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Agricultural Chemical Cleanup Program

Landspreading Instructions

The following guidance and instructions will help in preparing a landspreading application. In accordance with ATCP 35.03(3), Wisconsin Administrative. Code (WAC), submit the landspreading application at least 5 business days, and preferably 30 or more days, prior to planned landspreading. . Keep in mind the department has up to 30 days to review as per ATCP 35.03(4) WAC. If the department approves the landspreading application, a ***Landspreading Permit*** will be issued. Landspreading may only begin after the ***Landspreading Permit*** has been issued.

The instructions are based upon landspreading soil that is contaminated with pesticides and/or fertilizers. If contaminated water is to be landspread, contact the department prior to completing these forms to determine the applicability of these instructions as they relate to the landspreading of contaminated water.

This document also describes DATCP's ***Land Use Agreement Form***, which may be submitted to DATCP with the ***Landspreading Permit*** application. The ***Land Use Agreement Form*** should be provided to, and signed by the landowner if land access fees and/or tillage costs will be submitted to the ACCP program for reimbursement.

Landspreading Application Requirements

The landspreading application must include the following two items to be considered complete:

1. <u>Landspreading Calculation Form (also see pg. 4)</u>

- A summary of the analytical results used to calculate the landspreading rates must be attached to this form. The method of determining the representative concentration should be presented.
- This form may be submitted separately before the individual landspreading fields are identified. In doing so, the necessary acreage can be determined and approved in advance of trying to locate fields on which to landspread.
- A Microsoft® Excel version of this spreadsheet is available at DATCP's Website at http://datcp.wi.gov/uploads/Environment/xls/lscalc01.xls

2. <u>Landspreading Agreement Form (also see pg. 6)</u>

- This form must be filled out entirely and then <u>signed by the landowner</u>.

- The appropriate 7.5 minute USGS quadrangle (1:24,000) topographic map(s), plat map(s), and USDA soil survey map(s) (with legends) must be attached to this form. The field(s) to be used for landspreading must be clearly marked on all maps. If the entire field will not be used, only mark the portion of the field(s) which will be used for landspreading.

- Contaminated soil should normally be incorporated soon after landspreading to minimize the potential for contaminant runoff.

- The landowner must take the appropriate credits for the amount of nutrient and/or pesticide active ingredient being applied to their land.

General Landspreading Requirements

- The suitability of the landspreading site is based upon general slope, drainage characteristics, depth to groundwater, depth to bedrock, distance to surface waters and suitability for agricultural purposes.

- In accordance with ATCP 35.03(6), Wis. Adm. Code, within 30 days of completing the landspreading effort, a ***Landspreading Post Application Report*** form must be submitted to DATCP. The information included on this form summarizes the landspreading event.

- The label directions for the pesticide active ingredients in the contaminated soil should be followed. The pesticide contained in the soil should be labeled for the crop being grown in the same season the landspreading occurs, or in the case of a fall landspreading, for the crop grown in the following season. Landspreading of minor amounts of incompatible products may be approved in cases where the spreading rate will not result in crop injury or illegal crop residues. Contact DATCP staff for assistance with stockpiles containing residues of incompatible or canceled products.

- A certified applicator must perform the landspreading of soil contaminated with pesticides. A pesticide business license is not required for landspreading contractors who engage in spreading of contaminated soil unless that business also performs commercial application of pesticides. For example, if ABC Excavation Co. is hired by an RP to landspread soil contaminated with a pesticide, they need to have a certified applicator (field and vegetable crop category) perform the spreading work, but they do not need a license (pesticide business location) in addition to the certification.

- Landspreading equipment must be calibrated to ensure that the spreading rates agreed to in the ***Landspreading Permit*** are followed.

- Do not mix soils excavated from different areas of a facility unless prior approval is obtained from DATCP.

- Local units of government may need to be notified prior to landspreading pesticide contaminated soil. This activity can generate outside interest requiring their response. Counties that have historically expressed interest in landspreading activities include Dane, Dunn and Manitowoc.

- A 100-foot setback is required from points where field surface water runoff enters a perennial or intermittent stream or river, including drainage ditches but not tilled/farmed waterways, around natural or impounded lakes and reservoirs, and around all wells, including abandoned wells, drinking water and irrigation wells and sinkholes.

