2017 Saskatchewan Canola Update

CanolaWeek
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2017 Industry Overview

Canola	2017
Total seeded area (ac) [ha]	(12,650,000) [5,119,000]
% change from 2016	+13
% change from 5-year average	+12
Average Yield (bu/ac) [MT/ha]	(34) [1.9]
% change from 2016	-20
% change from 5-year average	-8
Production (MT)	9,744,500
% of national production	49

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Statistics Canada. Table 001-0010 - Estimated areas, yield, production and average farm price of principal field crops, in metric units, annual, CANSIM (database). (accessed: 2017-11-13)

Canola Acres & Yields, 2013-2017

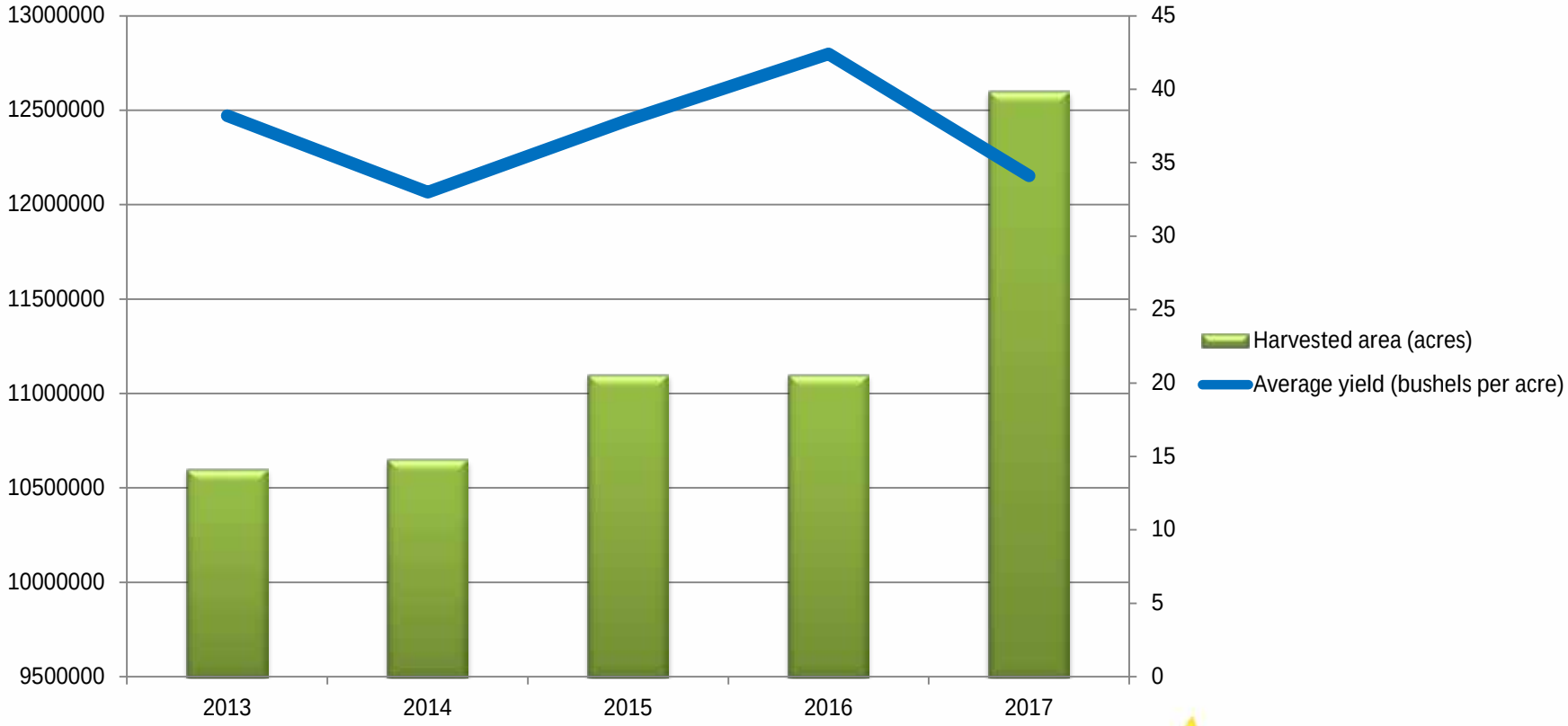

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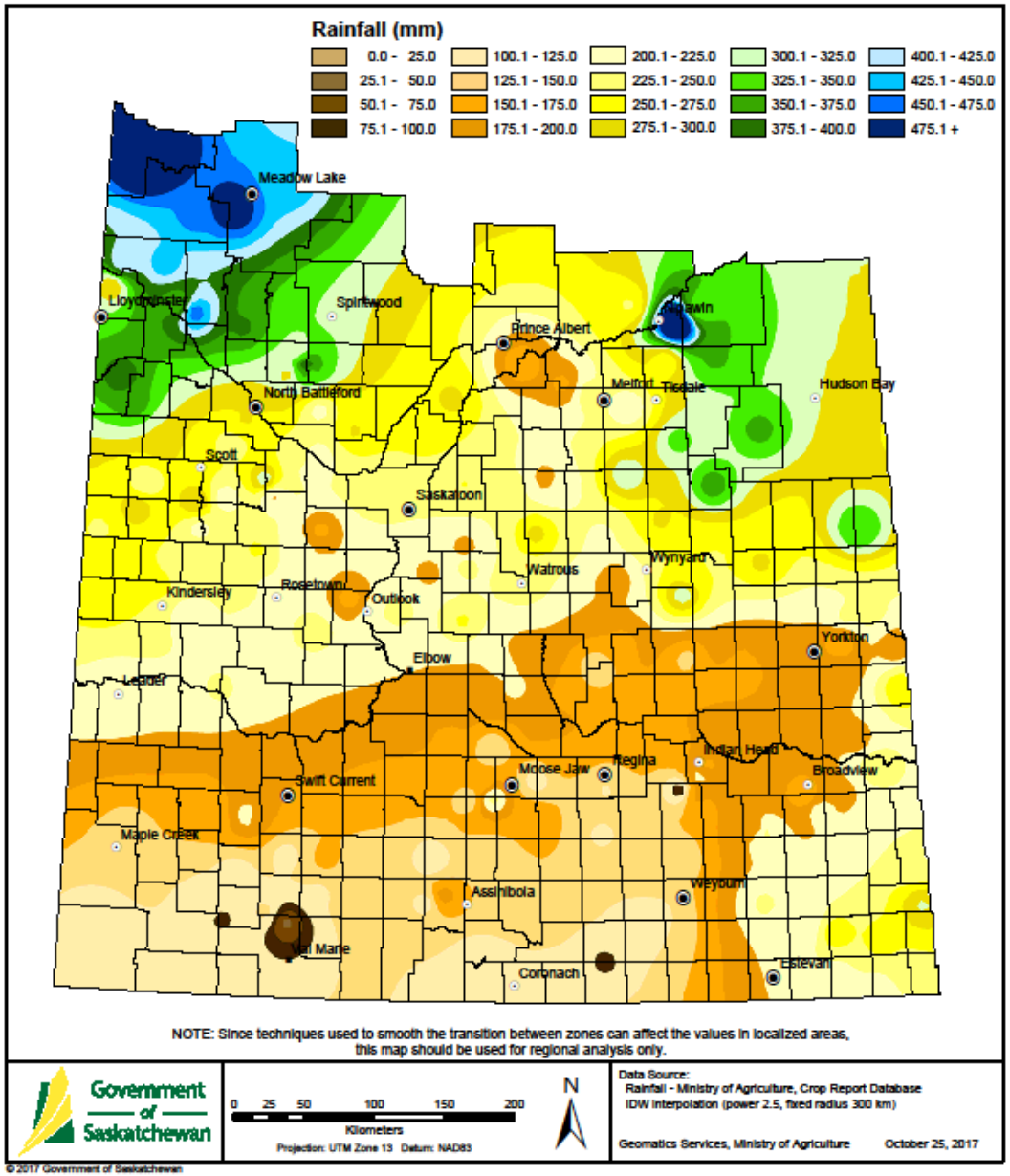
Table 001-0017 Estimated areas, yield, production, average farm price and total farm value of principal field crops, in imperial units, annual(1,30,39)

