

TITLE 8: AGRICULTURE AND ANIMALS  
CHAPTER I: DEPARTMENT OF AGRICULTURE  
SUBCHAPTER i: PESTICIDE CONTROL

PART 258  
LAND APPLICATION AUTHORIZATION PROGRAM

Section	
258.10	Applicability
258.20	Severability
258.30	Definitions
258.40	Incorporation by Reference
258.50	Remediation Suitability Determination
258.60	Written Authorization for Land Application
258.70	Operational Control Practices, Limitations and Restrictions
258.80	Closure Reporting
258.90	Sampling and Analysis
258.100	Penalties and Enforcement
Appendix A	Soil Remediation Suitability Determination Levels of Pesticides Listed as Hazardous Constituents in 35 Ill. Adm. Code 721
Appendix B	Target Analyte List
Appendix C	Soil Closure Objectives
Appendix D	Land Application Area Sampling

AUTHORITY: Authorized by Section 19 of the Illinois Pesticide Act [415 ILCS 60/19].

SOURCE: Adopted at 23 Ill. Reg. 7721, effective June 25, 1999; amended at 26 Ill. Reg. 17155, effective November 18, 2002.

**Section 258.10 Applicability**

- a) This Part applies to the owner or operator of an agrichemical facility who requests, pursuant to 415 ILCS 60/19 (9), Department issuance of a written authorization for land application of agrichemical-contaminated soil or groundwater. The contaminated soil or groundwater must be the product of the environmental cleanup of agrichemical spill sites at:
  - 1) agrichemical facilities,
  - 2) in transit locations from an agrichemical facility to the field of application, or
  - 3) the field of application.
- b) This Part does not apply to the land application of contaminated soil or groundwater to any land other than farmland.
- c) This Part does not apply to spill sites at which the contaminated soil exhibits a characteristic of hazardous waste as defined in 35 Ill. Adm. Code 721.120 through 124.

(Source: Amended at 26 Ill. Reg. 17155, effective November 18, 2002)

**Section 258.20 Severability**

If any Section, subsection, sentence or clause of this Part is judged invalid, such adjudication shall not affect the validity of this Part as a whole or any Section, subsection, sentence or clause thereof not judged invalid.

### **Section 258.30 Definitions**

Definitions for this Part can be located in Section 4 and Section 19 of the Illinois Pesticide Act [415 ILCS 60/4 and 19]. The following definitions shall also apply to this Part:

"Agrichemical" means pesticides or commercial fertilizers at an agrichemical facility, in transit from an agrichemical facility to the field of application, or at the field of application.

"Applicant" means an owner, operator or designated officer of an agrichemical facility who requests a Written Authorization for Land Application.

"Authorization" means a Written Authorization for Land Application.

"Commercial Fertilizer" is defined in 505 ILCS 80/3. For the purposes of this Part, commercial fertilizer also includes custom mixes as defined in 505 ILCS 80/3.

"Cropland" means land used for the agricultural production of plants and plant part commodities.

"Department" means the Illinois Department of Agriculture.

"Family of Pesticides" means a group of structurally similar compounds that exhibit common biochemical actions.

"Farmland" means lands utilized for agricultural purposes, including both areas used for cropland and areas used for field access lanes.

"Field Access Lane" means a private road utilized for admittance by vehicles of husbandry to cropland, but does not include private roads that provide primary access to a structure being used for human habitation.

"Groundwater" means groundwater as defined in the Illinois Groundwater Protection Act [415 ILCS 55/3].

"Incorporation" means mixing into the soil at a land application area.

"Label" means the written, printed or graphic matter on or attached to the pesticide or device or any of its containers or wrappings [415 ILCS 60/4].

"Land Application" means the environmental treatment of contaminated soil or groundwater contaminated soil or groundwater by incorporation into farmland soils.

"Land Application Area" means the farmland upon which contaminated soil or groundwater is or will be applied.

