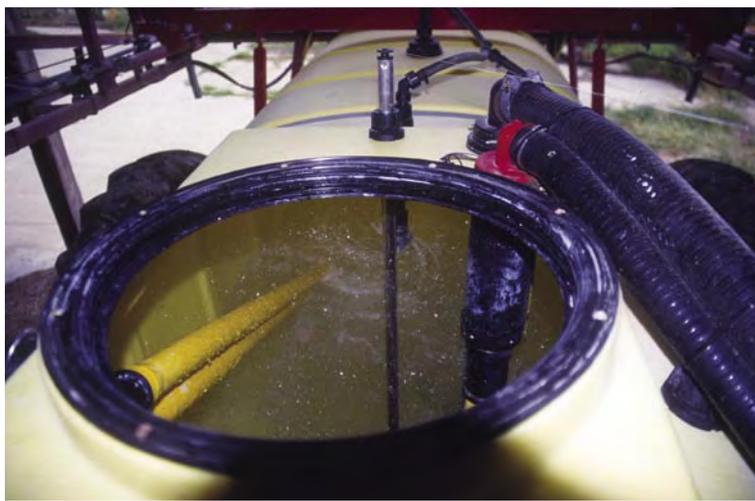
Solution 2: Install a Pesticide and Water Reclamation System

Rinse water from equipment washing (1) is diverted into a plastic tub (2) that catches most of the grass clippings. The water then passes through a pre-filter (3) that collects additional grass clippings; finally, it flows through a charcoal filter (4) that traps most of the pesticide. The water is then reused.



Solution 3: Wash Pesticide Equipment at the Job Site

If possible, mount a washer system on your equipment and wash it at the job site, directing the rinsate back onto the treated area. This eliminates carrying residues back to your facility.



This spray tank has a built-in washer system.

The Problem: Wooden Shelving Absorbs Pesticides

Solution 1: Keep Pesticides from Contaminating Shelves and Floors

Wood shelving is often sturdier than inexpensive metal units, but you must take precautions to keep it from absorbing leaks and spills.



Although some products in the picture above are placed in plastic tubs, others remain on the painted wooden shelf. ALL pesticides placed on wooden shelves should be contained.



These photos show pesticides stored on trays with raised edges to contain any spills or leaks that might occur. The all-metal shelving unit (left) is a better choice than the metal/wood combination shelving (above); but, even so, the pesticides are "contained" on a tray.



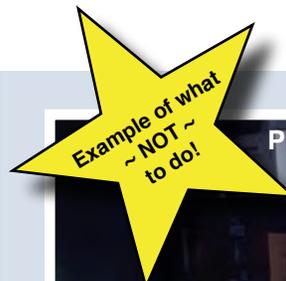
Plastic tubs provide excellent containment for pesticides stored on shelves.



When selecting shelving for pesticide storage, think of it this way:

- Sturdy metal units are better than wood.
- Sturdy wood shelving is better than cheap metal.
- Poorly constructed shelving—wood *or* metal—should not even be considered.

This is good, sturdy, metal shelving (right and below) but pesticides stored on it should be placed in tubs or trays for containment.



Products not in containment



Solution 2: Place in Containment All Equipment and Pesticides that Rest on the Floor or Ground Inside Buildings

The yellow barrel (right) serves as easy containment for the smaller barrel of pesticide.

The built-in containment pad below slants toward a dedicated drain, the contents of which are subsequently used or discarded appropriately. The bags on the right-hand side of the photo are also in containment.



The bottom cut off of a large vinyl holding tank is used for containment (right). Although the picture doesn't show it, the cement floor has a large crack in it, making containment extremely important in this particular case.



The Problem: Containing Small Spills

Solution: Catch All Drips

Small drips may not seem like much at first, but over time they may amount to a significant contamination problem. Leaked pesticides may produce odors that irritate the human respiratory tract, particularly indoors. The method you use to contain leaks and drips need not be fancy, just functional and easily managed. Establish a schedule to use or dispose of accumulated residues regularly and appropriately.





The common bucket provides simple but effective containment for leaks and drips.

Absorbent paper can be used as temporary containment beneath a slow drip, but it is important to replace it regularly and to dispose of the soiled paper appropriately.

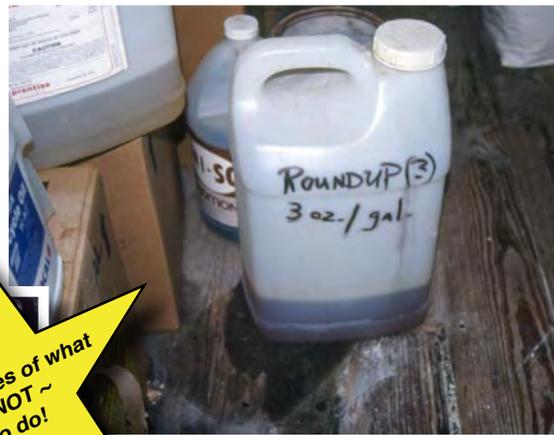


The Problem: Unlabeled Pesticides

The identity of a pesticide, no matter what kind of container it is in, is essential to following the label. Far too often, pesticides go unmarked when transferred from one container to another, and as time passes we forget what is in those containers.

Once the identity of a pesticide is in question, there is a natural reluctance to use it. And since most hazardous waste facilities do not accept unidentified pesticides, you may end up keeping it in inventory indefinitely.

