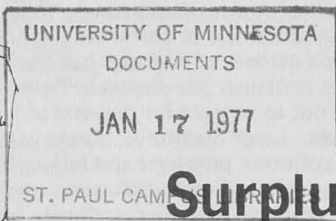


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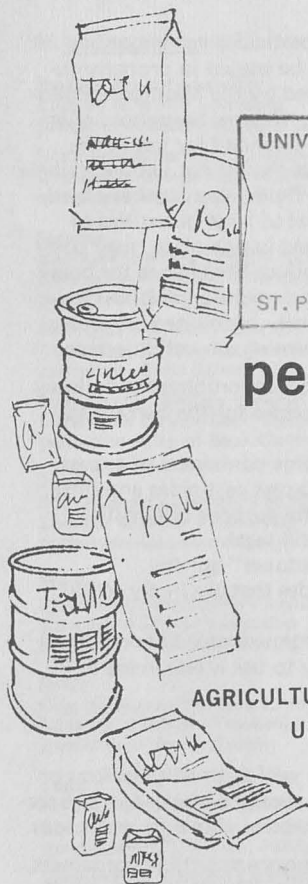
Extension Folder 281
Revised 1977



Surplus pesticide and container disposal

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AGRICULTURAL EXTENSION SERVICE,
UNIVERSITY OF MINNESOTA



Surplus pesticides

We are faced with the choice of pesticide storage or disposal when the use of certain pesticides is discontinued or when we have surplus pesticides at the end of a growing season. Storage presents problems, as discussed in our Agricultural Chemicals Fact Sheets No. 1, "Fire Hazards of Stored Pesticides," and No. 4, "Pesticide Storage and Formulation Shed." Disposal is also a problem because we currently do not have a satisfactory means for disposing of large quantities of pesticides in Minnesota.

High temperature incineration (165°F.) appears to be the best potential disposal technique, but we do not have all the necessary information nor the necessary incinerators at this time. Using incinerators without adequate scrubbing to wash the contaminants from the exhaust would result just in another source of air pollution. Both the water and air effluents need to be monitored constantly to assure that such an incinerator is performing properly. Many incinerators only will handle liquids. There also is doubt as to the proper disposal of the ash from pesticides following incineration.

Small amounts of surplus pesticides not exceeding normal household quantities can be buried in properly supervised sanitary landfills approved by the Minnesota Pollution Control Agency (see listing). Normal household quantities are containers of pesticides intended for use in the home and garden, or on farms but should not exceed a single unrinsed container per disposal. Remember, sanitary landfills are not to be used for disposal of large quantities of pesticides. Large quantities, buried in one place, may complicate pollution problems and reduce the chance for breakdown by chemical degradation and micro-organisms. Disposal procedures that are specifically prohibited are water dumping, open dumping, open burning, or well injection.

Minimize your pesticide disposal problems as follows:

1. Don't overstock. Obtain pesticides for the current season only.
2. Try to arrange the return of large containers of excess pesticides to your supplier. Excess pesticides and rinse solutions should be used for the purpose originally intended providing such use is still legal.
3. Use pesticides that will "breakdown" quickly.
4. Minimize purchases of pesticides that are likely to be restricted.
5. Mix only enough pesticide for your immediate needs. If you have some left over, try to use it elsewhere as instructed for Minnesota.

Pesticide containers

Combustible containers, as well as small (5 gallons or less) noncombustible containers, should be buried in a supervised sanitary landfill, as recommended above for pesticides.

After normal emptying of noncombustible containers, they should be allowed to drain in a vertical position for 30 seconds. For best results the container should be rinsed 3 times with water or other diluting material being used in the spray program, allowing 30 seconds for draining after each rinse. Use one quart of water or other diluting material as described for each rinse of a 1-gallon can or jug; a gallon for each 5-gallon can; and 5 gallons for either 30- or 55-gallon drums. Drain each rinse into the spray tank before filling it to the desired level. Pesticide containers should not be reused.

Do not puncture aerosol or pressurized spray cans or bombs.

To dispose of 15-, 30-, or 55-gallon metal containers, tighten all bungs and closures. Transport the container, or arrange for its transportation, to a pickup point previously designated by a professional drum reconditioner. The containers then will be reconditioned professionally.

Unless they are reconditioned by professionals, pesticide containers should never be salvaged for reuse for any purpose. Such reuse is never worth the chance. Trace amounts of pesticides remaining in the containers may be enough to harm people, pets, livestock, and wildlife.

The following reconditioning procedure is utilized by many professional drum reconditioners; it satisfactorily destroys any pesticide remaining in containers:

1. Heads are mechanically removed from tight-head drums.
2. Drums are upended and heated by direct flame in a special drum furnace to 1000°F. or more for about 10 minutes.
3. After cooling, drums are sandblasted or shotblasted to remove all traces of foreign matter, both inside and outside the drum.