Storage of Contaminated Soils

Contaminated soil stockpiles must be covered with a waterproof material which is anchored down. The stockpile should not come in contact with surface water runoff and it may be necessary to construct a berm to prevent surface water runoff from contacting the stockpile. If the stockpile contains elevated levels of nitrogen or pesticides, the department may require that the stockpile be placed on a watertight surface. Stockpiles having elevated levels of pesticides shall meet the signage requirements of NR 714.07 (3).

Per NR 718.05(2) (a), Wis. Adm. Code, stockpiles must not be stored in the following areas:

- Within a floodplain.
- Within 100 feet of any wetland or critical habitat area.
- Within 300 feet of a navigable river, stream, lake, pond, or flowage.
- Within 100 feet of any water supply well, irrigation well or sinkhole for on-site storage or within 300 feet of any water supply well, irrigation well or a sinkhole for off-site storage.

Time Table and Spreading Rates

Landspreading can normally occur in the spring after the frost is out of the ground and field moisture conditions allow for vehicular traffic. Fall landspreading can normally occur when the application site has less than two inches of frost. The following table should be used:

Product	**Maximum Spreading Rates**	
	Prior to July 31	**After July 31**
Pesticides	Use pesticide label rate * or 1/10 ATCP 30 rate for Atrazine in Prohibition Area or ATCP 30 rate for Atrazine not in Prohibition Area	Use 1/4 pesticide label rate* or 1/10 ATCP 30 rate for Atrazine in Prohibition Area or 1/4 ATCP 30 rate for Atrazine not in Prohibition Area
Nitrogen	UWEX Rate	50 lbs./Acre

* Enclosed with the instructions are the “Spring Landspreading Application Rates for Corn” which may be used to help determine the appropriate landspreading rate to use for corn fields.

Landspreading Calculation Form

The ***Landspreading Calculation Form*** is designed to help calculate the landspreading rates. A description of the information requested on this form is described below. Please be sure that the numbers entered in the form are in the same units as indicated under each of the headings. The goal of the calculation is to adequately characterize the soil to promote the reuse and degradation of the soil contamination product(s). Two versions of the ***Landspreading Calculation Form*** are available on DATCP's website. No other versions of the ***Landspreading Calculation Form*** will be reviewed by DATCP staff.

- RP Name: Provide the name of the responsible party (RP).

- Discharge Site Location: Include the name of the city/town/village where the discharge site is located.

- Case Number: Identify the DATCP case number (11 digits).

- Soil Lot/Stockpile: Identify the soil lot or stockpile (e.g. "area A", "mix and load area", stockpile #1, etc.) A soil lot is a known volume of soil in an area with similar characteristics. A stockpile may be a single excavated soil lot or a combination. Soil lots and stockpiles should be established based on known or suspected soil contaminants and/or concentrations. Areas with different soil contaminants and concentrations should be excavated and stockpiled separately. Complete a separate form for each soil lot or stockpile.

- Application Site Crop: Indicate the next crop to be planted on the landspreading site.

- Active Ingredient: Indicate the common name of each active ingredient detected in the soil lot or stockpile.

- Excavated Soil (yds^3): Record the total volume of contaminated soil in each individual soil lot or stockpile. If this is not known, make a conservative estimate.

- Concentration (ppm): The following approaches can be used to estimate the concentration of contaminants in the soil lot or stockpile:

  Maximum Concentration: In cases involving a limited amount of analytical data, assume that the maximum concentration exists throughout the volume of soil.

  Stockpile Sampling: A sufficient number of soil samples must be collected and analyzed to adequately characterize each stockpile. A sampling strategy can be proposed in the remedial workplan, or refer to NR 718.11, Wis. Adm. Code, for guidance.