If you never use an unlabeled pesticide, you're out its cost plus the cost of whatever product you purchase to replace it. If you take a chance and use it on the basis of what you think it is, you risk making an ineffective—maybe even illegal—application; and you might damage property or equipment in the process.



Examples of what
~ NOT ~
to do!

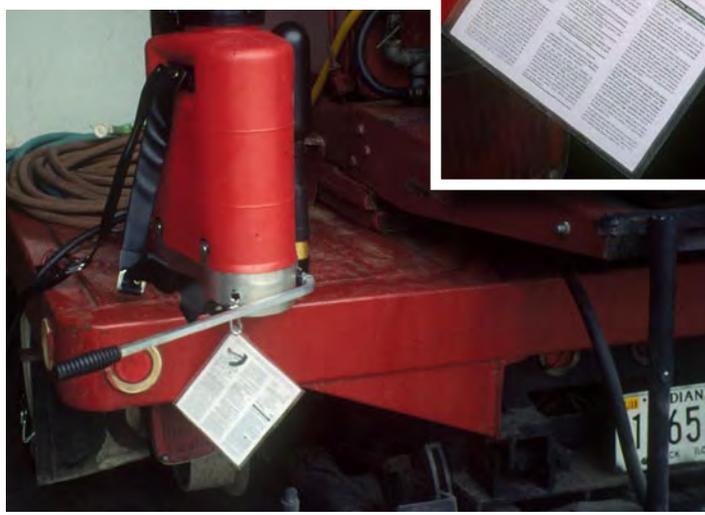


The words "BROAD-LEAF HERBICIDE" written on the green sprayer and "ALL KILL" on the blue sprayer (above) fall short of identifying the products they contain. The labeling "Roundup(?) 3 oz./gal." on the white jug (top right) is also inadequate.

Solution: Label Products and Equipment

Properly identify all pesticides in all containers. This is not a choice: It's a requirement. It is imperative that tanks and sprayers be labeled with the product name and that a copy of the product label be readily available. A plastic laminated label with a hook for easy attachment to a backpack sprayer is shown here.

Some companies are committed to identifying the contents of all containers—even those that contain water.

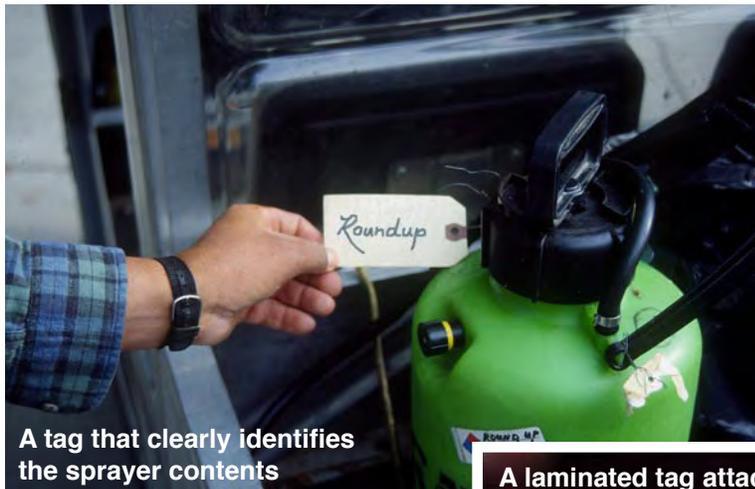




Labeling a metal container in which a pesticide is stored



Tip-and-pour containers labeled with laminated tags



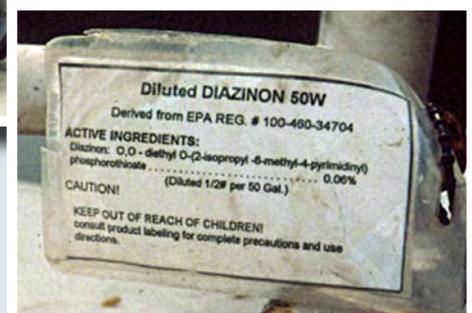
A tag that clearly identifies the sprayer contents



A laminated tag attached to a spray tank



Tank content label attached inside the cab of a truck



The Problem: Outdated Chemicals

Outdated pesticides pose problems. Products that are no longer registered with EPA—such as Chlordane, 2,4,5-T and DDT—are considered hazardous waste. Their packaging may degenerate, over time, complicating the problem of what to do with them.



These products must have been abandoned years ago! Some are unlabeled. Some are leaking. All are uncontained.

Solution 1: Place Outdated Products in Containment

Call your county extension office to inquire about city, county, and state pesticide collection programs, often called "Clean Sweep" or "Tox-Away" days. If you have outdated pesticides, make sure they are labeled and place them in containment pending proper disposal.



A torn sack of unwanted pesticide is contained inside a plastic bag, awaiting proper disposal.



Pesticides at a Clean Sweep collection site



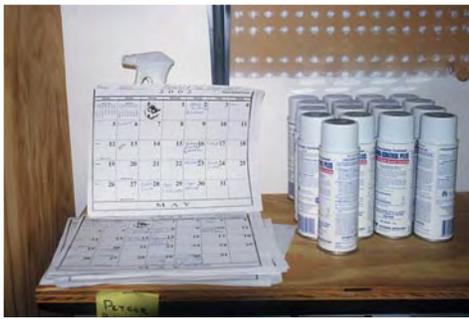
Pesticide containers sitting in tubs for containment

Solution 2: Date All Containers

Date every container as it is placed in inventory so that, later on, you can tell how long you've had it.