Professional drum reconditioners, listed in the Minneapolis and St. Paul telephone directories, may even transport your barrels to their factory if a sufficient number of drums (30 or 55 gallon) are available at one site.

All other pesticide containers or excess quantities of pesticides can be handled only by:

1. Shipping it to an approved disposal facility out of Minnesota.
2. Storing it at a site located and constructed to prevent escape of materials into the environment until it becomes economically feasible to dispose of it at specifically designated landfills or incineration facilities.

In summary

1. OBSERVE SPECIAL LABEL INSTRUCTIONS RELATING TO DISPOSAL.
2. BURY PESTICIDES, NOT EXCEEDING NORMAL HOUSEHOLD QUANTITIES, IN APPROVED AND SUPERVISED SANITARY LANDFILLS.
3. RETURN LARGER QUANTITIES OR PESTICIDES TO THE MANUFACTURER OR STORE IT PROPERLY UNTIL A DISPOSAL METHOD BECOMES AVAILABLE.
4. BURY SMALL AND DECOMPOSABLE CONTAINERS IN APPROVED AND SUPERVISED SANITARY LANDFILLS.
5. SEND EMPTY METAL PESTICIDE CONTAINERS OF 15-GALLON CAPACITY OR MORE BACK TO THE MANUFACTURER OR TO PROFESSIONAL DRUM RECONDITIONERS. ANY NUMBER OF TRIPLE-RINSED PESTICIDE CONTAINERS LESS THAN 15-GALLON CAPACITY CAN BE BURIED IN A SUPERVISED SANITARY LANDFILL.

The following Solid Waste Disposal Facilities in Minnesota (listed by county) have been approved by the Minnesota Pollution Control Agency, Solid Waste Division, 1935 West County Road B2, Roseville, Minnesota 55113, effective July 1974.

Aitkin

Aitkin Area Sanitary Landfill
Located in Fann Island Township
permittee—County of Aitkin

Hickory Grove Sanitary Landfill
Located in Lakeside Township
permittee—County of Aitkin

Anoka

Anoka Municipal Landfill
Located in Ramsey Township
permittee—Waste Management of Minnesota, Inc.

Oak Grove Landfill
Located in Oak Grove Township
permittee—Joseph Egan, Cedar

Waste Disposal Engineering Sanitary Landfill
Located in City of Andover
permittee—Waste Disposal Engineering, Inc.

Becker

Becker County Landfill
Located in Detroit Township
permittee—County of Becker

Beltrami

Kummer Sanitary Landfill
Located in Northern Township
permittee—Charles Kummer, Bemidji

Big Stone

Eastman Sanitary Landfill
Located in Browns Valley Township
permittee—Warren Eastman, Beardsley

Blue Earth

Blue Earth County Ponderosa Landfill
Located in South Bend Township
permittee—Gerald Weimert

Hansen Sanitary Landfill
Located in South Bend and Judson Townships
permittee—Woodrow W. Hansen, Mankato

Brown

Brown County Sanitary Landfill
Located in Sigel Township
permittee—Mathiowetz Enterprises, Inc.

Carlton

Carlton County Sanitary Landfill No. 2
Located in Twin Lakes Township
permittee—County of Carlton

Cass

Maple Sanitary Landfill
Located in Maple Township
permittee—Harold Rudlang, Pequot Lakes

Chippewa

Tostenson-Gabrielson Sanitary Landfill
Located in Sparta Township
permittee—Kenneth Tostenson and Don Gabrielson, Montevideo

Chisago

Pine Lane Landfill
Located in City of Wyoming and Wyoming Township
permittee—Ernest E. Strand and Cameron E. Strand, Chisago City

Clay

Clay County Sanitary Landfill
Located in Hawley Township
permittee—Clay County

Cook

Maple Hill Sanitary Landfill
Located in unorganized township 62-2
permittee—County of Cook

Cottonwood

Albrecht and Son Sanitary Landfill
Located in Dale Township
permittee—Russell Albrecht, Windom

Crow Wing

Crow Wing Sanitary Landfill
Located in Oaklawn Township
permittee—County of Crow Wing

Dakota

Burnsville Sanitary Landfill
Located in City of Burnsville
permittee—Edward Kraemer & Sons, Inc.

Dakhue Sanitary Landfill
Located in Hampton Township
permittee—Dakhue Landfill, Inc.

Freeway Landfill

Located in City of Burnsville
permittee—R.B. McGowan Company, Inc.