"Pesticide" means any substance or mixture of substances intended for preventing, repelling, or mitigating any pest or any substance or mixture of substances intended for use as a plant regulator, defoliant

or desiccant [415 ILCS 60/4.29].

*"Regulated Recharge Area" means a compact geographic area, as determined by the Pollution Control Board pursuant to Section 17.4 of the Environmental Protection Act [415 ILCS 5/17.4], the geology of which renders a potable resource groundwater particularly susceptible to contamination [415 ILCS 5/3.67].*

*"Release" means any spilling, leaking, pumping, pouring, emitting, emptying, discharging, injecting, escaping, leaching, dumping, or disposing of pesticides into the environment, but excludes application of pesticides at agronomic rates under regulations established by the Department in accordance with the Illinois Pesticide Act [415 ILCS 60].*

*"Remediation Suitability Determination Level" or "RSDL" means the concentration of a pesticide residue in soil or groundwater that represents a level below which the Department considers the contaminated soil or groundwater to be suitable for land application.*

*"Setback zone" means a geographic area, designated pursuant to the Environmental Protection Act, containing a potable water supply well or a potential source or potential route having a continuous boundary, and within which certain prohibitions or regulations are applicable in order to protect groundwaters [415 ILCS 5/3.61].*

*"Sinkhole" means any natural depression formed as a result of subsurface removal of soil or rock materials causing the formation of a collapse feature that exhibits internal drainage. The existence of a sinkhole shall be indicated by the uppermost closed depression contour lines on the USGS 7 ½ minute quadrangle topographic maps or as determined by field investigations.*

*"Soil", for the purposes of this Part, means the unconsolidated earth materials present at a spill site, including natural soils, gravel and soil/gravel mixtures.*

*"Spill Site" means the land area at which a pesticide or commercial fertilizer was released.*

*"Stockpile" means the storage, temporary storage, or containment of contaminated soil or groundwater in such a manner as not to constitute final disposal or land application.*

*"Written Authorization for Land Application" means a written statement issued by the Department granting approval for the land application of contaminated soil or groundwater to farmland in accordance with the provisions of this Part.*

(Source: Amended at 26 Ill. Reg. 17155, effective November 18, 2002)

#### **Section 258.40 Incorporation by Reference**

a) The Department incorporates the following material by reference:

- 1) NTIS - National Technical Information Service, 5285 Port Royal Road, Springfield VA 22161, (703) 487-4600.

*"Methods for the Determination of Organic Compounds in Drinking Water", USEPA, Publication No. EPA-600/4-88-039*

(December 1998)

"Methods for the Determination of Organic Compounds in Drinking Water, Supplement II", USEPA Publication No. EPA/600/R-92/129 (August 1992).

"Methods for the Determination of Organic Compounds in Drinking Water, Supplement III", USEPA Publication No. EPA/600/R-95/131 (August 1995).

"Test Methods for Evaluating Solid Wastes, Physical/Chemical", USEPA Publication Number SW 846 (Third Edition, Final Update III, December 1996), as amended by Updates I, IIA, and III (Document No. 955-001-00000-1).

- 2) University of Illinois Board of Trustees, 1401 South Maryland Drive, Urbana, IL 61801 (217)333-2007.

"Illinois Agronomy Handbook 2001-2002", University of Illinois at Urbana-Champaign, College of Agricultural, Consumer and Environmental Sciences (December 2000).

- b) These incorporations by reference do not include any amendments or editions beyond the dates specified.

(Source: Amended at 26 Ill. Reg.17155, effective November 18, 2002)

#### **Section 258.50 Remediation Suitability Determination**

Contaminated soil that is the subject of an application for Department issuance of written authorization for land application must be evaluated for remediation suitability in accordance with this Section.

