



County of Lethbridge Policy Handbook

EFFECTIVE: March 5, 2009

SECTION: 600 **NO.** 628 **Pge** 1 of 2

APPROVED BY: County Council

POSITION DESCRIPTION:
To Control the Spread of Clubroot

REVISED DATE:

The County of Lethbridge recognizes that Clubroot of Canola is a serious pest problem and supports the principle to control the spread of Clubroot which has been declared a pest under the Agricultural Pest Act. Under the Pest Control Act, it is the responsibility of a local authority to prevent the establishment of, or to control or destroy pests in a municipality.

Field Surveys

- Random Clubroot field surveys should be conducted where Canola, Mustard and Cole crops are grown.
- Clubroot survey method, reporting form and calculation of disease incidence must follow standard protocols (sampling techniques) provided by the Alberta Clubroot Management Committee.
- Positive survey results for an individual grower must be confirmed by a laboratory test.
- Survey results and legal locations of infested fields should be made available to renters, landowners and other parties with genuine commercial interest.

Disease Spread Reduction

- Where Clubroot is confirmed the occupant shall not plant canola or other susceptible crops in the following years as set out by the County of Lethbridge. Proper cleaning of field equipment prior to transport from infested fields is required.

Best Management Practices

- Canola growers in high risk situations should follow traditional Canola rotation recommendations (1 in 4) years. Although this will not prevent the introduction of Clubroot to clean fields, long rotations will keep introductions of Clubroot at low levels.
- The owner or occupants of the land on which a notice has been issued who are disturbing the soil will be required to follow the "Best Management Guidelines" set out by Alberta Agriculture and Food in the Clubroot Management Plan to reduce the spread of the disease through movement of soil and equipment.



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- The area next to the exit from the field should be grassed to facilitate equipment washing. Where the exit is close to a field that has been infested with Clubroot a new exit should be established as far away from the field as possible.
- Grain (Canola, Cereals, Pulses, etc.) from infested fields should not be kept as seed. Straw should not be baled and removed from infested fields.
- Volunteer Canola and Crucifer Weeds must be controlled on infected fields before three weeks of growth has occurred to prevent the production of new resting spores.
- Equipment traffic from infested fields **must** be **disinfected with acceptance practice of disinfectant (steam cleaning, weak bleach solution for cleaning)**. Minimum tillage systems are recommended partly due to less machinery from the field compared to conventional tillage. Minimum tillage systems also reduce the risk of soil erosion thus decrease the risk of spread of Clubroot.
- Scout the fields regularly to identify the causes of poor crop growth.



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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 pathogen 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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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.