Clubroot Management Agreement

This Clubroot Management Agreement template can be used to develop a clubroot management plan for clubroot-infested fields within the County of Vermilion River. A proactive management plan will help to reduce or keep pathogen levels low and minimize yield losses due to clubroot.

For each section below, please check the box for all management strategies that will be used. The management strategies identified as **REQ** are **minimum requirements** that must be included. Additional management strategies are listed and should be considered whenever possible.

Field Location and Information:

Date:		
Landowner's name:		
Renter's name (if applicable):		
Legal land location of fields that will be managed according to this plan:	Symptoms visible?	
	Yes	No

Part 1: Crop Rotation

Crop rotation will reduce pathogen (spore) levels and selection pressure on the clubroot pathogen population to overcome resistance in the canola variety. Longer rotations are encouraged in fields with high disease severity. Indicate which crop rotation interval will be followed:

- ☐ Three-year rotation (two-year break) – **REQ**
- ☐ Four-year rotation (three-year break)
- ☐ Longer than a four-year rotation
- ☐ Perennial forage crop for more than two years
- ☐ Other (please indicate: _____)

Part 2: Variety Selection and Weed Control

Please select all strategies that will be used:

- ☐ Use of only clubroot-resistant varieties when canola is reintroduced to clubroot positive fields – **REQ**
- ☐ Use of clubroot-resistant varieties in all canola fields
- ☐ Control of volunteer crops including: canola, camelina, mustard or other clubroot hosts – **REQ**
- ☐ Control of cruciferous weeds throughout the rotations – **REQ**
    - Weed species to be controlled include stinkweed, shepherd's purse, wild mustard, ball mustard, dog mustard, flixweed, tansy mustard, peppergrass, yellow whitlow grass

Part 3: Small Patch Management

Please select all strategies that will be used:

- ☐ Uprooting, removing and safe disposal of all clubroot- infected plants
- ☐ Liming of soil in clubroot-infested area to increase pH to 7.5
- ☐ Use of DNA-based soil testing to monitor spore levels prior to seeding a susceptible host crop

Part 4: Reducing Soil Movement

Please indicate how you will minimize the spread of clubroot and movement of clubroot-infested soil. Select the strategies that will be used:

- ☐ Use of soil conservation practices to reduce soil spread – **REQ**
  - Zero tillage
  - Reduced tillage (i.e. spring tillage only when needed for specific crop)
- ☐ Grass the field entry to reduce spore levels or as an area for cleaning equipment
- ☐ Create a separate field exit away from existing field entrance and/or known clubroot infested areas
- ☐ Equipment cleaning and sanitation practices
  - Remove large clumps of soil before leaving the field
  - Remove as much soil as possible using a brush or compressed air before leaving the field
  - Wash and sanitize equipment when possible
  - Require others working on the clubroot-infested land to implement a biosecurity protocol (protocols can include vehicle cleaning, use of disposable boot covers, etc.)

Part 5: Disclosure of Clubroot Infestation and Biosecurity Management

Please select all strategies that will be used:

- ☐ Notification of all occupants, renters and easement holders who have access to the land
- ☐ Notification and disclosure to contracted and/or other parties who have access to the land that clubroot is present (i.e. custom sprayers, utility companies, agronomists, etc.)
- ☐ Disclosure that clubroot is present when the land is sold or rented to other parties

Part 6: Clubroot Scouting and Monitoring

Please select all strategies that will be used:

- ☐ Continued scouting and/or soil testing in fields where clubroot has been detected to monitor visible symptoms on plants and pathogen (spore) levels
- ☐ Continued scouting in adjacent fields and other fields rented or owned

Renter's/Landowner's Signature: _____ Date: _____

Agricultural Fieldman's Signature: _____ Date: _____