

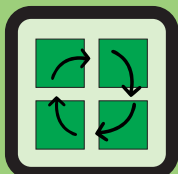
Clubroot Management Tips

If clubroot symptoms have been found in your field:



Minimize soil movement:

- Minimize traffic to and from fields.
- Practice good sanitation to restrict soil movement.
- Practice zero/minimum tillage.
- Create a separate exit as far as possible from the field entrance.
- Post multiple “no trespassing” signs to restrict access to land.
- Notify occupants and easement holders who have access to the field.



Extend your crop rotation. Include a three-year break between susceptible crops, even when clubroot-resistant varieties are used. Control canola volunteers and related weeds throughout the rotation.



Grow only clubroot-resistant canola varieties.



When clubroot is contained to a specific area, seed that area to a perennial grass. If necessary, move the field entrance away from the patch.



Record GPS coordinates of the infected area. Submit soil samples to a laboratory to track pathogen levels over time.

If you farm in an area where clubroot has been detected, or if you are concerned about clubroot:

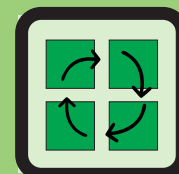


Minimize soil movement:

- Restrict the entry of vehicles that have not been properly sanitized.
- Practice zero/minimum tillage.
- Create a separate exit as far as possible from the field entrance.
- Post multiple “no trespassing” signs to restrict access to land.



Grow clubroot-resistant canola varieties in regions where clubroot has been identified.



Extend your crop rotation. Aim for a three-year break between susceptible crops, even when clubroot-resistant varieties are used. Control volunteers and canola-related weeds throughout the rotation.



Scout canola crops by examining roots for the presence of swollen root tissue (galls). Focus scouting on field entrances, low areas and suspicious patches.



When soil is sent to a lab, DNA-based testing can be used to detect the pathogen, even when there are no visible symptoms in the field.

Clubroot scouting– What to look for

Early detection – Before symptom development in the field

- Clubroot is easier to manage when detected early.
- When soil is sent to a laboratory, DNA-based testing may detect the presence of the clubroot-causing pathogen, even when clubroot symptoms are not visible in the field.
- Contact the laboratory prior to sampling as the methodology of soil collection will impact the accuracy of the test.
- Soil testing for clubroot in Saskatchewan is offered by Discovery Seed Labs (www.seedtesting.com).
- For a list of other testing locations visit clubroot.ca.

Above ground symptoms:



- Stunting, yellowing and premature ripening of infected plants may indicate a clubroot patch.
- Examine roots to confirm clubroot diagnosis.

Below ground symptoms:



Clubroot infected roots will have swollen root tissues (galls).

Galls will initially appear white and fleshy.



Later in the season the galls will start to decompose and appear rotten.