It takes only a second or two to date each pesticide container as it is placed in inventory.



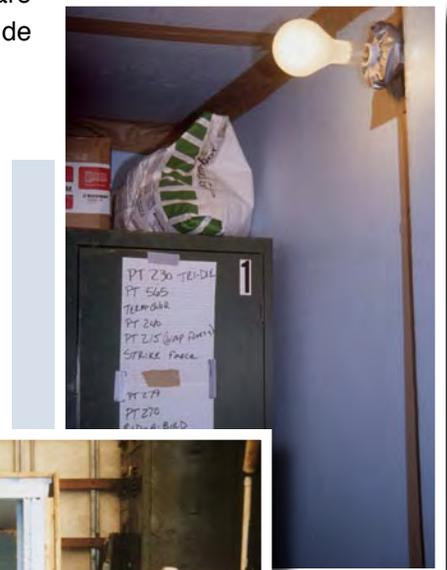
The manager at this facility has his staff log (by date) every pesticide that they take from the shelf. He regularly transfers the calendar information to his computer, thereby tracking the shelf life and employee use of every product. Good inventory management is key to avoiding the obligation of dealing with outdated materials; and it is a good method by which to recognize that employees are under- or over-using pesticide products.

The Problem: Winter Storage

Freezing temperatures can render pesticides unusable, so it is unwise to store them outdoors in winter. If you lose a product due to the cold, you will ultimately pay for it twice: once when you purchase it and again for its disposal—not to mention the cost of replacing it for the next season's jobs. But storing pesticides indoors where people may be exposed to them is also unsatisfactory.

Solution 1: Maintain Proper Temperatures

Oftentimes the answer to storing pesticides in unheated buildings is to construct an insulated box or closet where light bulbs can be used to keep them from freezing.



These photos show an insulated storage box, in an unheated building, that has three light bulbs inside to keep its contents from freezing.



Solution 2: Order Just What You Think You Will Need and Return Any Surplus

Avoid winter storage: order only enough pesticides to last the season. Many distributors will deliver your chemicals upon request, as you need them, instead of all at once. Also, make arrangements with your supplier to return (for full refund) any unopened products left over at season's end.

The Problem: Storage of Properly Rinsed Pesticide Containers

In addition to triple rinsing pesticide containers, it is important to store them properly prior to disposal.

Solution: Manage the Storage of Rinsed Containers

Rinsed containers (right) are placed in this locked area pending disposal in a dumpster. This helps



prevent unauthorized access to and re-use of the pesticide jugs. Locking dumpsters (left) prevents outsiders from dumping their trash in them and makes it difficult for someone to steal pesticide containers for re-use.

The Goal: Be Prepared for Emergency Situations

The Problem: Your Insurance May Not Cover as Much as You Think

When accidents involving pesticides occur, property owners expect their insurance to pay for damages and related expenses. But the fact is that most policies *exclude* remediation and cleanup of pesticide spills: *You have to know to ask specifically for that type of coverage.*

Solution: Make Sure You Are Properly Insured

Much like flood insurance on your homeowner's policy, pollution coverage can be added to your insurance portfolio, but you have to ask for it specifically. Your insurance agent may not realize that you need it, so *it is your responsibility to ask for the coverage.*

Ask your agent to write your policy with a company that offers reduced premiums for businesses that have emergency plans in place and have trained their employees on how to handle an emergency. Ask lots of questions and pose some "what if" scenarios:

- Will my insurance pay for the investigation, assessment, remediation, litigation, and fines in the following hypothetical situations?
 - What if my truck overturns on a slippery road and spills a pesticide that subsequently reaches a nearby creek?
 - What if a fire breaks out in my barn or building where I store pesticides and fertilizers? The fire department extinguishes the fire with water, resulting in soil contamination to my property and neighboring properties.
- Will my insurance pay to replace lost equipment, supplies, contents, and the building under the following scenario?
 - What if a fire breaks out in my barn where I house pesticides, fertilizers, trucks, and other equipment used in my business? The fire



department arrives quickly and the chief's initial response is to extinguish the fire. But I tell him that I learned in preplanning for emergencies that you should not put water on a chemical fire unless it is absolutely necessary. The chief decides to let the fire burn itself out because the smoke does not pose a risk to neighbors nearby.



The Problem: Many Vehicles Are Not as Safe as They Could Be

Solution 1: Put Safe Vehicles on the Highway

Accidents involving pesticides can be very costly; and all vehicle insurance policies have limits on the coverage they provide, so make sure yours is adequate. Once you are certain that the parameters of your insurance coverage are adequate to protect you and your business, *Think prevention. It's the best insurance of all!*

With limited coverage and skyrocketing insurance rates, make every effort to reduce the severity of accidents or prevent them altogether. Simple measures can make a big difference.



Special safety mirrors have been installed on two companies' trucks (above).

Protect your spray hose by threading it through a larger hose that will withstand heat and everyday wear and tear.