Pine Bend Sanitary Landfill
Located in City of Inver Grove Heights
permittee—Pine Bend Development Company

Dodge

Dodge County Sanitary Landfill
Located in Mantorville Township
permittee—County of Dodge

Douglas

Kluser Sanitary Landfill
Located in Carlos Township
permittee—Loren Kluser, Alexandria

LaGrand Sanitary Landfill
Located in LaGrand Township
permittee—Francis C. Crosgrave, Carlos

Faribault

Faribault County Sanitary Landfill
Located in Emerald Township, Faribault County
permittee—Faribault County Landfill, Inc.

Fillmore

Ironwood Landfill
Located in Bloomfield Township
permittee—Ironwood Disposal System, Inc.

Freeborn

Albert Lea Sanitary Landfill
Located in City of Albert Lea
permittee—City of Albert Lea

Hennepin

Boyer Sanitary Landfill
Located in City of Medina
permittee—Boyer Sanitary Landfill Company

Flying Cloud Sanitary Landfill
Located in Eden Prairie
permittee—International Disposal Corporation

Hennepin (continued)

City of Hopkins Sanitary Landfill

Located in City of Hopkins
permittee—City of Hopkins

Woodlake Sanitary Landfill, Inc.

Located in City of Medina
permittee—Woodlake Sanitary Landfill, Inc.

Houston

Houston County Sanitary Landfill

Located in Houston Township
permittee—County of Houston

Hubbard

Bergeron Sanitary Landfill

Located in Farden Township
permittee—Dennis Bergeron, Cass Lake

Pickett Sanitary Landfill

Located in Henrietta Township
permittee—Henry G. Pickett, Park Rapids

Isanti

Isanti and Chisago Counties Sanitary Landfill

Located in Isanti Township
permittee—County of Isanti and County of Chisago

Itasca

Grand Rapids Area Sanitary Landfill

Located in unorganized township
permittee—County of Itasca

Iron Range Sanitary Landfill

Located in Iron Range Township
permittee—Town of Iron Range

Jackson

Jackson County Sanitary Landfill

Located in Hunter Township
permittee—County of Jackson

Kanabec

Kanabec Sanitary Landfill

Located in Arthur Township
permittee—City of Mora

Kandiyohi

Kandiyohi County Sanitary Landfill

Located in Lake Andrew Township
permittee—County of Kandiyohi

Kittson

Anderson Kittson County Sanitary Landfill

Located in Thompson Township
permittee—LeMar Anderson, Hallock

Karlstad Sanitary Landfill

Located in Deerwood Township
permittee—City of Karlstad

Lake

Lake County Sanitary Landfill

Located in Silver Creek Township
permittee—County of Lake

LeSueur

Minnesota Sanitation Services Sanitary Landfill

Located in Kasota Township
permittee—Minnesota Sanitation Services, Inc.

Reak Sanitary Landfill

Located in Lexington Township
permittee—Reak Landfill, Inc.

LeSueur (continued)

Tellijohn Sanitary Landfill
Located in Ottawa Township
permittee—Keith Tellijohn, Route 1, LeSueur

Lincoln

Lincoln Landfill
Located in Ash Lake Township
permittee—Marce Skorczewski, Ivanhoe

Lyon

Lyons Sanitary Landfill
Located in Lyons Township
permittee—William L. Ritter, Marshall

Mahnomen

Mahnomen County Sanitary Landfill
Located in LaGarde Township
permittee—County of Mahnomen

Martin

Gofer Sanitary Landfill
Located in Rutland Township
permittee—Tow Bros. Sanitation

McLeod

McLeod County Sanitary Landfill
Located in Rich Valley Township
permittee—Bullert Construction Company, Glencoe

Meeker

Meeker County Sanitary Landfill
Located in Forest City Township
permittee—County of Meeker

Mille Lacs

Mille Lacs County Sanitary Landfill No. 1
Located in Milo Township
permittee—County of Mille Lacs

Morrison

Little Falls Community Sanitary Landfill
Located in Little Falls Township
permittee—Little Falls Community Sanitary Landfill Board

Mower

Red Rock Sanitary Landfill
Located in Mower County
permittee—Waste Control, Inc.

Murray

Murray County Sanitary Landfill
Located in Leeds Township
permittee—County of Murray

Nobles

Nobles County Sanitary Landfill
Located in Dewald Township
permittee—Fred Schaap, Worthington

Olmsted

City of Rochester Locoshonas Farm Sanitary Landfill
Located in Oronoco Township
permittee—City of Rochester

Otter Tail

Battle Lake Area Sanitary Landfill
Located in Clitherall Township
permittee—Battle Lake Area Sanitary Landfill Association

Pine

Korf Brothers Sanitary Landfill
Located in Pokegama Township
permittee—Henry Korf, Jr., and Abe Korf, Pine City

Pipestone

Pipestone County Sanitary Landfill
Located in Rock Township
permittee—County of Pipestone

Polk

Polk County Sanitary Landfill
Located in Gentilly Township
permittee—County of Polk

Redwood

Redwood County Sanitary Landfill
Located in Redwood Falls Township
permittee—Southwest Minnesota Solid Waste Management, Inc.