Cumulative Rainfall

from April 1 to October 23, 2017



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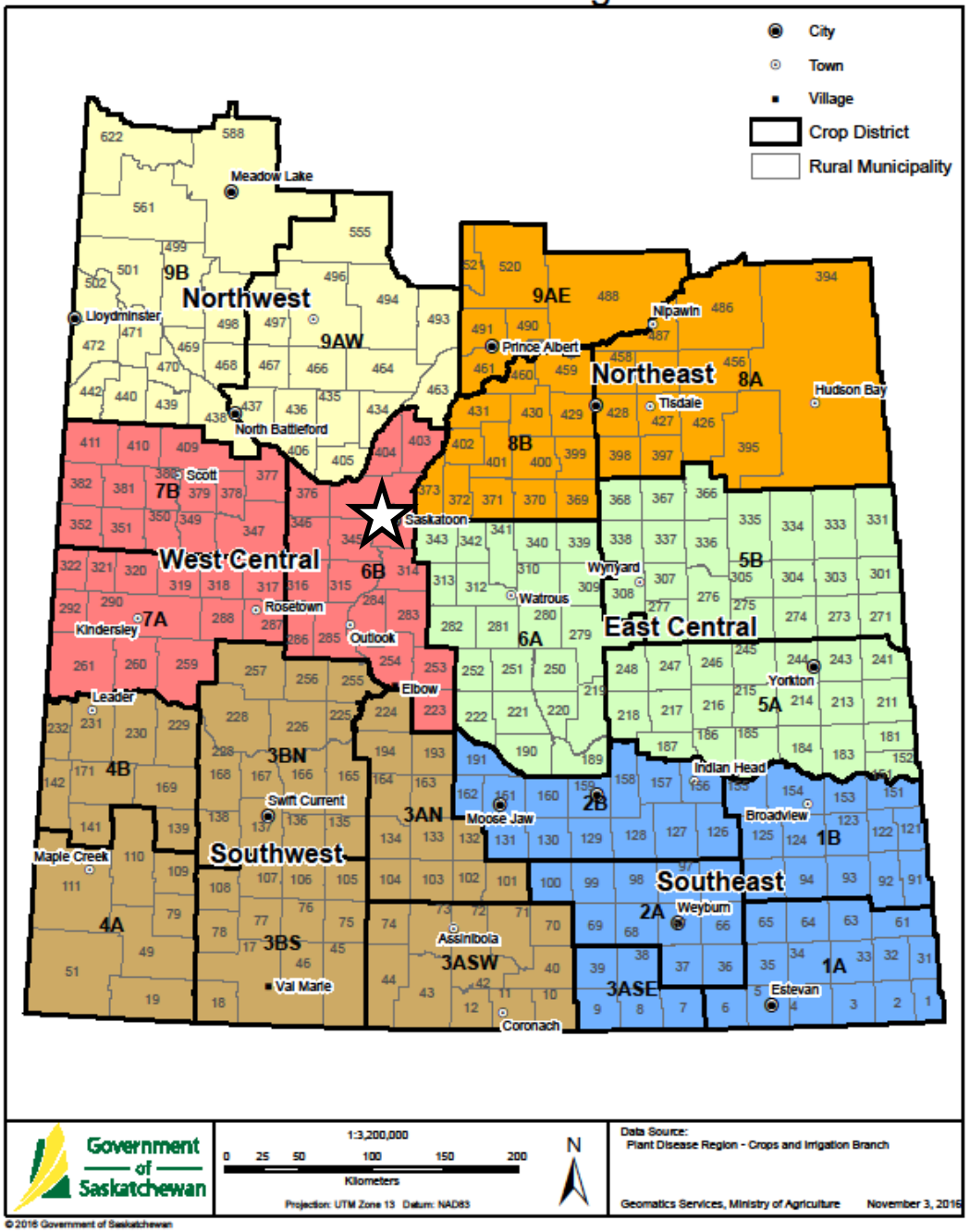
2017 Disease Updates

SURVEY

- 283 canola crops were surveyed
  - Prevalence
  - Incidence of disease
  - Severity for some diseases

Plant Disease Regions



CLUBROOT

- Clubroot was identified in commercial canola fields in crops districts 9A and 9B
- Analysis of soil samples collected as part of the Ministry's clubroot survey is in-progress