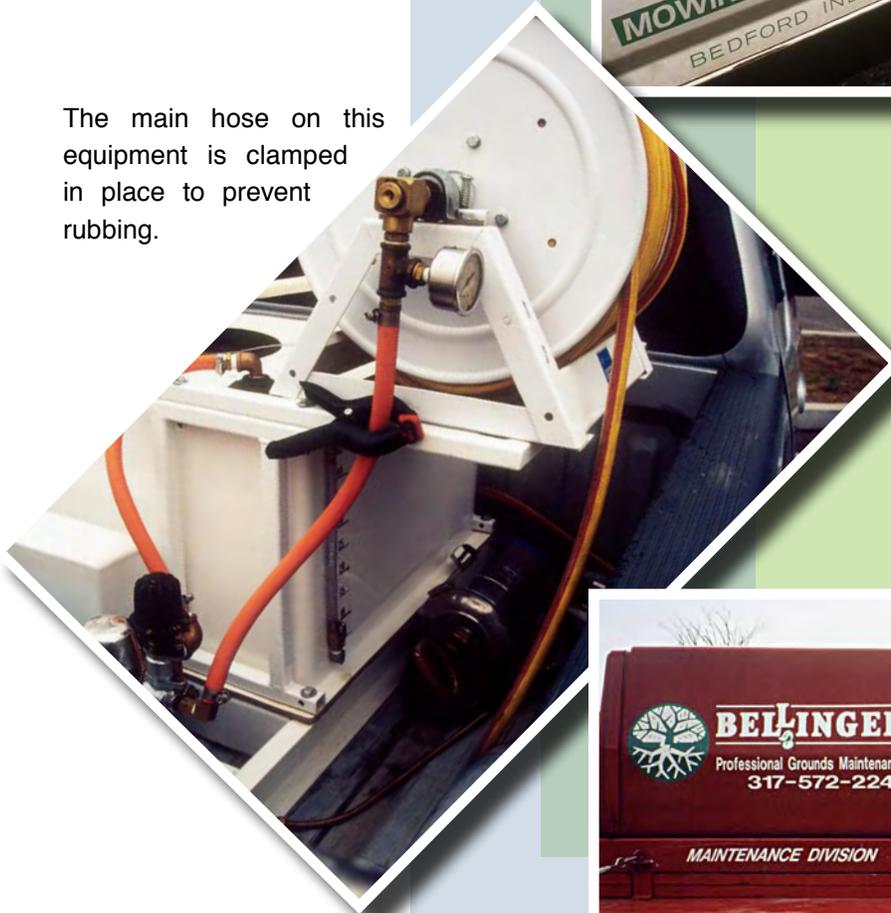


A wooden box is used to transport chemicals. A switch inside the cab directs heat from the radiator to the truck bed to keep chemicals from freezing.



An emergency shutoff switch for the pump motor

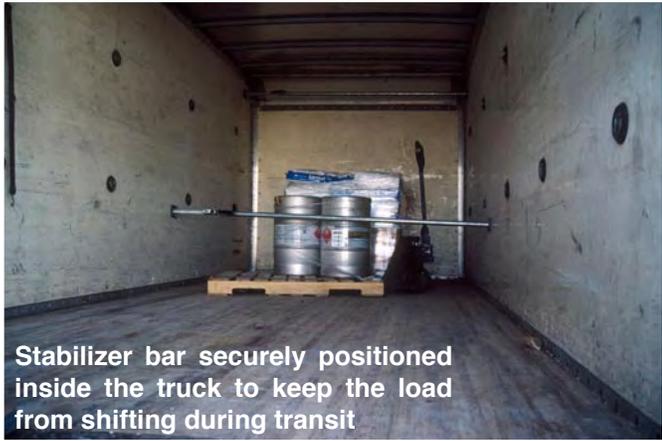
The main hose on this equipment is clamped in place to prevent rubbing.



Spill kit on-board at all times



Loading pesticides onto a truck



Stabilizer bar securely positioned inside the truck to keep the load from shifting during transit



The pesticides in these photographs are securely anchored for transport on their respective vehicles.



Solution 2: Secure Equipment Against Theft, Vandalism, and Terrorism

"Before" shows a trailer without a security box. "After" shows another trailer from the same fleet with a box installed to secure safety equipment, etc. The storage box offers a good spot for advertising as well.



Before



After

Storage box (shown with lid open) that can be locked with a padlock.



Many farmers carry water, pesticides, and other items to fields in trailers that can be locked.



Solution 3: Limit the Amount of Product that You Carry



Carry only the amount of product needed to complete the day's jobs.

Solution 4: Display Information to Alert Emergency Responders and the Public

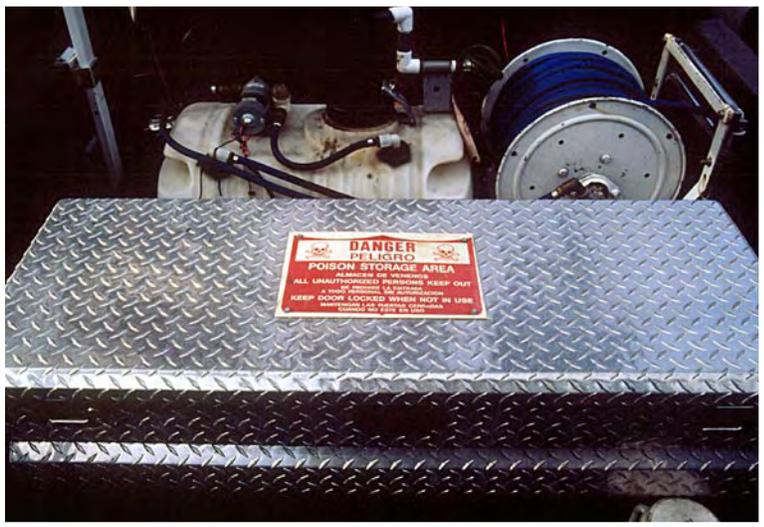
"Guard Our Environment—Do Not Spray Water on this Vehicle in an Emergency"