Renville

Renville County Sanitary Landfill
Located in Henryville Township
permittee—County of Renville

Rice

Rice County Sanitary Landfill
Located in Bridgewater Township
permittee—County of Rice

Rock

Rock County Sanitary Landfill
Located in Magnolia Township
permittee—County of Rock

Roseau

City of Greenbush Sanitary Landfill
Located in Hereim Township
permittee—City of Greenbush

Salol Sanitary Landfill
Located in Enstrom Township
permittee—County of Roseau

Scott

Louisville Landfill
Located in Louisville Township
permittee—Theodore Pahl, Shakopee

Sherburne

Elk River Sanitary Landfill
Located in Elk River Township
permittee—Ernest J. Toth, Route 2, Elk River

Sibley

Sibley County Sanitary Landfill
Located in Dryden Township
permittee—County of Sibley

St. Louis

Duluth Area Sanitary Landfill
Located in Rice Lake Township
permittee—Duluth Disposal Company

East Mesaba Sanitary Landfill
Located in Missabe Mountain Township and City of Virginia
permittee—East Mesaba Sanitary Disposal Authority

City of Hoyt Lakes Sanitary Landfill
Located in City of Hoyt Lakes
permittee—City of Hoyt Lakes

St. Louis (continued)

Hudson Sanitary Landfill
Located in White Township
permittee—Hudson Sanitary Landfill Authority, Aurora

Northwoods Sanitary Landfill
Located in unorganized township 6 1-12
permittee—Northwoods Services, Inc.

Stearns

Bueckers Sanitary Landfill No. 1
Located in Millwood Township
permittee—Ervin J. Bueckers, Melrose

St. Augusta Sanitary Landfill
Located in St. Augusta Township
permittee—Ervin Schramel, St. Cloud

Sauk Centre Sanitary Landfill
Located in City of Sauk Centre
permittee—City of Sauk Centre

Steele

Steele County Sanitary Landfill
Located in Aurora Township
permittee—County of Steele

Stevens

Stevens County Sanitary Landfill
Located in Darner Township
permittee—Duane Kolden, 105 West Fourth St., Morris

Swift

City of Benson Sanitary Landfill
Located in Benson Township
permittee—City of Benson

Todd

H.F. Killian Sanitary Landfill
Located in Villard Township
permittee—H.F. Killian, Motley

Long Prairie Sanitary Landfill
Located in Bruce Township
permittee—Fred Starry and Floyd Berger, Long Prairie

Wabasha

Wabasha County Sanitary Landfill
Located in Watopa Township
permittee—Wabasha County

Wadena

Anderson Sanitary Landfill
Located in Red Eye Township
permittee—Howard A. Anderson, Sebaka

City of Wadena Sanitary Landfill
Located in Leaf River Township
permittee—City of Wadena

Waseca

Waseca County Sanitary Landfill
Located in Otisco Township
permittee—County of Waseca

Watonwan

Watonwan County Sanitary Landfill
Located in Rosendale Township
permittee—County of Watonwan



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Wilkin
 City of Barnesville Sanitary Landfill
 Located in Prairie View Township
 permittee—City of Barnesville

Winona
 Community Sanitary Landfill
 Located in Hillsdale Township
 permittee—Marlin & Marcilla Geisler, St. Charles

Winona Sanitary Landfill
 Located in Wilson Township
 permittee—James Murphy, RR 2, Winona

Wright
 French Lake Landfill
 Located in French Lake Township
 permittee—Toiva William Kozila, Cokato

Lindala Sanitary Landfill
 Located in French Lake Township
 permittee—Ed Lindala, Annandale

Lindenfelser Landfill
 Located in Frankfort Township
 permittee—Francis Lindenfelser, Albertville

Yonak Sanitary Landfill
 Located in Monticello Township
 permittee—Wayne Yonak, Route 1, Buffalo

Yellow Medicine
 Lenzen Sanitary Landfill
 Located in Stony Run Township
 permittee—Roy E. Lenzen, Granite Falls

Issued in furtherance of cooperative extension work in agriculture and home economics, acts of May 8 and June 30, 1914, in cooperation with the U.S. Department of Agriculture. Roland H. Abraham, Director of Agricultural Extension Service, University of Minnesota, St. Paul, Minnesota 55108. We offer our programs and facilities to all persons without regard to race, creed, color, sex, age, or national origin.