  Average *In-situ* Soil Sampling Results: In cases where the extent of contamination has been determined through extensive soil sampling, use an average of the results to develop landspreading rates. Representative concentrations can be summed and then divided by the number of samples. In cases where the result of the analysis is less than the detection limit, use 1/2 the

detection limit for that compound when calculating the landspreading rate. Weighted averages may also be used. **Example:** Sample "A" has a concentration of 4.0 ppm and represents 45 percent of the soil stockpile. Sample "B" has a concentration of 20 ppm and represents approximately 25 percent of the soil stockpile, and samples "C" and "D" each have a concentration of 10 ppm and represent 20 percent and 10 percent of the stockpile, respectively. The weighted average calculation would be represented as:

(4 ppm x 0.45) + (20 ppm x 0.25) + (10 ppm x 0.2) + (10 ppm x 0.1) = 9.8 ppm

- Soil Density (lbs/ft³): Use the chart below to estimate the soil density of the excavated soil.

Soil Type	Soil Density (lbs/ft³)
Clay	70
Silt	85
Sand	100
Gravel	110
Compacted Soils	110

- Application Rate (lbs./acre): Specify the active ingredient label rate for the selected site and crop. Use the spreading rates calculated in the previous section.

- Safety Factor: Select a safety factor based on the following criteria:

  - If the soil lot and/or stockpile has been well characterized and has modest variability, a safety factor of 1 may be used.

  - If the soil lot and/or stockpile has not been well characterized or has high variability, a safety factor of 2 or greater should be used.

- Conversion Factor (37,037): This factor is used to convert ft^3 to yd^3 while considering the ratio of parts per million. ($27ft^3/yd^3$ / 1,000,000 = 1/37,037).

- Land Required (acres): The result of the calculation is the number of acres required for each individual contaminant.

- Total Acres Required: Sum the acres required for similar contaminants (e.g. corn herbicides, fungicides, insecticides, and nutrients) and enter the largest sum in this space found in the soil lot or stockpile. In doing so, the calculation considers the cumulative effect of the similar pesticides or nutrients in the soil lot or stockpile.

- Soil Application Rate (yd^3/acre): Perform the calculation presented on the ***Landspreading Calculation Form***. The result will be the soil landspreading application rate in yd^3/acre.

Landspreading Agreement Form

The ***Landspreading Agreement Form*** is designed to ensure that all fields on which the landspreading occurs are properly identified, and that the landowner takes the proper application credits for the products in the soil. Since incorporation is required for most landspreading events, the proposed tillage method and schedule should be included.

Part 1 - Landspreading Site Information

- Location: Identify the location of the field to the nearest quarter-quarter section.
- Proposed Crop: Identify the intended crop following the landspreading event.
- Acres in this Field: Provide an estimate of the acreage where landspreading can occur, subtracting any acreage where landspreading is not suitable due to set back requirements.
- Proposed Landspreading Date(s): Identify the timeframe during which the landspreading will likely occur.
- Proposed Landspreading Method: Briefly describe the method and equipment that will be used to landspread the contaminated soils. Select a method that will ensure the pre-determined landspreading rate can be met.
- Total Soil to be applied to this Field (yds^3): Calculate this value based on the landspreading rate determined using the ***Landspreading Calculation Form***.
- Soil Texture of Field: Obtain this information from USDA soil survey maps for the application site or online at: http://websoilsurvey.sc.egov/App/HomePage.htm
- Proposed Tillage Method for this Field: Describe how the field will be tilled after landspreading is complete. Specify the type(s) of equipment used and the number of passes made. If tillage is not proposed, explain why (e.g. pasture land, not in farm plan etc.).
- Proposed Tillage Timing: Identify when the field will be tilled after the landspreading event is complete.

Part 2 - Product Credit

- Contaminant (Common Name): Include the common name of any contaminant identified in the ***Landspreading Calculation Form*** that is applied at or above 1/4 the label rate or 1/4 ATCP 30.
- Proposed Credit (lbs./acre): The pounds of pesticide active ingredient and nutrients applied in the contaminated soil must be accounted for when determining additional pesticide and nutrient spreading rates at the landspreading site. Specifically, the sum of pesticide active ingredient applied through any landspreading activities and other applications in the same season (or following season, in the case of fall landspreading) must not exceed label rate restrictions for any pesticide applied. Similarly, the total amount of nutrients applied through

the landspreading plus other fertilizers, manure, and nutrient applications should be considered with the nutrient management practices as outlined in the land owner's nutrient management plan. These applications should not exceed the UWEX recommendations prescribed in A2809 Soil Test Recommendations for Field, Vegetable and Fruit Crops for the crop grown at the landspreading site.