"In Case of Emergency, Call 9-1-1"



These portable pesticide storage boxes are marked to indicate that their contents are poisonous. The red and white labels read as follows:

DANGER
POISON STORAGE AREA
ALL UNAUTHORIZED PERSONS KEEP OUT
KEEP DOOR LOCKED WHEN NOT IN USE



The Problem: Emergency Responders Need Information Immediately

Emergency responders need definitive information *immediately* when responding to a chemical emergency. Without it, they cannot make informed decisions in handling the situation.

Solution 1: Install a Mailbox or Other Suitable Receptacle to House Emergency Information

Information on site layout and pesticides in storage should be kept where emergency responders can access it easily and quickly. Contact the emergency response team in your community and inform them where to look for emergency information if called to your site.



This emergency information box is well camouflaged to deter vandals.



Emergency information is stored in a garbage can inside a utility shed.



This is an emergency response mailbox at a seed company.

This emergency mailbox contains a map, a plan, and a product inventory record.



These are two examples of PVC pipes (with caps) that make excellent storage tubes for emergency information.



This mailbox is dedicated to emergency information. If you choose to keep your emergency information in a mailbox such as this, do not position it close to the road where vandals could access valuable information about your facility.

Solution 2: Improve Access to Buildings and to Information for Emergency Responders

Displaying your "911" address so that it can be seen from both directions can cut valuable minutes off the time it takes first responders to reach your site when an emergency occurs.



The square box shown below is locked. It contains a key that opens the door on the right. The fire department has been given a key to access the box in the event of an emergency.



The large yellow and orange sign bears the names and phone numbers of individuals who are to be contacted in the event of an emergency.



The strikeover on the letter W in the white diamond (left) alerts firefighters not to use water to put out a fire.



Note the emergency kill switch on a panel box (above) and a sign posted to indicate where to shut water off (right).

Mark the location of your fire alarm conspicuously (left).

Solution 3: Prepare Emergency Responders

Work with emergency responders to conduct a mock emergency at your farm or facility.



The Problem: Emergency Preparedness Is Lacking

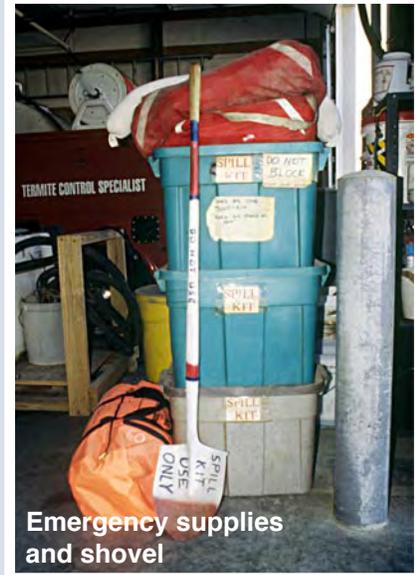
Quick response in an emergency is paramount, yet oftentimes businesses fail to prepare. Your response in the first few minutes of an emergency may mean the difference between a problem quickly resolved and one that will cost you time, effort, and frustration—not to mention *money*—to rectify. Remediation can be a long, complicated, costly process.

Solution 1: Have Supplies and Equipment on Hand to Deal with Emergencies at Your Facility, at the Job Site, or on the Road



Supplies on hand to deal with an emergency

The supplies above can easily be loaded onto a truck with a forklift.



Emergency supplies and shovel

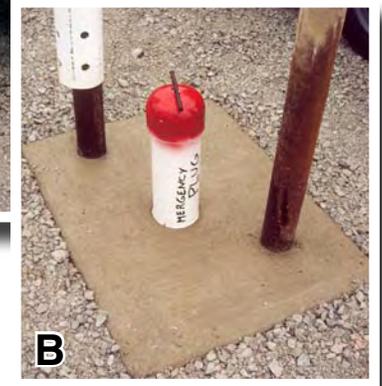


Sand and spill kit



This trailer facilitates easy transport of safety equipment and emergency preparedness supplies to a job site.

In illustration A, notice the holes in the PVC pipe (with white cap) that allow water to drain into the tile; the white pipe *without holes* (marked "Emergency Plug") is stored on an adjacent pipe. Notice that in illustration B the pipes have been switched to demonstrate how to keep an emergency spill from flowing into the drain, thereby "containing" the spill on the surface.



Shovel clamped to outside of truck for easy access



Always carry a shovel for attending to spills.

Solution 2: Have Plenty of Clean Water on Hand

Splashes and spills are bound to happen, so be prepared with plenty of clean water. Flood exposed skin thoroughly and repeatedly until all pesticide residues are gone.



