

# County of Lethbridge Policy Handbook

**EFFECTIVE:** March 5, 2009

**SECTION:** 600 NO. 628 Pge 1 of 3

**APPROVED BY:** County Council

**POSITION DESCRIPTION:**  
Clubroot Surveying Protocol –  
Administrative Procedures

**REVISED DATE:**

## **Introduction**

Clubroot is a serious soil borne disease of Canola crops caused by a fungus like organism. Disease development is favored by wet and acidic soil conditions. The pathogen is mainly spread by movement of soil, infected plant material and runoff of water.

## **Authority**

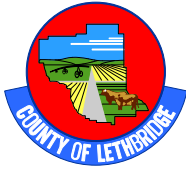
- Clubroot was declared a pest under the Agricultural Pest Act (APA) of Alberta in 2007.
- The Agricultural Pest Act of Alberta requires a municipality to “take active measures to prevent the establishment of, or control, or destroy pests in the municipality.”
- The municipality must appoint inspectors under the Act who are authorized to:
  - Enter onto land and inspect for pests, and may
  - Issue notices specifying measures required to control the pest or prevent the pest from establishing.

## **Symptoms**

The pathogens infects the roots of the susceptible hosts causing the formation of club shaped galls or swellings that restrict the uptake of water and nutrients by the plant. Above ground symptoms include yellowing, stunting, premature ripening and wilting of plants under moisture stress.

## **Equipment and Materials Needed**

- |                          |                      |                |
|--------------------------|----------------------|----------------|
| - Clipboard              | - Paper bags         | - Plastic tray |
| - Record sheets          | - 5% bleach solution | - Pail         |
| - GPS Unit               | - Hand trowel        | - Pocket knife |
| - Disposable boot covers |                      |                |



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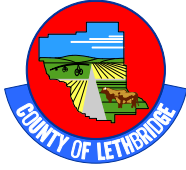
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## Survey Procedures

Scout for Clubroot by visually inspecting crops for galls (swelling on the roots). Symptoms may take 6 to 8 weeks to develop and most are detectable late in the summer. Recommended time to survey to detect the presence or absence of Clubroot galls is from July to September.

1. Do not drive or park vehicles in the field. Try to park on the side of the road in a safe position.
2. Visually access the field for suspect infection of Clubroot. Look for symptoms such as premature ripening, yellowing or browning of plants, stunting and wilting of plants under moisture stress in the crop.
3. Put on new disposable boot covers.
4. Survey the field in a W pattern, concentrating on areas of potential contamination such as field entrances, slough, water runoffs and other areas identified as suspect.
5. Sample several sites within the travel pattern. At each site, record the GPS location and dig up the roots of 10 plants. Shake excess soil of the roots and visually inspect for the presence of galls. Record the number of infested plants at each sample site within the field.
  - a) At sites where infection is suspected or found, collect 5 samples of the root by cutting off the stems and placing the roots in a paper bag labeled with the field location.
    - i) **NOTE:** Disinfect the tools with a 10% bleach solution or alcohol between samples.
  - b) Combine root samples from individual sample sites within the field to submit for analysis when Clubroot is suspected or found. The combined sample must have 5 to 10 root specimens. If there is no prior history of Clubroot for that grower a sample from the field must be submitted for confirmation by a laboratory test (PCR test).



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- i) The PCR test is to confirm the presence of Clubroot within the field. GPS data and visual survey results may be used to identify individual sites within the field.
  - c) Retain samples for submission to a lab for pathotypes identification.
  - d) Prior to leaving potentially infested fields, discard disposable boot covers into garbage bag and incinerate later. If boot covers were not used, remove dirt clumps from boots, and then wash in plastic tray with 5% bleach solution.
  - e) Disinfect sampling tools with bleach solution.