Part 3 - Landowner Agreement

- The owner of the proposed landspreading site must sign the Landspreading Agreement Form prior to DATCP's approval of the landspreading, acknowledging their understanding of the landspreading event, and agreeing to take the appropriate credit for the pesticides and nutrients.
- The landowner must agree to disclose the information presented on the ***Landspreading Agreement Form*** to anyone using the field within a period of 18 months following the landspreading event.

Landspreading Post-Application Report

The ***Landspreading Post-Application Report*** must be completed and submitted within 30 days of completing the landspreading. This report should document how the actual landspreading event occurred.

Part 1 – General Information

- Landspreading Equipment Used: Describe the equipment that was actually used to spread contaminated soil.

- Landspreading Date(s): When did the landspreading event occur?

- Problems Encountered During Landspreading: Describe any major problems encountered during the landspreading event.

- Method of Equipment Calibration: Describe what measures were taken to calibrate the landspreading equipment.

Part 2 – Landspreading Site Information

- Field ID: Field Identification for ***Landspreading Agreement Form***.

- Actual Acreage Covered: Describe and provide a map which shows the actual areas that received contaminated soil from the landspreading event.

Part 3 – Landspreading Permit Holder

- Permit Holder Signature: This form must be signed by the Permit Holder, generally the RP. Signing this for signifies that the landowner has been notified of the actual amount of product landspread on the property.

Land Use Agreement Form

DATCP recommends that this form be completed if land access and/or tillage fees will be submitted for reimbursement to the ACCP program. The actual costs may vary from the total estimated costs due to changes in actual landspreading rates. Responsible parties are not eligible to receive land access payments for the use of their land.

Part 1 – Tillage Information and Costs

- Field ID: Field Identification from ***Landspreading Agreement Form***.

- Tillage method #1 and proposed acreage: Briefly describe the tillage method and the number of acres to be tilled.

- Tillage method #2 and proposed acreage: Briefly describe the additional tillage method (typically in high traffic areas) and the number of acres to be tilled.

- Per acre cost for tillage method #1: Document the cost of tillage method #1. Please note that the ACCP will generally not reimburse tillage at rates higher than the average regional rates published in the most current version of "Wisconsin's Custom Rate Guide". This publication can be found at http://www.uwex.edu/ces/ag/rateguide.html

- Per acre cost for tillage method #2: Document the cost of additional tillage method #2.

- Total estimated tillage cost: Total the proposed tillage costs.

Part 2 – Land Access Fees

- Estimated landspreading rate (yd^3/acre): This value should be taken from the ***Landspreading Calculation Form.***

- Land access fee ($/$yd^3$): The department may reimburse costs that are locally reasonable, and do not exceed $0.50/$yd^3$ of landspread soil.
- Total estimated land access cost: Total the land access costs.

Part 3 – Land Owner Agreement

- Landowner's signature: The landowner must be aware that the actual landspreading rate may be different than what is proposed on this form.

Part 4 – Responsible Person

- Responsible Person's Signature: The responsible person must certify that no rocks or debris greater than 1-inch diameter will be landspread. If an alternative maximum rock size is proposed, it must be presented here.

REFERENCES:

A2809 Soil Test Recommendations for Field, Vegetable and Fruit Crops, 1991, Produced by the Department of Agriculture Journalism, University of Wisconsin-Madison. This publication is available from your Wisconsin county Extension office or from: Agricultural Bulletin, Rm. 245, 30 N. Murray St., Madison, Wisconsin 53715. Phone: (608) 262-3346.

Crop Protection Chemicals Reference, 1998, 14th Edition, by Chemical and Pharmaceutical Press, published by John Wiley & Sons, Inc., 605 Third Ave., New York, NY, 10157-0228. To place order, call John Wiley & Sons. Customer service toll free number: 1-800-225-5945.

Farm Chemicals Handbook, 1998, 37733 Euclid Ave., Willoughby, Ohio 4409-5992. Customer service toll free number: 1-800-577-7740.