Timeline of Clubroot in Saskatchewan

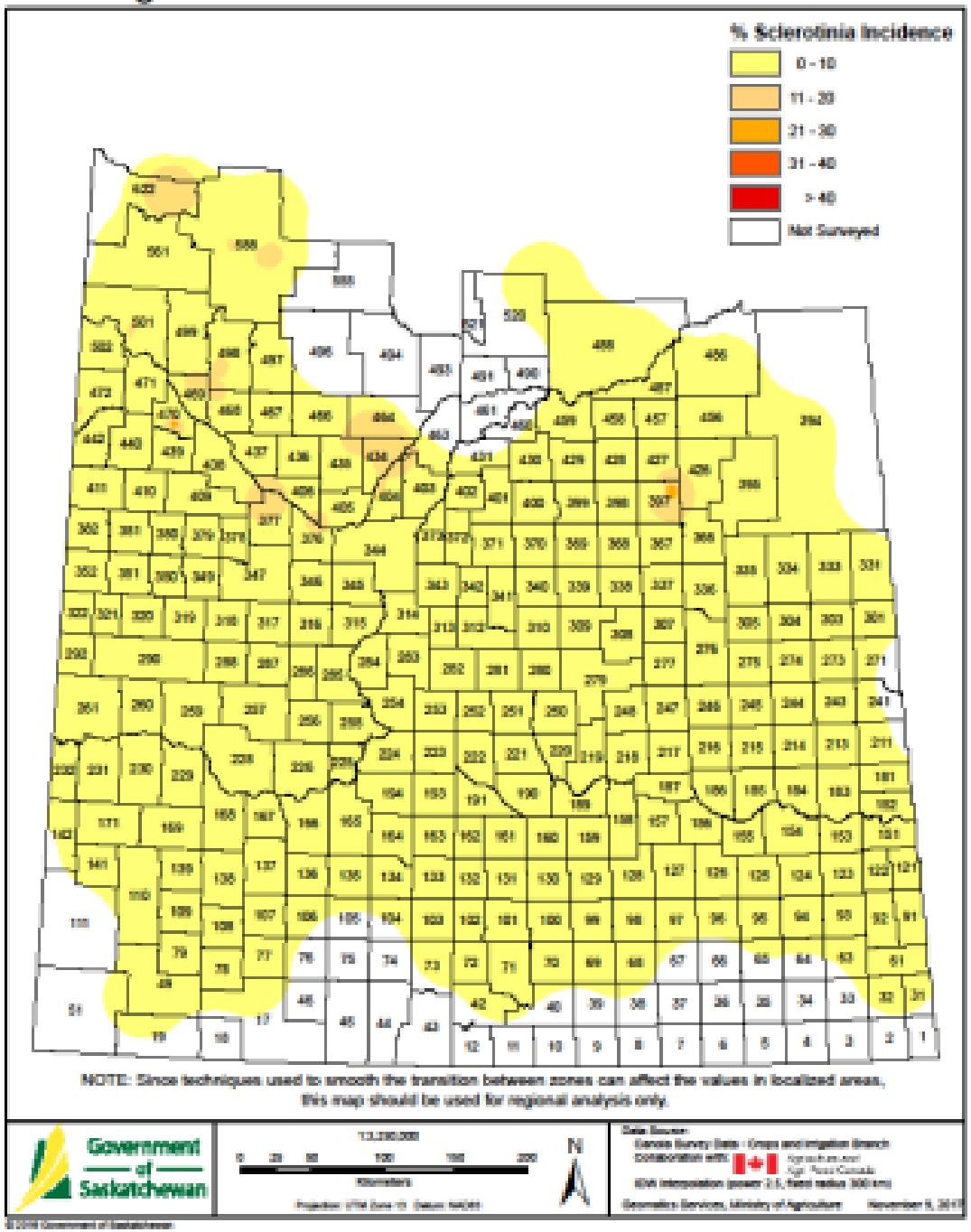
Year	Activities
2008	Canola Disease Survey - 130 fields surveyed - soil samples collected from 30 fields – One positive field (no symptoms, positive PCR test, positive bioassay)
2009	Declared a pest under *The Pest Control Act* (PCA)
2009	Ministry formed the SK Clubroot Initiative (SCI)
2009	Canola Disease Survey - 158 fields surveyed - soil samples collected from 60 fields – No positive fields
2010	Canola Disease Survey - 265 fields surveyed - soil samples collected from 76 fields – No positive fields
2011	Canola Disease Survey - 241 fields surveyed - soil samples collected from 99 fields – No positive fields
2011	Two fields confirmed positive outside of the Canola Disease Survey
2012	Canola Disease Survey - 253 fields surveyed - soil samples collected from 91 fields – One positive field (no symptoms, positive PCR test, positive bioassay)
2013	Soil samples collected from 12 fields in the surrounding area from the positive field in 2012. Canola Disease Survey - 268 fields surveyed - soil samples collected from 122 fields – No positive fields
2014	Canola Disease Survey - 271 fields surveyed - soil samples collected from 98 fields – No positive fields
2015	Canola Disease Survey - 253 fields surveyed – soil samples collected from 134 fields – no positive fields
2016	Canola Disease survey – 224 fields – soil samples collected from ~127 fields – no positive fields
2017	Canola Disease survey – 283 fields – soil samples collected from ~100 fields – results are expected early 2018

SCLEROTINIA STEM ROT

- Prevalence: 52% of crops surveyed in SK in 2017 had at least trace levels of sclerotinia stem rot
  - 92% in 2016 and 66% in 2015

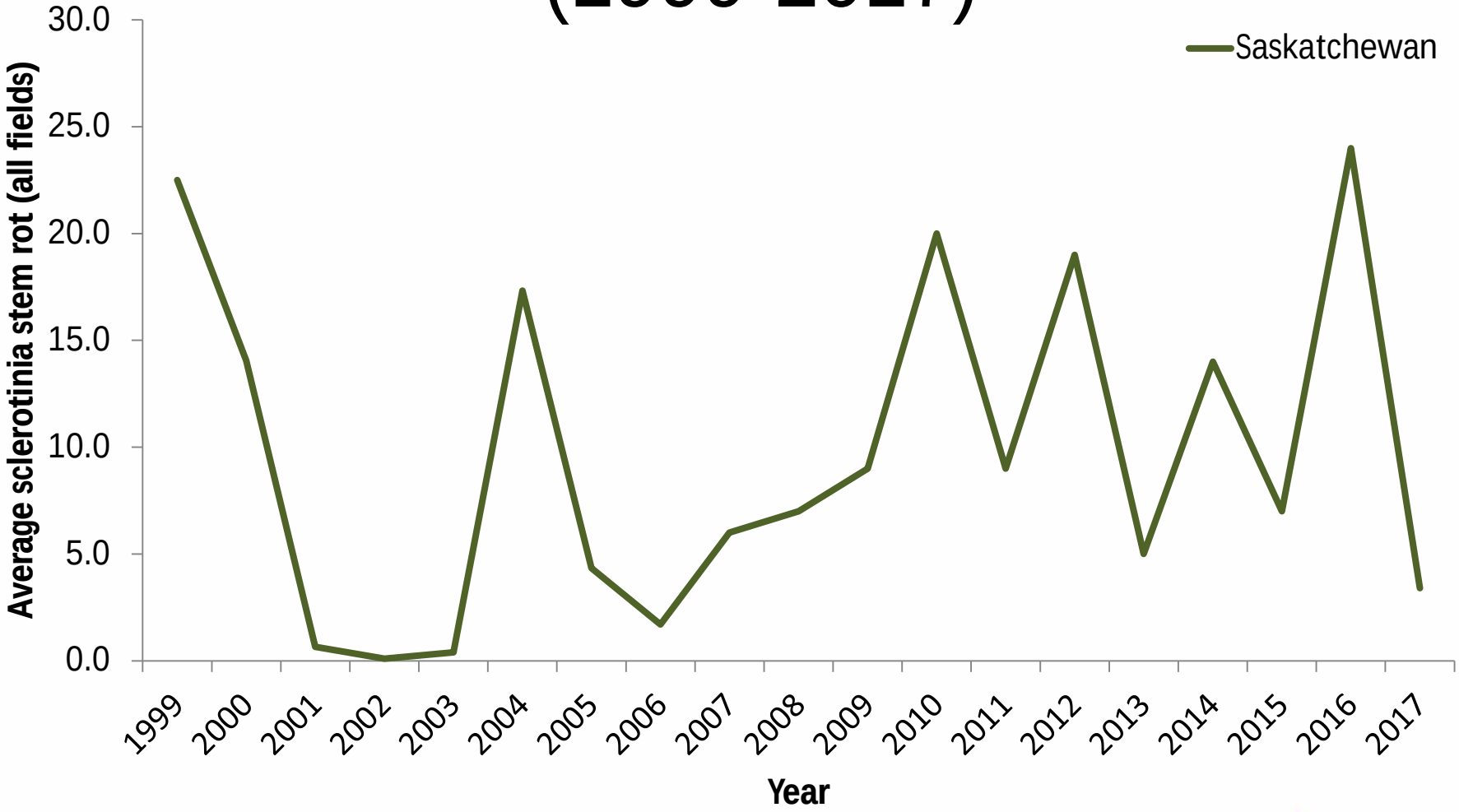
- Incidence: an average of 6.5% of plants in **infected fields** had sclerotinia stem rot symptoms
  - 26% in 2016 and 11% in 2015