Clean water tank mounted on pesticide application equipment

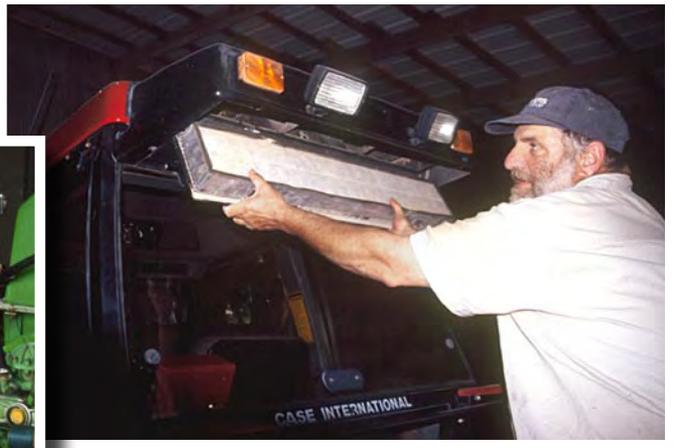
The Goal: Make the Workplace Safer

The Problem: In Hot Weather, Fumes Can Be a Problem in Storage Areas or the Cab of a Spray Rig

The Solution: Provide Adequate Ventilation for Employees

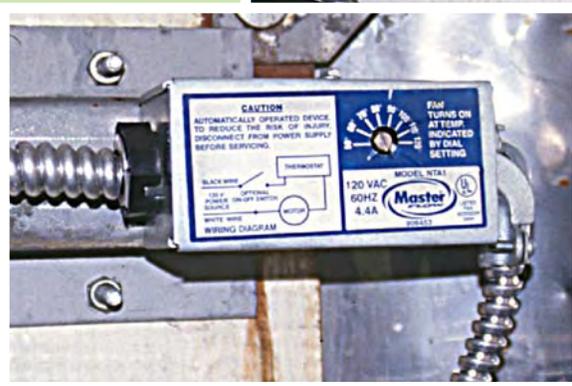
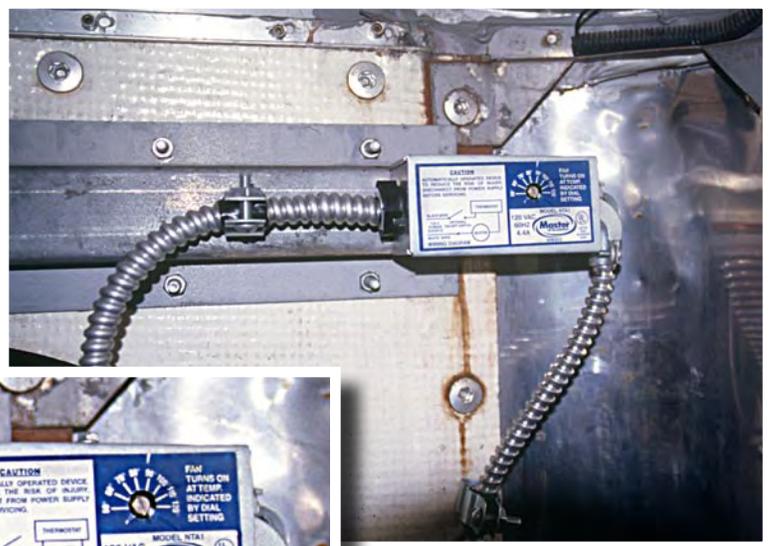


If possible, never mix pesticides in the storage room. The stainless steel table on wheels (above) simplifies moving outdoors to mix chemicals.

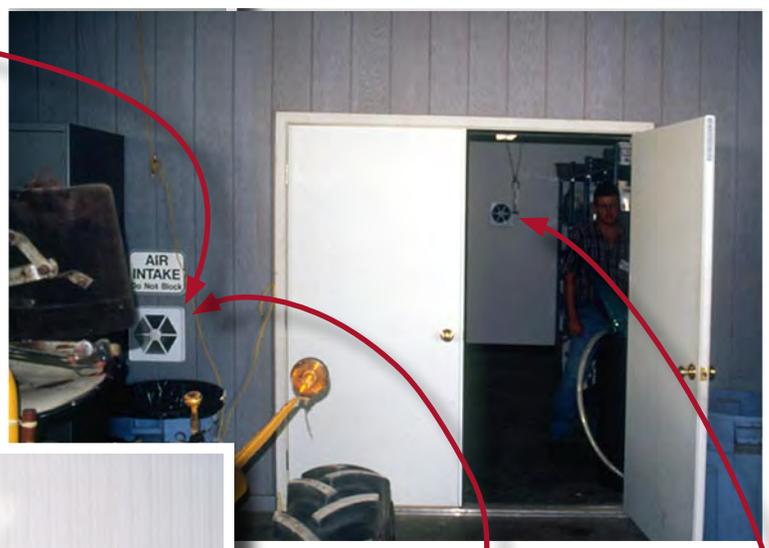


A grower displays a filter that traps pesticides as air is pulled into the cab of his tractor (above).

A timer is used to activate fans at regular intervals to force clean air inside the storage room. This one states "FAN TURNS ON AT TEMP. INDICATED BY DIAL SETTING."



Pesticides are stored and mixed near a fan that pulls chemical fumes outdoors.

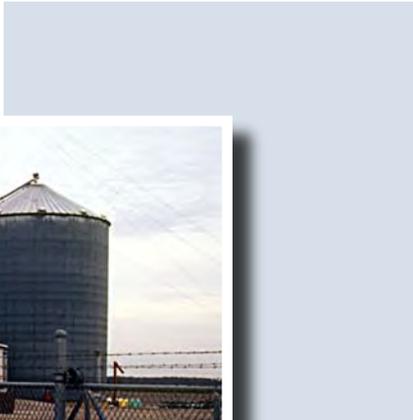


An air intake fan (above left and above) draws fresh air into the storage room. The clean air mixes with the storage room air and is drawn outside by another fan (above and left).