- a) The applicant must develop an appropriate, site-specific list of agrichemicals known or suspected to have been released at the spill site. The compounds included in Appendices A and B of this Part may serve as a guide to the applicant in the development of the site-specific list of target pesticides and nutrients. Unless affirmatively demonstrated that an agrichemical has not been stored, mixed or loaded at the spill site, all pesticides listed in Appendix B must be considered target agrichemicals.
- b) The contaminated soil must be sampled in accordance with the requirements of this Part and analyzed for the presence and concentration of the target agrichemicals included on the list of compounds required in subsection (a) of this Section.
- c) If the list required in subsection (a) of this Section includes any of the pesticides listed in Appendix A of this Part, the mean concentration of the pesticide in the soil must be determined in accordance with the sampling and analysis procedures of Section 258.90. The mean pesticide concentrations of the contaminated soil must be compared to its associated Remediation Suitability Determination Level (RSDL) obtained from Appendix A of this Part. If the mean remediation media concentration for any pesticide listed in Appendix A of this Part is equal to or greater than its associated Remediation Suitability Determination Level, the contaminated soil may not be suitable for land application.

(Source: Amended at 26 Ill. Reg. 17155, effective November 18, 2002)

**Section 258.60 Written Authorization for Land Application**

- a) An Authorization issued by the Department pursuant to this Part must be obtained by an applicant prior to the commencement of any stockpiling of contaminated soil or land application of contaminated soil or groundwater at a proposed application area. If ownership of an agrichemical facility is transferred, an Authorization may be transferred to the new owner or operator of the agrichemical facility upon written notification by the applicant to the Department and approval by the Department.
- b) An application for an Authorization must be submitted on forms provided by the Department. Information submitted in an application must include the following:
  - 1) The facility name, address, telephone number, and facility identification number, if applicable; the applicant's full legal names, address and telephone numbers, including any authorized agents of the applicant and any contact persons to whom correspondence must be addressed; and the applicant's signature authorizing the application;
  - 2) The full legal name, address and telephone number of the owners of the proposed land application area, including any authorized agents acting on behalf of such owners and any contact persons to whom correspondence must be addressed, and the signatures of the landowners authorizing the application;
  - 3) The name, address, telephone number, and signature of the persons responsible for the project design and management;
  - 4) Topographic and plat maps of the proposed land application area;
  - 5) A location area map of the proposed land application area;
  - 6) A soil survey map of the proposed land application area;
  - 7) A listing of the agrichemical concentrations, a description of the methods utilized to determine the agrichemical concentrations, and the volume of contaminated soil or groundwater proposed to be land applied;
  - 8) A description of the agricultural crop to be grown on the land application area and date of the proposed land application;
  - 9) A proposed application method or procedure for contaminated soil or groundwater, application rate, and supporting data and calculations, including the label rates associated with each pesticide present and the identification of the most-limiting compound on which the contaminated soil or groundwater application rate is to be based, each of which must be consistent with the requirements found at Section 258.70(e) of this Part;

- 10) A description of the proposed method to be utilized for the calibration of the application device to ensure consistent distribution of contaminated soil or groundwater to the land application area and how the contaminated soil or groundwater will be incorporated into the soil; and
  - 11) The legal description of the land application area and the acreage available at each site.
- c) Applications for an Authorization must be accompanied by a letter of agreement from the owner of the application area, or the owner's authorized agent, indicating he or she understands the nature of the project and has agreed to participate. If land application to a field access lane is proposed, the owner or owners of the field access lane and all properties contiguous to the field access lane must provide letters of agreement to the Department indicating approval of the land application of contaminated soil or groundwater to the field access lane.
  - d) If contaminated soil or groundwater is applied to field access lanes or farmland currently enrolled in the Conservation Reserve Program, applications for an Authorization must include a statement of commitment by the applicant to collect and analyze soil samples from the land application area within six months after the application of contaminated soil or groundwater. Such samples must be analyzed for the presence and concentration of all analytes detected in the samples of contaminated soil or groundwater collected at the spill site that have been established as the basis for the proposed application rate. Analytical results of the soil sampling conducted after the application of contaminated soil or groundwater and any sampling required pursuant to Section 258.80 of this Part must be submitted to the Department as part of the Closure Reports.
  - e) If contaminated soil or groundwater is applied to cropland, applications for an Authorization must include a statement of commitment by the applicant to collect and analyze soil samples from the land application area at least two months prior to planting of the following crop. Analytical results of the soil sampling conducted after the application of contaminated soil or groundwater and any sampling required pursuant to Section 258.80 of this Part must be submitted to the Department as part of the Closure Reports.
  - f) Applications for an Authorization must include a description of the methods to be used to determine and document the actual amount of contaminated soil or groundwater applied to the land application area expressed in tons/acre or gallons/acre, as appropriate. Such methods must result in documentation that will be submitted to the Department as part of the Closure Report pursuant to Section 258.80 of this Part.
  - g) Upon receipt of an application, the Department shall review the application for compliance with the provisions of this Part.
    - 1) If the submittal is incomplete, the Department shall notify the applicant in writing within 30 days after receipt and identify the deficiencies.