Average Percent Sclerotinia Incidence in Canola - 2017



Region (No. of fields)	Prevalence (%)	Average incidence all fields (%)	Average Incidence Infected Fields (%)	Severity infected Fields (0-5 scale)
Northwest (132)	65	5.3	8.1	3.7
Northeast (29)	65	4.0	6.0	2.8
West-central (21)	38	2.1	5.5	1.7
East-central (27)	55	1.8	3.3	3.2
Southwest (21)	28	1.0	3.5	1.9
Southeast (50)	24	0.6	2.3	2.0
Overall (280)	**52**	**3.4**	**6.5**	**3.2**
Potential Yield Loss (overall)		1.8%	3.2%	

SCLEROTINIA INCIDENCE IN SASKATCHEWAN (1999-2017)

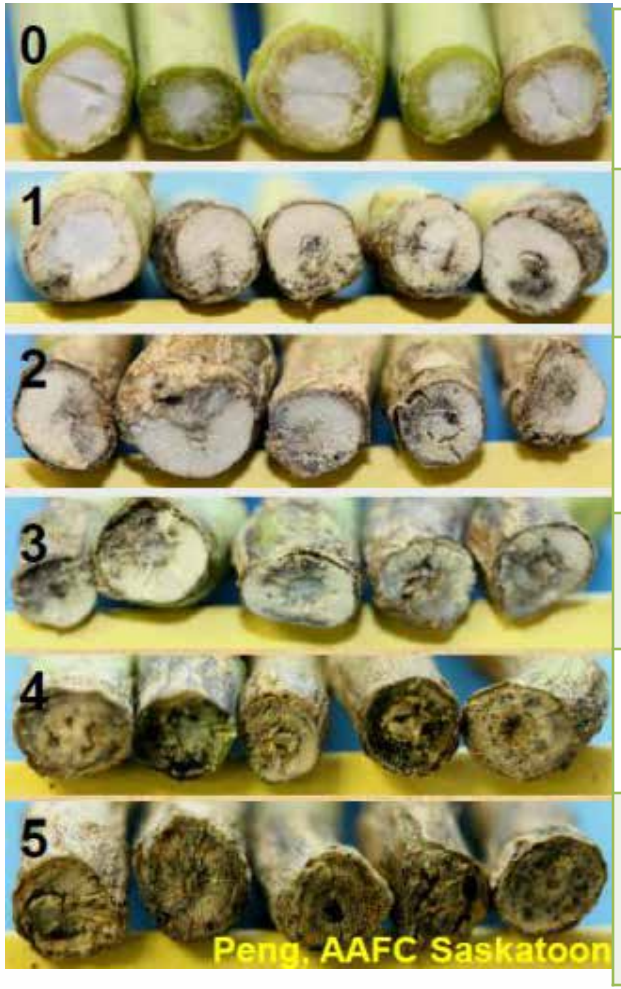


BLACKLEG

- Prevalence: 73% of the crops surveyed in 2017 had at least trace levels of blackleg
  - 61% in 2016 and 59% in 2015

- Incidence: an average of 16% of plants surveyed in **infected fields** had symptoms of blackleg
  - 12% in 2016 and 15% in 2015

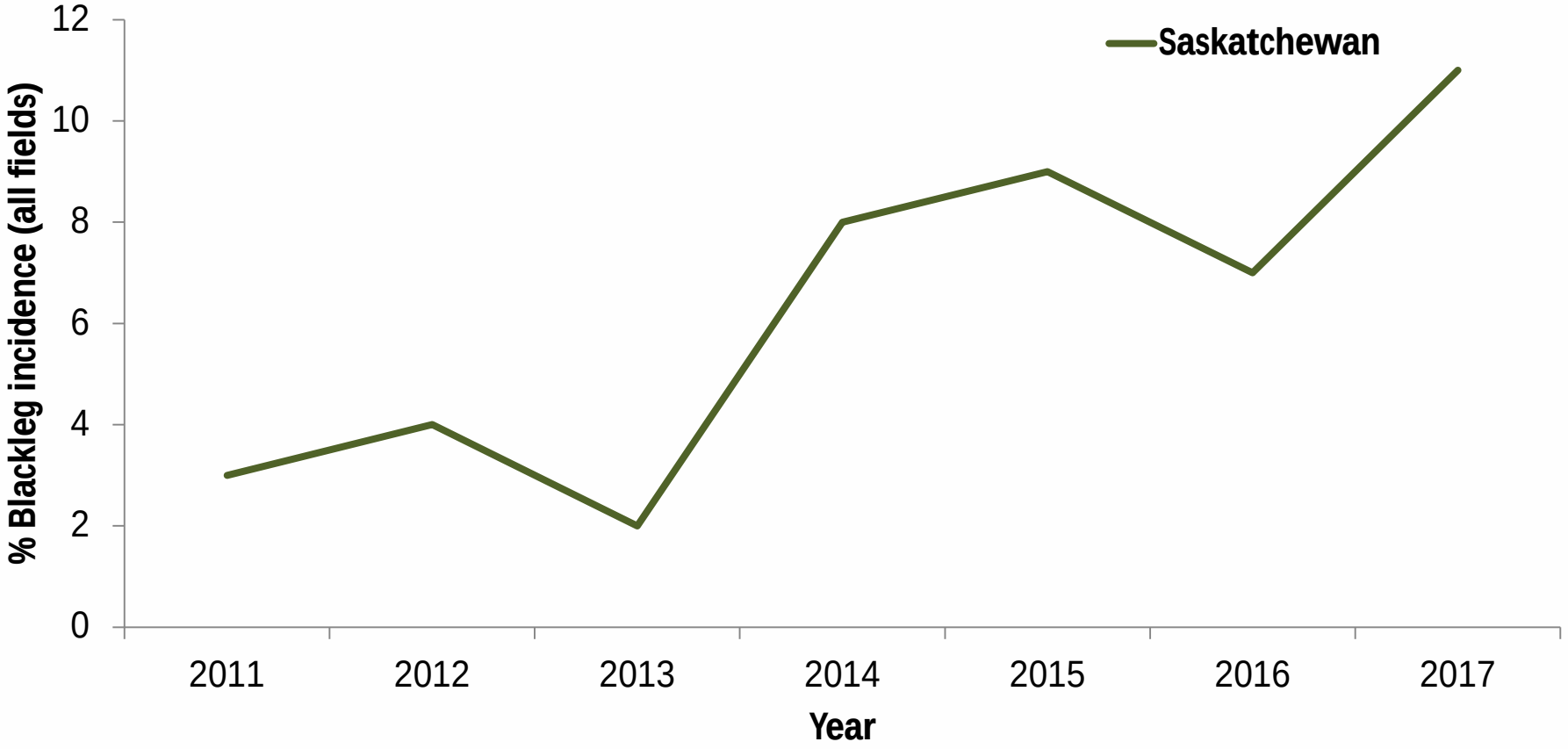
BLACKLEG SEVERITY RATING SCALE



0	No diseased tissue visible in the cross section
1	Diseased tissue occupies 25% or less of cross section
2	Diseased tissue occupies 26-50% of cross section
3	Diseased tissue occupies 51-75% of cross section
4	Diseased tissue occupies >75% of cross section with little or no constriction of affected tissues
5	Diseased tissue occupies 100% of cross section with significant constriction of affected tissues; tissue dry and brittle, plant dead

