

How do you know your field is at risk of wireworm damage?

Wireworm Risk
To Fields

Field
History

Baseline
Score

+

Sampling

Sampling
Scores

- # 1. Years in PREFERRED CROPS in past 4 Years:
- Optimum egg laying
 - Optimum WW survival
 - Pasture, cereals, forages

Wireworm Risk 'Field History'

1 Yr

2 Pts

2 Yr

3 Pts

3 Yr

3 Pts

4 Yr

2 Pts

TOTAL
POINTS

/10

Notes:

1 Yr = the most recent growing season.

4 Yr = the 4th previous growing season.

Add up Points for the past 4 years (Max = 10)
0 if NO Preferred Crops (see notes on page 3)



1/4 inch



1/2 inch



3/4 inch



1 inch

Field 14 Cropping History (9 acres)

2011	Potatoes (Thimet)		
2012	Winter Wheat		
2013	4 Yr	Potatoes (Thimet)	0 Points
2014	3 Yr	Barley + Clover	3 Points
2015	2 Yr	Clover	3 Points
2016	1 Yr	Mustard	0 Points
	Total Points = 6		

Field 10 Cropping History (9 acres)

2011	Winter Wheat		
2012	Potatoes (Thimet)		
2013	4 Yr	Brown Mustard	0 Points
	3 Yr	Brown Mustard	0 Points
2015	2 Yr	Potatoes (Capture)	0 Points
2016	1 Yr	Brown Mustard	0 Points
	Total Points = 0		

2. Nearest Wireworm
Damage in Past 4 Yrs.
- Regional WW history
- Imminent threat

Wireworm Risk 'Field History'

In Main
Field

5 Pts

Within
½ Km

4 Pts

1-2 Km
Away

3 Pts

3-5 Km
Away

1 Pt

TOTAL
POINTS

/5

Notes:
Choose ONLY ONE
Box (Max = 5)
0 if > 5 Km away

Total Score:

1) Preferred crops: Max 10

2) Damage in area: Max 5

Maximum score: 15

Your Field History Score: _____

Wireworm Risk 'Field History' Baseline Risk

Risk Score

0-1

No Risk

Risk Score

2-3

Low Risk

Risk Score

4-6

Moder. Risk

Risk Score

7-10

High Risk

Risk Score

>10

Extreme Risk

Damage
Unlikely

Slight Damage
Possible

Damage Likely:
Use available
WW controls

Damage very
likely: Avoid
potatoes, or use
WW controls

High Damage:
Avoid potatoes.

Notes:

'Field History' Baseline Risk Assessment notes:

-The Baseline Risk Assessment is based on the 'Preferred Crop' history in a field and whether Wireworm Damage has occurred in the general field area in the past 4 years.

-A 'Preferred Crop' is any crop known to be favourable for click beetle egg laying and that is favourable for wireworm feeding.

Examples of PREFERRED CROPS are: (* known; ** suspected)

- *pasture or any grassy cover in the field.
- *any cereal crop such as wheat and barley.
- *combined cereal and forage crops (barley/clover).
- **forage crops: timothy, clover, maize

Suspected NON-PREFERRED CROPS are:

- Mustard family: Brown mustard, canola,
- Others???

'Field History' Baseline Risk Assessment notes, con't:

-For a 'Preferred Crop' to be a threat, it has to be up and growing in a field between May and July (when eggs are laid and hatching).

-If a field is in a listed Preferred Crop only as a winter cover crop, but is removed by mid-May and no other Preferred Crops are planted during that growing season, it is not at risk for egg laying in that season.

-If, over the past 4 years, you have experienced wireworm damage, or there are reports of wireworm damage having occurred within about 5 km of the field in question, you are at heightened risk of damage. The closer the reported damage is to your field, the greater your chances of damage occurring.



Risk Validation Indicators

Wireworm Risk 'Sampling' (Optional)

3. Wireworm
Sampling



Fall or
Spring

Shovels, coring (1 day)
Bait traps (10-12 days)

No WWs found

0 Points

≥ 1 WW found

3 Points

Note:
Choose one
and add to
Baseline Risk
Score.

****See notes.**

Notes:

Wireworm Sampling Risk Assessment: (Optional)

- Wireworm (WW) sampling can provide direct evidence of their presence in a field, but ONLY IF DONE CORRECTLY.
- They are typically present near the surface in the Spring when soil temperatures are about 10 degrees C (May in PEI), and in the Fall (mid September to mid-October). They go deeper into soil in the summer and winter.
- WWs in a field can be very patchy, and to find them requires samples to be taken throughout the field. The more samples, the greater the chance you will find them (10-20 per acre recommended).
- Shovels or corers can be used for a quick look, but are highly variable since many WWs can be missed (especially small ones) when searching extracted soil.
- Various baits can be used, but take more time to prepare, install, retrieve and inspect, and take from 5-14 days to work depending on the method.
- There are no accurate thresholds for wireworm sampling. If any wireworms are found in a field, you have a potential problem.
- If you don't find WWs in your field, this does not mean they are not there!!! You may have missed them, done something wrong or not taken enough samples.
- To determine upcoming risk to a field, Fall sampling would be best, since Spring sampling would occur when weather is less predictable and is a busy time.
- Contact Drs. Bob Vernon or Wim van Herk (ARDC, Agassiz) for sampling details.



Risk Validation Indicators

Wireworm Risk
'Sampling'
(Optional)

4. Click Beetle Sampling



Sentinel Trap catch
within ½ Km of field

0-50

50-100

100-500

>500

0 Pts

1 Pts

2 Pts

3 Pts

Note:
Choose one
and add to
Baseline Risk
Score.

****See notes**

A. sputator in area?
Numbers: low, med, high

Annual Sentinel
Trap Locations



Permanent
Wireworm/
Click Beetle
Reservoir

Notes:

Click Beetle Sampling Risk Assessment: (Optional)

-Click Beetles (CBs) can be monitored in PEI with pheromone traps (Vernon Pitfall Traps) currently available through Drs. Bob Vernon and Wim van Herk (ARDC, Agassiz), or with NELT Traps (Commercially available on PEI).

-These traps (termed 'Sentinel Traps') can indicate the presence or absence of these species in an area by placing them in areas of your farm in permanent grass, where populations have established and are highest. One trap in a headland area (such as a field corner) per small or large field is suitable.

-These traps should be installed no later than the first week in May, and checked every 7-10 days, especially through May and June when populations peak.

-Timely inspection of traps is important in that CBs will be eaten in traps by ground beetles, and your counts will be compromised.

-Cumulative counts of click beetles over the growing season in each trap will give an indication of CB populations in an area, but do not always equate with numbers of wireworms that may be present in an adjacent field.

-Trapping has to be done the year prior to the upcoming growing season for best value in the Sampling Assessment.

-Contact Drs. Bob Vernon or Wim van Herk (ARDC, Agassiz), or Christine Noronha (CRDC, Charlottetown) for further details on trapping.