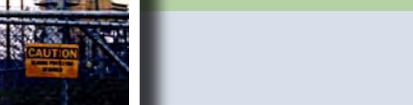
The Problem: Security is a Major Issue

The tragedy of September 11, 2001, has made security a major issue for growers and business people who use pesticides and other chemicals.

Solution 1: Secure Against Theft and Vandalism



These four facilities have excellent fences to guard against unauthorized entry. Note the sign advising visitors to sign in at the main office (above).





Tank lids are secured with a cable (left) and a padlock (below).



This photo shows a sight gauge locked on a tank.



Outside lights make it more difficult for vandals or burglars to enter a facility without being seen.



Pesticides are stored in a cabinet permanently mounted on a truck (above) and backpack sprayers are locked securely onto a transport unit installed in the bed of a truck (right).



Store pesticides in an area designated for pesticides only: a space walled off or gated from the rest of your building (right) or a locked cabinet (below).



The Problem: Multiple Storage Sites Complicate Emergency Communication

Solution: Segregate Pesticides Within Buildings or Move Them into Dedicated Facilities

In the first two photographs you can see that pesticides are confined to an area away from equipment. The third photo shows a wall partitioning the corner of the building dedicated to pesticide storage.



The building above is reserved for pesticide storage. The interior view (right) shows products stored in plastic bins, on shelves; it also shows a moisture proof tarp on the floor to contain leaks.



These sheds are dedicated to pesticide storage.



A commercially available, self-contained pesticide storage building



A concrete mixing pad, a sump, and a spill recovery tank

The photographs below and at the top of page 57 show the use of truck trailers for pesticide storage.



Storage trailer at an agricultural facility

Exterior

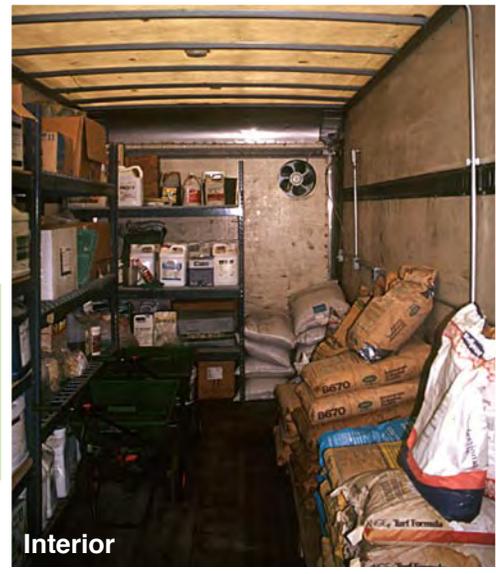


Interior



Pesticide storage trailer at a landscape business

This trailer is used for pesticide storage at a golf course.



Conclusion: Practicing Professionalism in the Field

Pesticides play an integral role in managing pests at home, in the workplace, and in recreational and natural areas. However, the facts are clear: Pesticide use involves both benefits and risks.

The commercial pest management industry and the farming community have the knowledge and skills to reduce pesticide risk. The implementation of pesticide safety practices in the workplace

- reduces liability,
- avoids regulatory problems,
- stabilizes insurance premiums, and
- protects property values.

Pest management professionals go beyond what is required by product labels and laws and regulations: they treat their employees, their customers, and their communities like family members. Professionals work to make sure that their businesses enhance the public's image of the farming community and commercial pest control businesses as well as the associations that represent them within government circles. They are committed as professionals to raising the bar of excellence and setting a higher standard.

Implementing safe handling practices on our farms and at our pesticide application businesses does not have to be expensive, time consuming, or complicated. A little foresight in managing your farm or pesticide business can lessen your problem potential and reduce risks associated with pesticide use. Identify specific risks in your operation and implement appropriate improvements to reduce your business worries.

Remind applicators that they are responsible for reading and following label directions. The sign (below) at a garden center reads, "At Bennett's we're

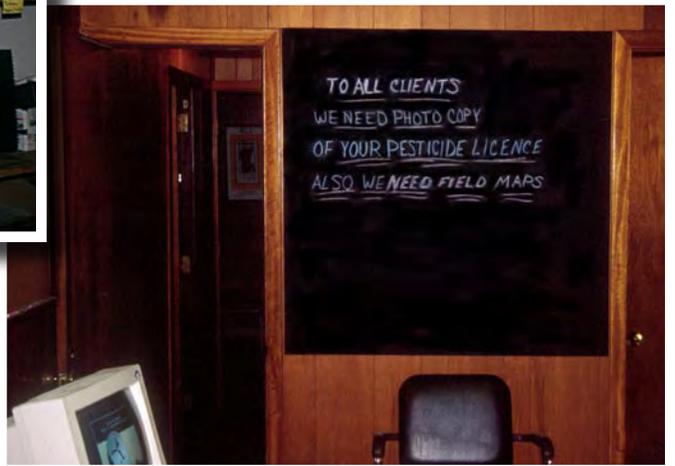


here every day to help you choose the proper product for your needs, to choose the proper application method for the products you need, and to help you understand how the product is mixed and how it will work for you. We encourage you to read the label of every product you purchase.... READ THE LABEL!!!"