REGION (NO. OF FIELDS)	Prevalence (%)	Average incidence all fields (%)	Average Incidence Infected Fields (%)	Severity infected Fields (0-5 scale)
Northwest (132)	90	16.3	18.1	1.3
Northeast (29)	34	2.2	6.4	1.4
West-central (21)	76	16.9	22.3	1.2
East-central (27)	70	6.9	9.8	2.6
Southwest (21)	33	4.2	12.6	1.6
Southeast (50)	66	6.9	10.5	1.4
Overall (280)	73	11.4	15.6	1.5

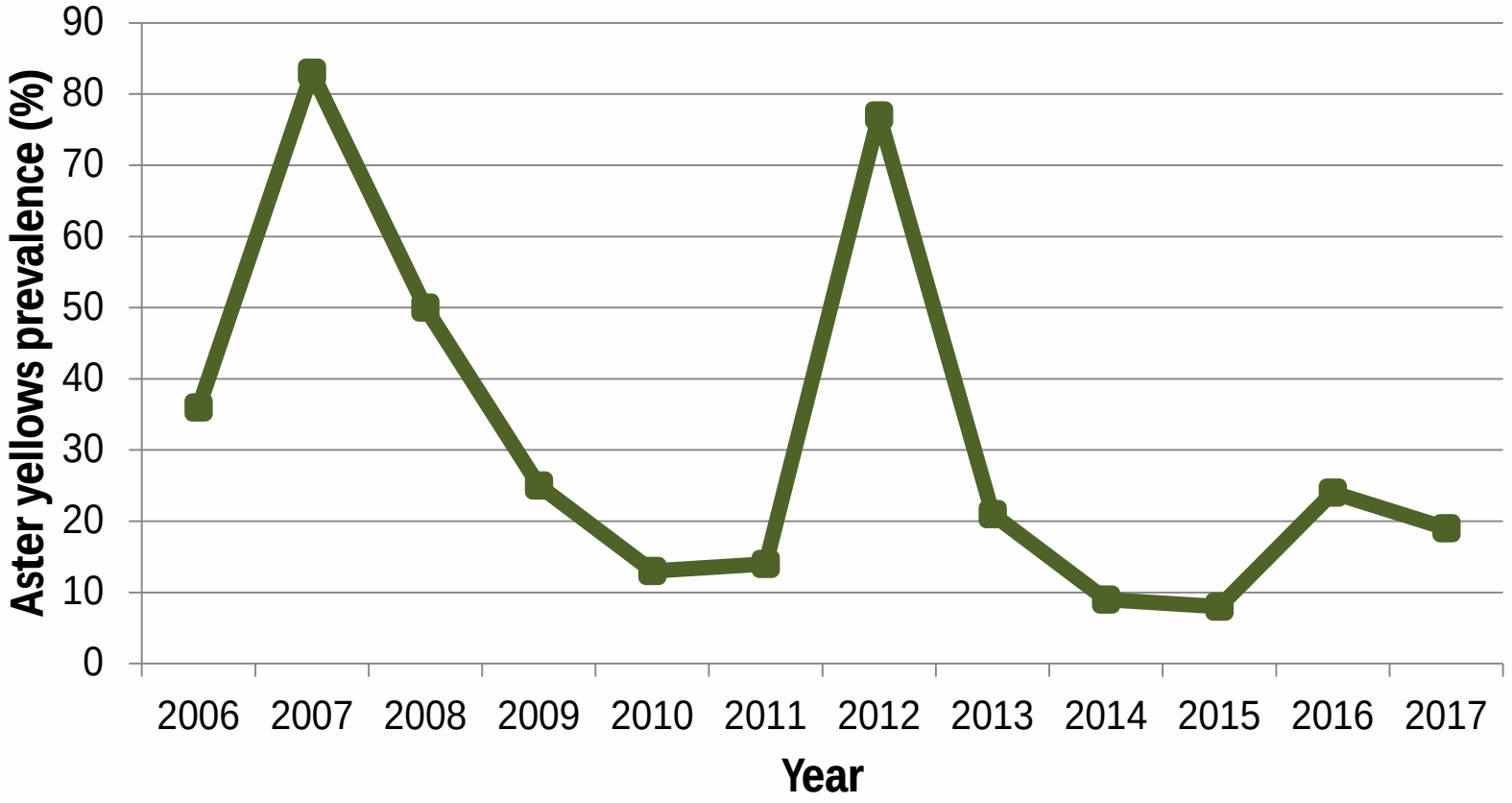
BLACKLEG INCIDENCE IN SASKATCHEWAN (2011-2017)



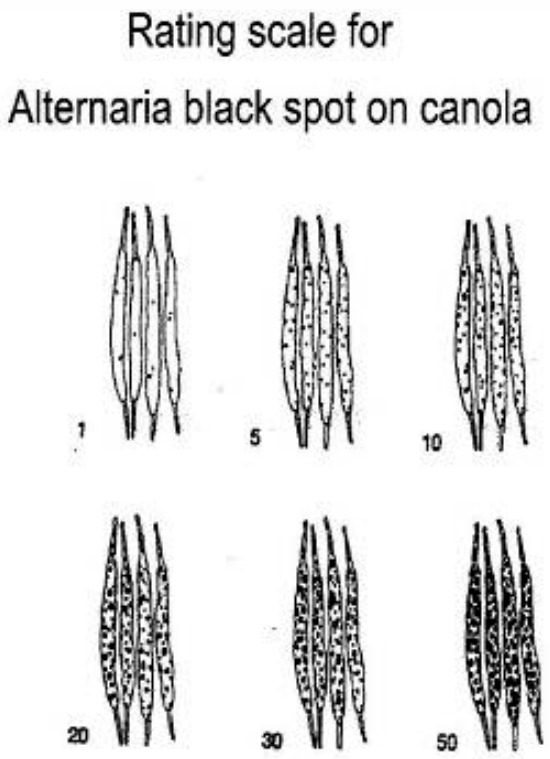
Aster Yellows

- Measured incidence within each field surveyed
- Also indicated presence of the disease as ‘trace’ if symptoms are identified outside of the 100 plant sample

ASTER YELLOWS [PREVALENCE]



Alternaria Black Spot



- *Alternaria* spp. are ubiquitous saprophytes
- *A. brassicae* and *A. raphani* cause black spots on canola leaves, stems, and pods.
- Often found on every plant but only at trace levels.