- 2) If the submittal is not in compliance with the provisions of this Part, the Department shall provide written notification of the reasons for denial to the applicant within 90 days after receipt.
- 3) If the submittal is complete and in compliance with the provisions of this Part, the Department shall issue written Authorization to the applicant within 90 days after receipt.
- h) The Department may revoke any Authorization that has not been implemented within two years after the date of issuance. Upon request by the applicant, such Authorizations may be renewed by the Department after review.
- i) The applicant shall submit a modified application if the concentrations of agrichemicals in the contaminated soil or groundwater, or the volume or application rate of contaminated soil or groundwater, are greater than specified in the original application; or if the applicant proposes changes in the location or size of the application area or in procedures for sample collection and analyses.

(Source: Amended at 26 Ill. Reg. 17155, effective November 18, 2002)

#### **Section 258.70 Operational Control Practices, Limitations and Restrictions**

- a) No applicant shall land apply contaminated soil or groundwater or stockpile contaminated soil:
  - 1) within any Illinois Groundwater Protection Act (IGPA) [415 ILCS 55/14] defined wellhead setback zone or regulated recharge area;
  - 2) within 200 feet of any surface water or within 1,000 feet of any surface water body that is the subject of any health advisory regarding agrichemicals listed in Appendix A;
  - 3) within 20 feet of a farmland edge unless the application is to a field access lane and is performed consistent with Section 258.60(c);
  - 4) within any flood plain with a return frequency of 10 years or less;
  - 5) within 200 feet of a drainage tubing surface inlet;
  - 6) within 200 feet of a sinkhole;
  - 7) within 200 feet of a structure being used for human habitation at the time of the proposed application. In addition, no applicant shall land apply remediation media within 200 feet of a structure being used as a common place of assembly such as a church, school or business;
  - 8) on frozen farmland with a frost depth of one inch or greater;
  - 9) on a portion of farmland that has a slope in excess of five percent; and

- 
- 10) within 200 feet of any Class III: Special Resource Groundwater as defined by 35 Ill. Adm. Code 620.230.
  - b) No applicant shall stockpile groundwater at the application area.
  - c) No applicant shall stockpile contaminated soil at the application area for more than 30 calendar days without prior approval of the Department.
  - d) Stockpiles of contaminated soil at the application area must be located in such a manner that agrichemical migration, due to surface water, into setbacks established under subsection (a) of this Section and potential agrichemical migration to surface water or groundwater is prevented.
  - e) No applicant shall land apply contaminated soil or groundwater at rates in excess of pesticide label rates or generally accepted agronomic fertilizer application rates, as specified below. The most-limiting application rate shall govern the land application of contaminated soil or groundwater.
    - 1) If a pesticide that is not labeled for use with the specific crop to be grown on a land application area is present in contaminated soil or groundwater with other pesticides that are labeled for use with the proposed crop, consideration must be given to any potential phytotoxic effects that could arise from the proposed land application to the crop to be grown when developing a proposed application rate. In such instances, the application rate of the non-labeled pesticide must not exceed 10 percent of its most limited label rate for use on other agricultural crops.
    - 2) If more than one pesticide from a family of pesticides is present in the contaminated soil or groundwater or when additive effects of the pesticides may be possible, consideration must be given to possible phytotoxic effects resulting from a contaminated soil or groundwater application rate based only on the single highest concentration present, and the proposed application rate must be reduced below such potential phytotoxic application rates.
    - 3) If more than one pesticide is present in the contaminated soil or groundwater, consideration must be given to commercially available blends that contain those pesticides and the labeled rate of application associated with those commercially available blends. In such cases, the application rate of the contaminated soil or groundwater must be not greater than the labeled application rate of the commercially available blend.
    - 4) If fertilizer containing nitrogen or phosphorus is present in the contaminated soil or groundwater, the land application rate must not exceed the most limiting of either the nutrient application rate or the pesticide label rate, whichever is more restrictive. Nitrogen and phosphorus application rates must be based upon the agronomic rates for the crop or commodity to be grown as contained in the