The yellow sign (left) reads, "RESTRICTED USE PESTICIDES — Authorized Use Only."

Make sure that everyone to whom you sell restricted-use pesticides is properly licensed (right).





Sweeping spilled materials



A pesticide manufacturer's driver uses a bucket to make sure that not a single drop of pesticide is spilled on the cement as he fills this bulk tank.

This sign is posted to inform the public that pesticides are used on the golf course—not a requirement, just a heads-up manager!

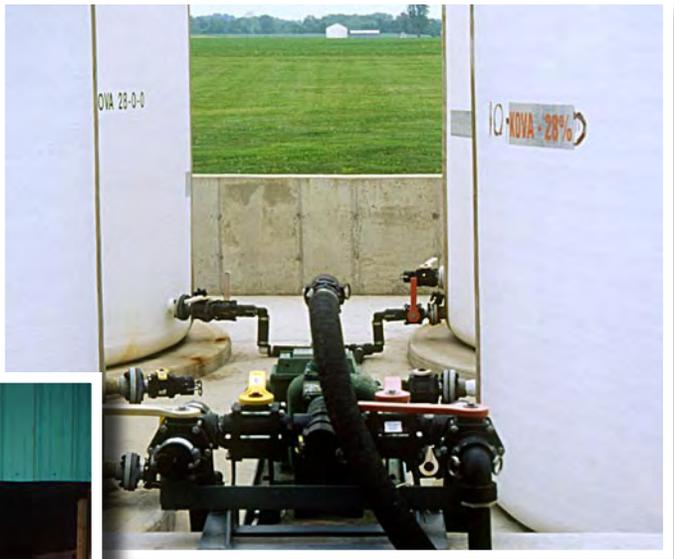


This pesticide applicator is careful to remove a bird feeder before spraying a crab apple tree.



A driver/applicator is careful to check on surrounding properties before making a pesticide application.

A clean work environment is important to the farmer whose facility is shown at right and to the manager of the commercial agricultural facility, below.



A cover over a commercial agricultural facility (below) protects the pesticide and fertilizer mixing area from rain.



Keep reference materials at hand for answering customers' questions.



Additions to Your Business Library

Books

The Complete Federal and State Compliance Guide for Hoosier Businesses. 2001. 440 pages. Order from Purdue University Press, (800) 933-9637, or from Purdue Pesticide Programs' website: www.btny.purdue.edu/PPP/.

The Complete Book of Pesticide Management: Science, Regulation, Stewardship, and Communication. Wiley & Sons. 2002. Ordering information may be accessed at www.btny.purdue.edu/PPP/.

Purdue Pesticide Programs (PPP) Publications

- PPP-18 Crop Production Recordkeeping System
- PPP-19 Annual Field Records
- PPP-20 Pesticides & Personal Safety
- PPP-21 Pesticides & Container Management
- PPP-22 Pesticides & Food Safety
- PPP-24 Pesticides & the Label
- PPP-25 Pesticides & Applicator Certification
- PPP-26 Pesticides & Their Proper Storage
- PPP-27 Pesticides & Commercial Vehicle Maintenance
- PPP-28 Pesticides & Spill Management
- PPP-29 Pesticides & the Home, Lawn, and Garden
- PPP-30 Pesticides & Wildlife
- PPP-31 Pesticides & Formulation Technology
- PPP-32 Pesticides & the Community Right-to-Know
- PPP-33 Pesticides & the Balancing Act
- PPP-34 Pesticides & Pest Prevention Strategies for the
Home, Lawn, and Garden
- PPP-35 Pesticides & Water Quality
- PPP-36 Pesticides & the Law
- PPP-37 Pesticides & Material Safety Data Sheets
- PPP-38 Pesticides & Personal Protective Equipment
- PPP-39 Pesticide Safety & Calibration Math for the Homeowner
- PPP-40 Pesticide Toxicology
- PPP-41 Pesticides & Ecological Risk Assessment
- PPP-42 Pesticides & Environmental Site Assessment
- PPP-43 Pesticides & Epidemiology
- PPP-44 Pesticides & Planning for Emergencies
- PPP-45 The Quick Response Emergency Plan
- PPP-46 Lawncare Pesticide Application Equipment
- PPP-47 Landscape Pesticide Application Equipment

(continued)

Purdue Pesticide Programs (PPP) Publications

(continued)

- PPP-48 Pesticides and Human Health Risk
- PPP-49 The Insurance Policy
- PPP-50 Managing Farm Chemicals
- PPP-51 Stay on Target: Prevent Drift
- PPP-52 Pesticide and Risk Communication
- PPP-53 Children and Poisoning
- PPP-54 The Why's and How To's of Pesticide Recordkeeping
- PPP-55 Company Bulletin Boards
- PPP-56 Conflicts with Wildlife Around the Home
- PPP-57 Managing Farm Emergencies
- PPP-58 Pesticides and Fleet Vehicles
- PPP-59 Pesticide Regulations That Affect Growers
- PPP-60 Communicating with the News Media
- PPP-100 Pest Control in Indiana Cantaloupe Production
- PPP-101 Pest Control in Tomatoes for Processing
- PPP-102 Pest Control in Grapes
- PPP-103 Pest Control in Tomatoes for Processing
- PPP-104 Mint Production and Pest Management in Indiana

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