Canola disease survey: Other diseases

- There were no reports of Verticillium stripe

- Foot rot in 6.3% of fields
- Grey stem was identified in one field

SUMMARY [DISEASE]

- Ø Disease levels were generally low in 2017, but variation in disease levels did occur across the province due to differences in environmental conditions.

- Ø Clubroot has been confirmed in Crop districts 9A and 9B
  - Producers are encouraged to scout canola crops and implement proactive management strategies on their farm.

- Ø Blackleg was more prevalent in 2017 than in 2016, but disease incidence levels were only slightly higher

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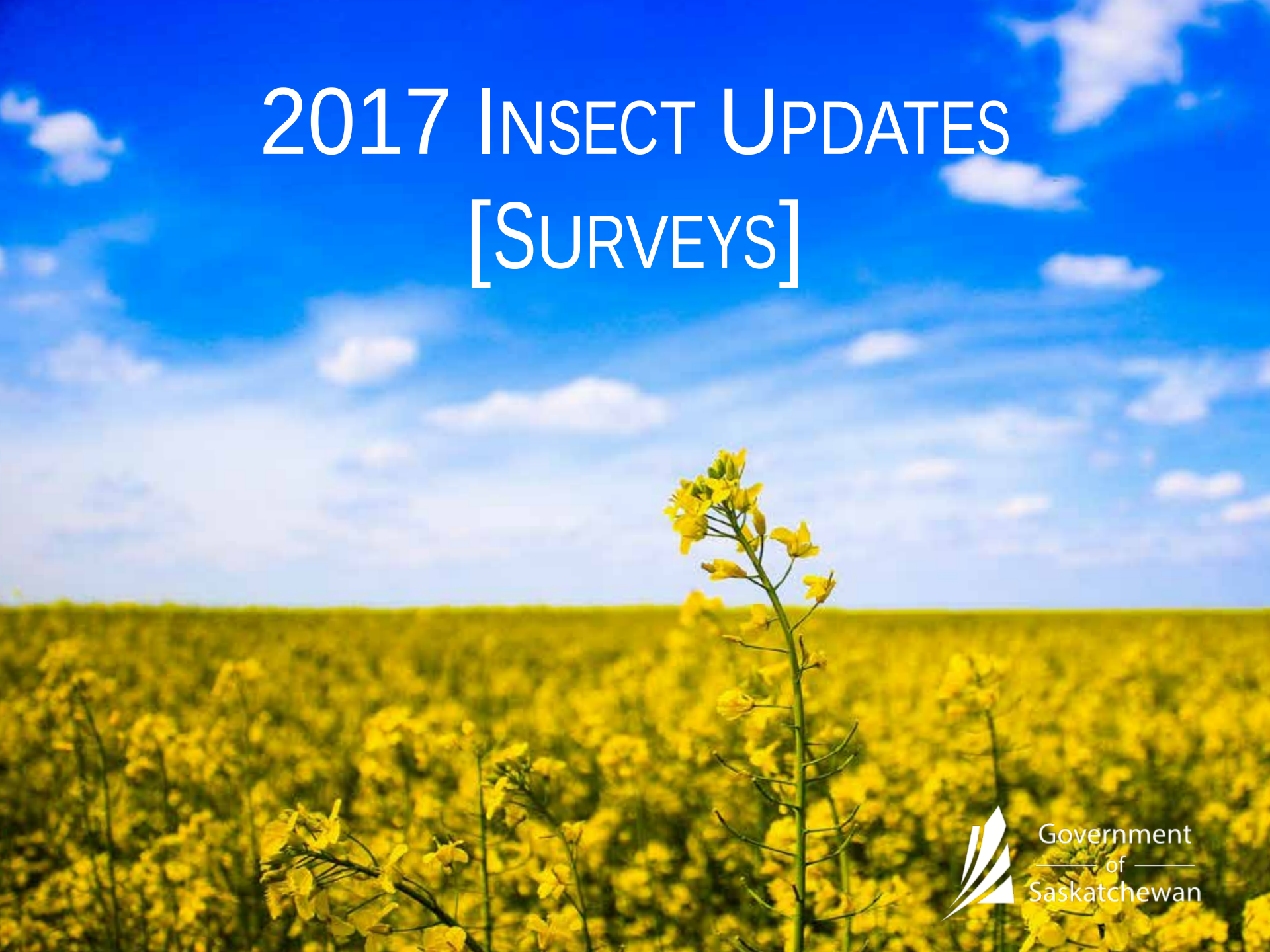
2017 Insect Updates [Surveys]



“LITTLE RED BUGS…”

False Chinch bug?

‘Clumping’…
2-spotted stink bug?

Red turnip beetle?

Lygaeidae family

- *Peritrechus convivus*
  - o *“Peritrechus saskatchewanensis”*? (Barber, 1918)
  - o Awaiting AAFC update

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CUTWORMS

- Early & widespread infestations of cutworms reported in 2017 in canola.

Management considerations

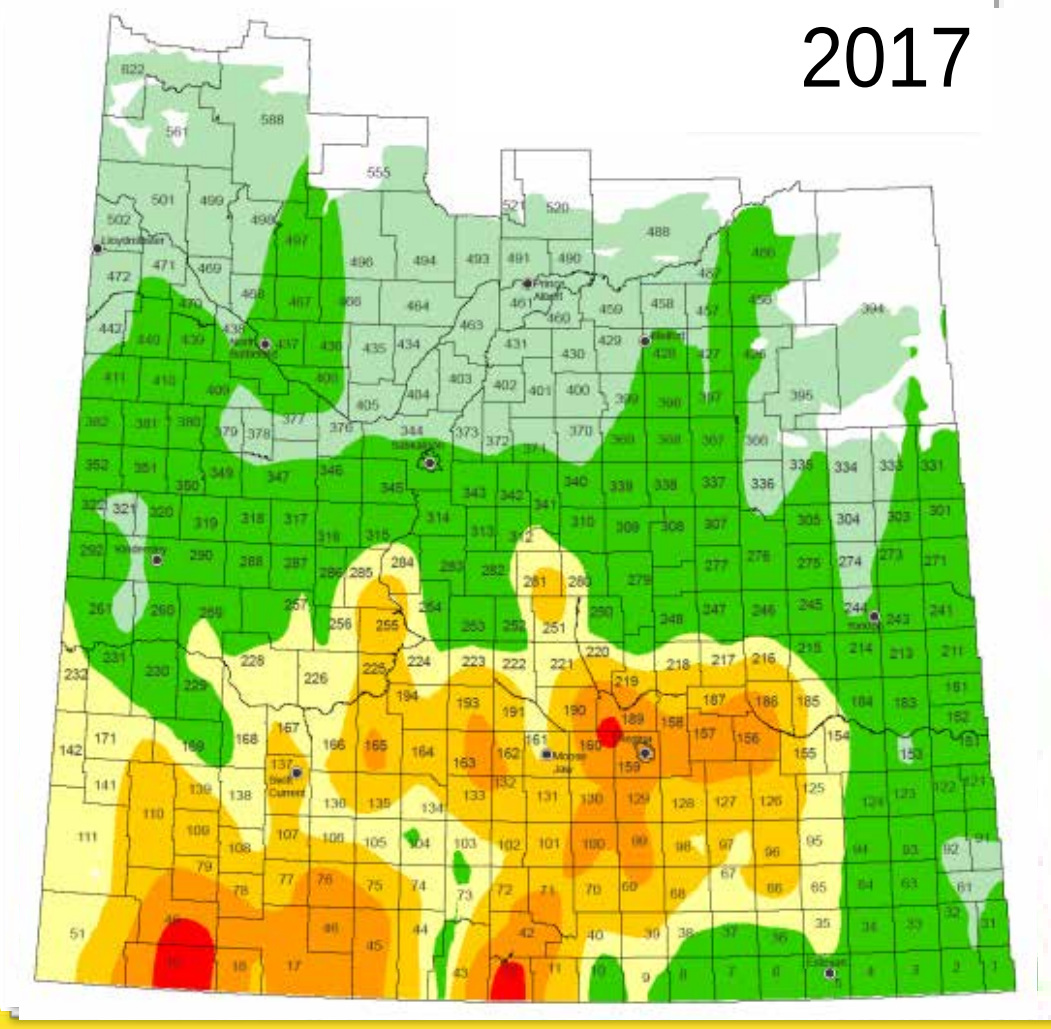
- Species life histories vary
- Significant time spent below ground, not feeding – molting, etc. – control with foliar insecticides
- control may take up to 10 days because not all come to the surface to feed each night