Illinois Agronomy Handbook, incorporated by reference in Section 258.40.

- f) In addition to the other provisions of this Part, applications of contaminated soil or groundwater on farmland currently enrolled in the Conservation Reserve Program shall only be allowed when the application includes a written statement from a representative of the United States Department of Agriculture - Natural Resource Conservation Service of the county where the proposed land application area is located that the proposed activity will not adversely affect the program status of the land application area.

(Source: Amended at 26 Ill. Reg. 17155, effective November 18, 2002)

**Section 258.80 Closure Reporting**

- a) A Closure Report must be submitted to the Department within 60 days after receipt of analytical results associated with closure sampling required under subsection (b)(1) of this Section.
- b) The Closure Report shall include the following information:
- 1) Analytical results, including the mean and standard deviation for each analyte, from the soil sampling of the land application area:
    - A) conducted no later than two months prior planting of the following crop; or
    - B) in the case of field access lanes or farmland currently enrolled in the Conservation Reserve Program, conducted no later than six months after the application of contaminated soil or groundwater;
  - 2) Documentation of the actual amounts of contaminated soil or groundwater that was land applied and calculations indicating that the application rates were equal to or less than those authorized by the Department;
  - 3) Documentation of how the contaminated soil or groundwater was incorporated into the soils in the land application area.
- c) Upon receipt of a Closure Report, the Department shall review the submittal and evaluate whether the report indicates that agrichemical levels in the soil at the proposed time of closure are below the soil closure objective concentrations listed in Appendix C of this Part.
- 1) If the submittal indicates that agrichemical concentrations in the land application area are below the soil closure objective concentrations listed in Appendix C of this Part, the Department shall issue a Notice of Closure within 45 days after receipt. The Notice of Closure shall indicate the applicant has land applied contaminated soil or groundwater to the application area in accordance with the Authorization and all requirements of this Part. An applicant that has been issued a Notice of Closure shall no longer be subject to the requirements of this Part.

- 2) If the submittal indicates that agrichemical concentrations in the land application area are not below the soil closure objective concentrations as listed in Appendix C of this Part, the Department shall, within 45 days from the date of receipt of the Closure Report, notify the applicant in writing as to why a Notice of Closure was not issued. The Department may require additional sampling and analyses of samples of the land application area and prescribe remedial measures to be conducted by the applicant to reduce the concentrations of agrichemicals in the land application area or to mitigate any potential adverse effects on crops or the environment. The applicant must conduct the prescribed activities and must prepare and submit a Closure Report detailing the results of the additional sampling and other measures as prescribed by the Department.
- 3) The Department shall send a copy of the Notice of Closure or the denial of the notice of closure to the owners of the land application area.

