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# Biosecurity Management on Agricultural Land for the Energy and Transportation Industries

## Objective

To prevent the spread of soil-borne pests (ex: disease, weeds, nematodes) in agricultural soils by minimizing soil movement between fields and across Right of Ways (ROW).

Agricultural soil is classified as all soil under agricultural production. Examples include, but are not limited to: cultivated field, perennial forage, grassed hayfield.

## Methods

Implementation strategies during construction fall into two categories:

1. Cleaning/washing techniques:
  - **Rough clean** – using hand tools (shovels, brushes and brooms, etc.) to physically remove soil and debris from vehicles and equipment.
  - **Mechanical** (compressed air) – using compressed air to remove soil and debris from equipment.
  - **Fine clean** – using a pressure washer to wash down vehicles and equipment.
  - **Disinfection** – using a one to two per cent bleach solution, or other disinfectants on vehicles and equipment after it has undergone the previous levels of cleaning. The disinfectant must remain on the surface of the equipment for a minimum of 15 minutes.

**\*Cleaning should focus on tires, undercarriages, tracks, buckets, blades, wheel wells and other areas prone to collecting soil and debris.**

2. Exposure avoidance:
  - If possible, reduce traffic between separate fields in wet weather. This will help to prevent soil transfer.
  - Be cautious about soil transfer on wet soil (including slightly wet soils) and avoid working in very wet soil conditions.

## Cleaning Locations and Targeted Activities

Different levels of cleaning are suggested in different locations and for different construction activities.

High risk activities are those that occur on or through topsoil such as survey, grading, topsoil salvage and topsoil replacement. Equipment, hand tools and vehicles involved in these activities should adhere to higher levels of diligence. This would apply to the surface of any equipment that may come into contact with soil (ex. boots, shovels, ATV tires, implements).

Cleaning should be conducted at the field exit when moving to another field, preferably on a grassed area that will catch and hold the soil and debris from the field.

Tracking of one vehicle through the debris of the previous cleaning operation should be avoided.

Cleaning off of the primary travel lane should be considered. If using bleach solution, a tarp, geotextile or other barrier is recommended as so the bleach solution will not contaminate the agricultural soils and reduce crop production in the future.

As well, in some cases, it may be appropriate to drive the equipment/vehicle onto a barrier, so excess soil and debris cleaned off can be collected and disposed of.

1. Movement from one landowners field to another field owned and farmed by the same landowners – rough clean and compressed air
2. Leaving landowners field and moving across road - rough clean and compressed air

3. Movement between different landowners fields – rough clean, compressed air, fine clean and disinfection
4. Movement of equipment into a new Project area - rough clean, compressed air, fine clean and disinfection

If conditions are frozen and snow cover is present where the equipment / workers will travel, and no topsoil is accessed, there are no additional requirements.

If conditions are not frozen or no snow cover is present, equipment and boots should be hand cleaned as indicated above.

**Additional cleaning suggestions for Hydrovac trucks** - Hydrovac truck operators should ensure inside their tank has been cleaned, rinsed and disinfected.

#### **Inspection and record keeping requirements**

- Inspections are suggested for all new equipment arriving to the project.
- A third party independent inspector should inspect and verify that equipment has been cleaned to the necessary standard prior to ROW access.
- A contractor representative should inspect the records associated with the inspected equipment to ensure accurate completion.
- The contractor should maintain all records related to cleaning and inspection including:
  - location of all cleaning stations, regardless of type (GPS co-ordinates and photos taken with permanent landscape feature in picture as geo-reference)
  - individual cleaning records
  - inspection log
- An Equipment and Vehicle Cleaning Record should be completed for each piece of equipment. This form is to be completed whenever cleaning processes are used for verification. The form should include:
  - equipment type and identification
  - sign-off by contractor representative that washing has occurred
  - date stamped photos of the cleaned equipment
  - records should be kept publically accessible for spot audits performed by an independent third party representative

#### **Responsibilities**

- Implementation of mitigation measures and record keeping including:
  - vehicle/equipment cleaning activities (all levels of cleaning)
  - tracking/recording cleaning activities in a consistent and auditable manner
  - inspecting equipment arriving at site to verify cleaning has occurred

For more information, review the [Clubroot Disease Management Best Management Practices](#) (Canadian Association of Petroleum Producers).

#### **Vehicle/Equipment Cleaning Record**

Keep a copy of this record for future audits or if questions arise.

<b>Date:</b>	
<b>Equipment/Vehicle Type:</b>	
<b>Equipment/Vehicle ID No.:</b>	
<b>Supervisor Sign-off:</b>	
<b>First Time Field Access:</b>	Y N

<b>Topsoil Handling:</b>	Y N
<b>Cleaning Process Used:</b>	
<b>Rough Cleaning:</b>	
<b>Compressed Air:</b>	
<b>Wash Station:</b>	
<b>Disinfection:</b>	
<b>Cleaning Location:</b>	
<b>GPS Co-ordinates;</b>	
<b>Picture references:</b>	<b>File name and location or attach pictures to this document</b>

## Other Links

- [Biosecurity in Crop Production](#)
- [Biosecurity and Reduction of Pest Movement Strategies for Producers](#)
- [Biosecurity Guidelines for Inspection, Surveys, Complaints in Manitoba Fields](#)
- [Measures to Reduce Soil or Pest Movement in Manitoba for Custom Applicators](#)
- [Reducing Clubroot Risks Associated with Field Research](#)