Flea Beetles [review]

- Primary Flea Beetle (FB) species:
  - crucifer – black (CFB)
  - striped (SFB)
- Species composition varies on region in province.
  - Lower numbers than expected for both species in 2017
- SFB tend to be active earlier in the spring and into hibernation earlier in the fall compared to CFB
- Difficult to predict infestations in fall

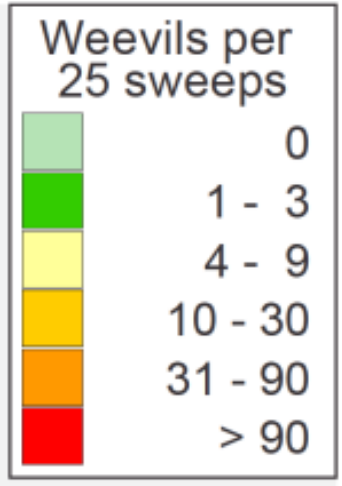
Cabbage Seedpod Weevil [Surveys]

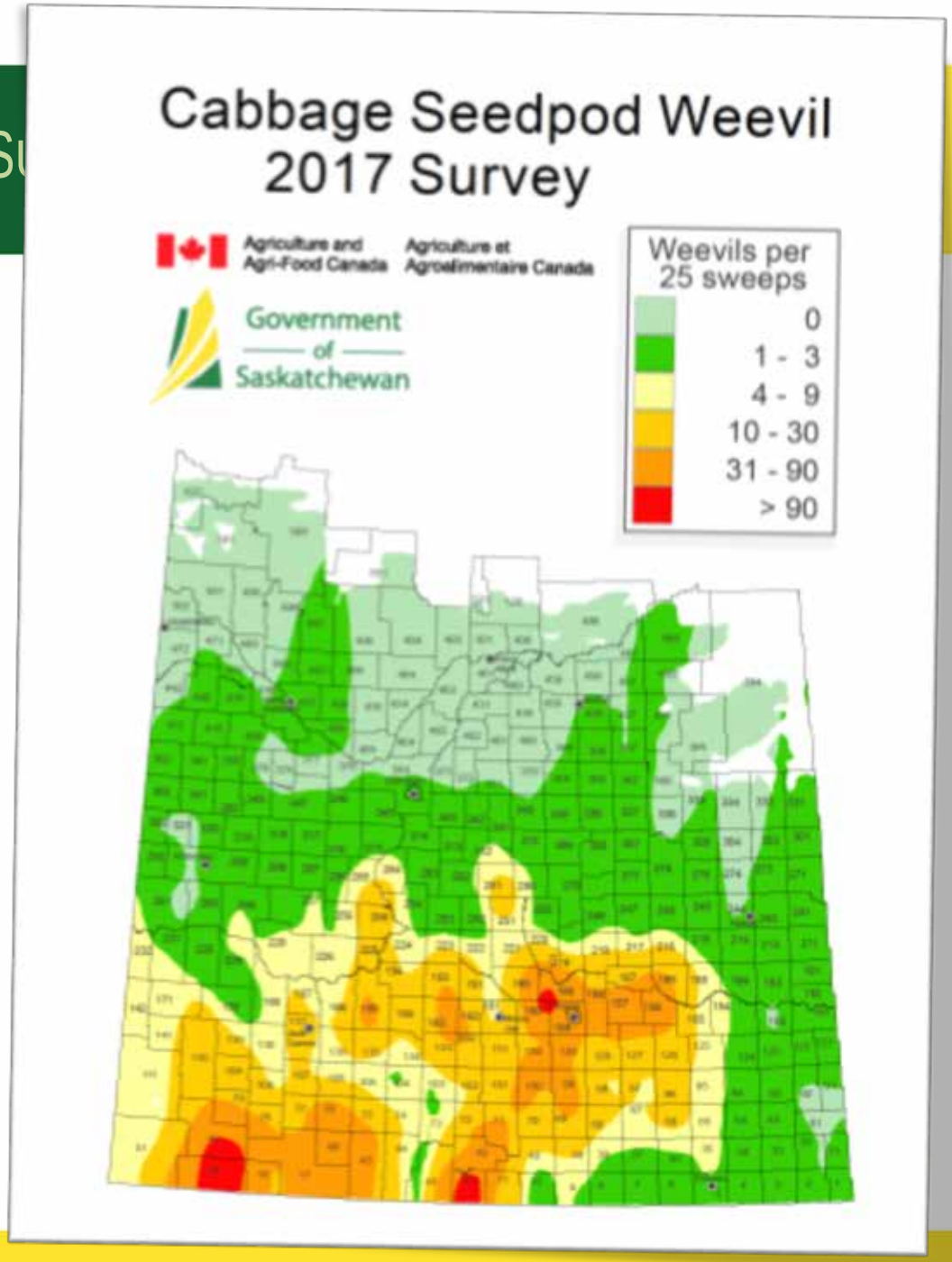
- First found in Saskatchewan in 2000
- Gradual expansion in last 17 years