(Source: Amended at 26 Ill. Reg. 17155, effective November 18, 2002)

#### **Section 258.90 Sampling and Analysis**

- a) Contaminated soil or groundwater must be sampled in accordance with the requirements of this Part and analyzed for the presence and concentration of the target agrichemicals included on the list of compounds required in 8 Ill. Adm. Code 255.50(a). Soil samples may be composited. At least one composite soil sample is required per one-eighth acre of the spill site, using six subsamples per composite.
- b) Soil samples from the land application area, excluding field access lanes, must be collected to the depth of incorporation or three inches whichever is less. Soil samples from field access lanes must be collected to a depth of six inches.
- c) Soil samples collected from the land application area must be analyzed for the agrichemicals that were the basis for determining the application rate of the contaminated soil or groundwater pursuant to Section 258.70(e).
- d) Sampling of the land application area must be conducted in accordance with Appendix D of this Part, except field access lanes must be sampled at the rate of at least one composite soil sample per 500 lineal feet.
- e) All field and laboratory activities must satisfy the following to ensure that all data are scientifically valid and of known precision and accuracy:
  - 1) All field sampling activities relative to sample collection, documentation, preparation, labeling, storage, shipment and security, quality assurance and quality control, acceptance criteria, corrective action, and decontamination procedures must be conducted in accordance with "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods" (SW-846), incorporated by reference at Section 258.40 of this Part.

- 2) All field measurement activities relative to equipment and instrument operation, calibration and maintenance, corrective action, and data handling must be conducted in accordance with SW-846, or with an equipment or instrument manufacturer's or vendor's published standard operating procedures.
- 3) All laboratory quantitative analyses of soil samples to determine concentrations of pesticides must be conducted fully in accordance with SW-846, relative to all facilities, equipment and instrumentation, operating procedures, sample management, test methods, equipment calibration and maintenance, quality assurance and quality control, corrective action, data reduction and validation, reporting, and records management. The practical quantitation limit (PQL) of the test methods selected must be less than or equal to the RSDLs contained in Appendix A of this Part.
- 4) All laboratory quantitative analyses of soil samples to determine concentrations of pesticides or nutrients must be conducted on the less than 2-mm fraction.
- 5) All laboratory quantitative analyses of soil samples to determine concentrations of pesticides that require more sensitive detection limits or cannot be analyzed by standard methods identified in SW-846 must be conducted in accordance with analytical protocols developed in consultation with and approved by the Department.
- 6) All groundwater monitoring and analytical procedures must be conducted in accordance with 35 Ill. Adm. Code 620.505 and 620.510.
- 7) All quantitative analyses of soil and groundwater samples that utilize any of the approved test methods identified in 35 Ill. Adm. Code 186.180 shall be completed by an accredited laboratory in accordance with the requirements of 35 Ill. Adm. Code 186. Quantitative analyses not utilizing an accredited laboratory in accordance with Part 186 shall be deemed invalid.

(Source: Amended at 26 Ill. Reg. 17155, effective November 18, 2002)

#### **Section 258.100 Penalties and Enforcement**

Applicants who fail to comply with the provisions or conditions of a written authorization for the land application of contaminated soil or groundwater issued by the Department shall be subject to the administrative actions and penalties contained in Section 24.1 of the Illinois Pesticide Act [415 ILCS 60/24.1].

(Source: Amended at 26 Ill. Reg. 17155, effective November 18, 2002)

**Section 258. Appendix A Soil Remediation Suitability Determination Levels of Pesticides Listed as Hazardous Constituents in 35 Ill. Adm. Code 721**

PESTICIDES	CAS NO. <sup>a</sup>	RECOMMENDED TEST METHOD <sup>b</sup>	SOIL (mg/kg)
Aldicarb	116-06-3	8321	0.2
Aldrin	309-00-2	8081	0.1
Butylate	2008-41-5	8270	150
Carbofuran	1563-66-2	8270	3
Chlordane	57-74-9	8081	160
2,4-D	94-75-7	8151	6
4,4-DDD	72-54-8	8081	130
4,4-DDT	50-29-3	8081	380
Dieldrin	60-57-1	8081	0.08
Dimethoate	60-51-5	8141	0.07
Dinoseb	88-85-7	8151	0.4
Disulfoton	298-04-4	8141	0.5
Endosulfan	115-29-7	8081	3400
Endothall	145-73-3	8270	14
Endrin	72-20-8	8081	27
EPTC	759-94-4	8270	57
Heptachlor	76-44-8	8081	13
Lindane	58-89-9	8081	0.4
Methoxychlor	72-43-5	8081	4100
Parathion, Ethyl	56-38-2	8141	440
Parathion, Methyl	298-00-0	8141	15
Phorate	298-02-2	8141	2
2,4,5-TP	93-72-1	8270	370
Toxaphene	8001-35-2	8081	400

Sources: <sup>a</sup>Chemical Abstract Service  
<sup>b</sup>USEPA Test Method (SW-846)

(Source: Amended at 26 Ill. Reg. 17155, effective November 18, 2002)

**Section 258.APPENDIX B Target Analyte List**

PESTICIDES	CAS NO. <sup>a</sup>	RECOMMENDED TEST METHOD <sup>b</sup>
Acetochlor	34256-82-1	8151
Alachlor	15972-60-8	8081
Atrazine	1912-24-9	8141
Butylate	2008-41-5	8270
Chlorpyrifos	2921-88-2	8141
Cyanazine	21725-46-2	8141
Carbofuran	1563-66-2	8270
2,4-D	94-75-7	8151
Metolachlor	51218-45-2	8151
Metribuzin	21087-64-9	8270
Pendimethalin	40487-42-1	8091
Simazine	122-34-9	8141
Terbufos	13071-79-9	8141
Trifluralin	1582-09-8	8091

## NUTRIENTS

Ammonia (as N)  
Nitrate (as N)  
Phosphorous (Bray P1)

<sup>a</sup>Chemical Abstract Service

<sup>b</sup>USEPA Test Method (SW-846)

(Source: Amended at 26 Ill. Reg.17155, effective November 18, 2002)

**Section 258.APPENDIX C Soil Closure Objectives**

PESTICIDES	CAS No. <sup>a</sup>	RECOMMENDED TEST METHOD <sup>b</sup>	SURFACE (mg/kg)
acetochlor	34256-82-1	8151	0.9*
acifluorfen sodium	62476-59-9	8151	2.8
alachlor	15972-60-8	8081	1.7*
aldicarb	116-06-3	8321	1.6*
aldrin	309-00-2	8081	0.02
atrazine	1912-24-9	8141	1.7*
bentazon sodium	50723-80-3	8151	2.6
bromacil	314-40-9	8321	5.2
bromoxynil (o)	1689-99-2	8270	6.9
butylate	2008-41-5	8270	27
carbofuran	1563-66-2	8270	0.6
chlordan	57-74-9	8081	29
chlorimuron-ethyl	90982-32-4	8081	3.6
chlorpyrifos	2921-88-2	8141	50
cyanazine	21725-46-2	8141	1.1*
2,4-D	94-75-7	8151	1.1
4,4'-DDD	72-54-8	8081	22
4,4'-DDE	72-55-9	8081	64
4,4'-DDT	50-29-3	8081	66
diazinon	333-41-5	8141	0.2
dicamba	1918-00-9	8151	1.4
dieldrin	60-57-1	8081	0.01
dimethoate	60-51-5	8141	0.3*
dinoseb	88-85-7	8151	0.08
disulfoton	298-04-4	8141	0.2*
endosulfan	115-29-7	8081	600
endothall	145-73-3	8270	2.4
endrin	72-20-8	8081	5
EPTC	759-94-4	8270	10
glyphosate	1071-83-6	8321	350
HCH-alpha	319-84-6	8081	0.01
heptachlor	76-44-8	8081	2.3
heptachlor epoxide	1024-57-3	8081	3.8
lindane	58-89-9	8081	0.07
linuron	330-55-2	8321	1.7
malathion	121-75-5	8141	41
methoxychlor	72-43-5	8151	730
metolachlor	51218-45-2	8151	22
metribuzin	21087-64-9	8270	2.8
parathion, ethyl	56-38-2	8141	77
parathion, methyl	298-00-0	8141	2.6
pendimethalin	40487-42-1	8091	900
permethrin	52645-53-1	8081	3300
phorate	298-02-2	8141	1.1*
simazine	122-34-9	8141	1.7*
2,4,5-TP	93-72-1	8270	65
terbufos	13071-79-9	8141	0.4*
toxaphene	8001-35-2	8081	72
trifluralin	1582-09-8	8091	100

NUTRIENTSSURFACE

Ammonia (as N) plus Nitrate (as N)

100 mg/kg

Phosphorous (Bray P1)

150 mg/kg

## Notes:

<sup>a</sup> Chemical Abstract Service (CAS)<sup>b</sup> USEPA Test Methods (SW-846)

\* Application Rate Equivalents (AREs) are based on USEPA-approved pesticide label rates for the specific pesticide active ingredient and conservative assumptions about soil properties. AREs only apply to the upper three inches of soil and are used as the Soil Cleanup Objective (SCO) if the ARE is greater than the SCO value calculated using the Equation in 8 Ill. Adm. Code 259.350(a).

The application rate equivalents can be determined using the equation below:

$$\text{ARE (mg/kg)} = \text{Application Rate [lb/acre]} \times (1 \text{ acre-foot} / 43,560\text{ft}^3) \\ \times (1 \text{ ft}^3 / 110 \text{ lb}) \times (1 / 0.25 \text{ ft}) \\ \times (1.0 \times 10^6 \text{ mg/kg})$$

## Where:

ARE<sub>s</sub>= application rate equivalent (mg/kg)for coarse-textured,  
low organic matter content soils

Application<sub>rate</sub>= current label application rate (lb/acre)

(Source: Old Section 258 APPENDIX C renumbered to Section 258.APPENDIX D, New Section 258.APPENDIX C added at 26 Ill. Reg. 17155, effective November 18, 2002)

**Section 258.APPENDIX D Land Application Area Sampling**

The number of composite samples collected from the land application area will depend on the size of the land application area. For areas up to 20 acres in size, the land application area must be divided into quadrants and a composite sample will be collected from each quadrant providing four samples. Land application areas larger than 20 acres will be divided into five-acre square grids approximately 467 feet long on each side. A composite sample will be collected from each of 4 randomly selected five-acre squares in land application areas up to 80 acres in size, representing no less than 25 percent of the five-acre grids. Land application areas larger than 80 acres will have 25 percent of the five-acre squares randomly sampled. The five-acre squares will be sampled by dividing the square into quadrants and obtaining a composite grab sample from each of the four quadrants. The number of composite samples for each land application area must be determined by multiplying the number of five-acre squares by 0.25 and rounding to the nearest whole number.

## SAMPLE NUMBER DETERMINATION

LAND APPLICATION AREA (ACRES) (A)	NUMBER OF FIVE ACRE SQUARES (N)	NUMBER OF SAMPLES (S)
5	N/A	4
10	N/A	4
15	N/A	4
20	N/A	4
40	8	4
60	12	4
80	16	4
100	20	5
120	24	6
140	28	7
160	32	8
A	N=A/5	S=N/4

The sample locations must be determined by assigning consecutive numbers to each five-acre square. A series of random numbers must be generated using a computer spreadsheet program or a random number table. The numbered five-acre squares that correspond to the random numbers must be sampled until the required number of samples is obtained.

The laboratory results must be evaluated to determine the mean concentration and standard deviation of the sample. The value of the concentration reported as present but below detection limit will be used in the calculations. A value of zero will be used for results that are reported as non-detectable.

All land application area samples must be collected from the soil profile, starting at the soil surface and extending to a depth as specified in Section 258.90 of this Part.

(Source: Section 258.APPENDIX D renumbered from Section 258.APPENDIX C and amended at 26 Ill. Reg. 17155, effective November 18, 2002)