Cabbage Seedpod Weevil [Su

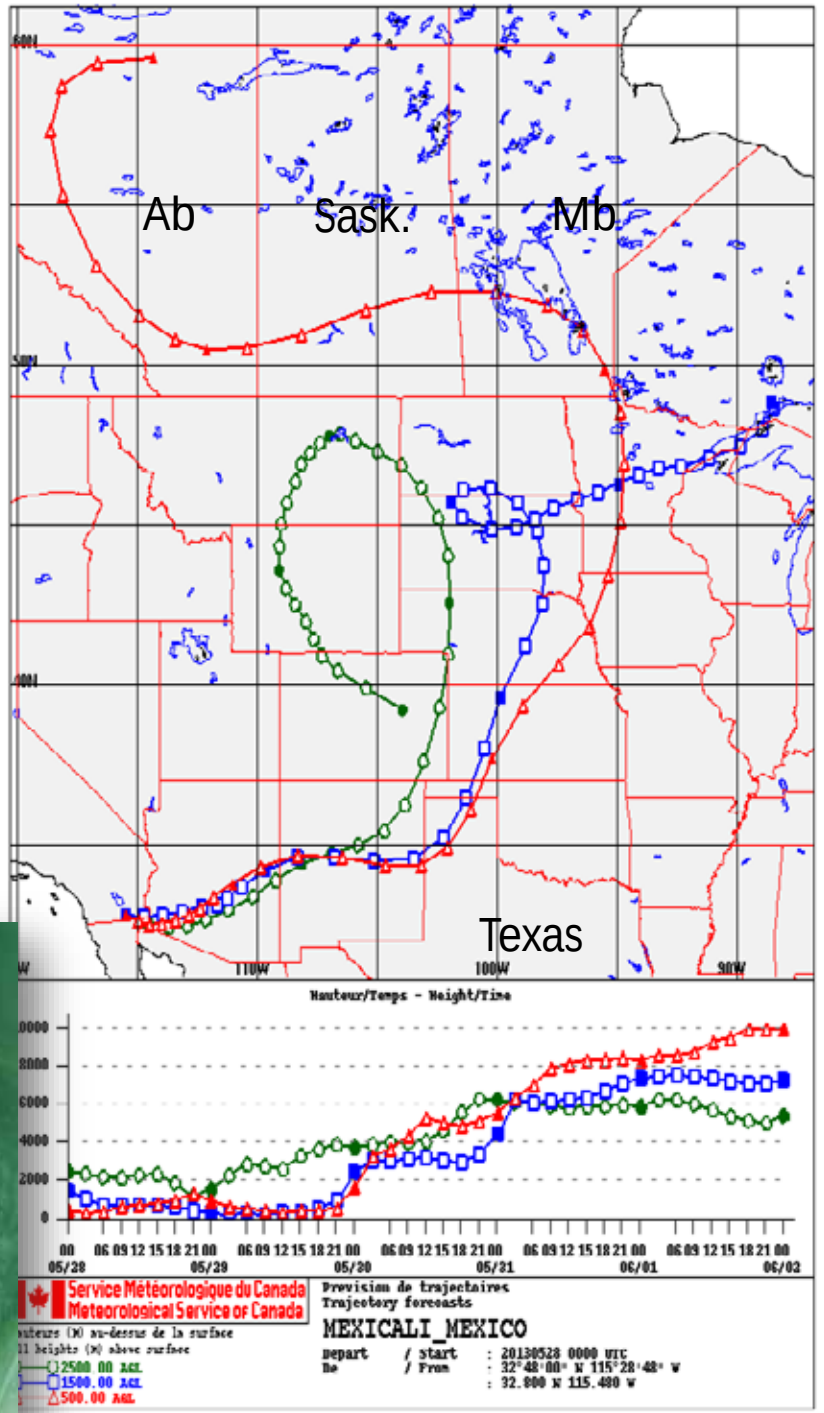
- East nearing Manitoba border
- North – Outlook area (RM 284), and RMs 281, 280 in central Sask.





Diamondback Moth

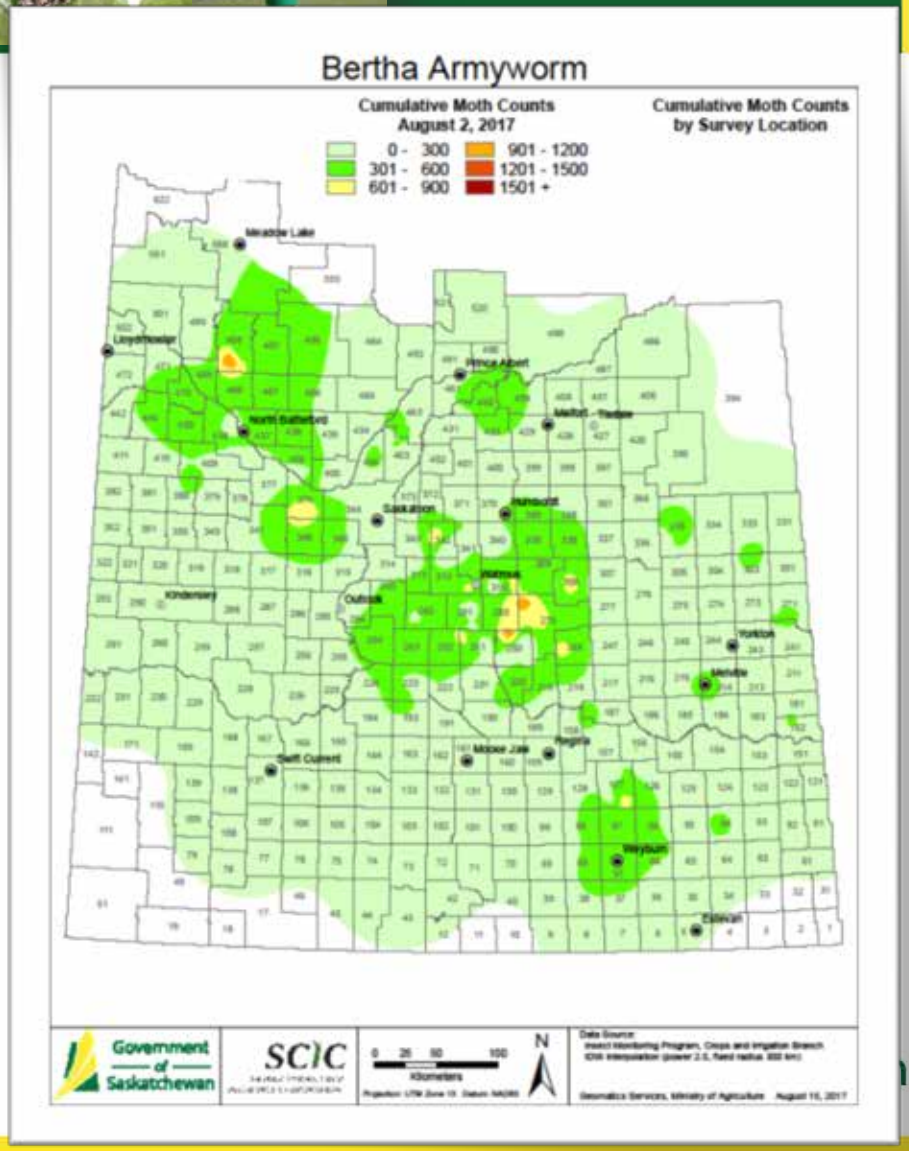
- Widespread issue in 2017
- AAFC Monitoring winds originating from the south
- Pheromone traps to capture adult moths not effective this year
- Wind currents also being tested to monitor for leafhoppers



Bertha Armyworm



- Monitored with pheromone traps early June to early August
- >210 sites in 2017
- Low risk was expected in 2017 but higher than expected numbers of moths noted in some regions
- Some spraying reported in Watrous & NW areas



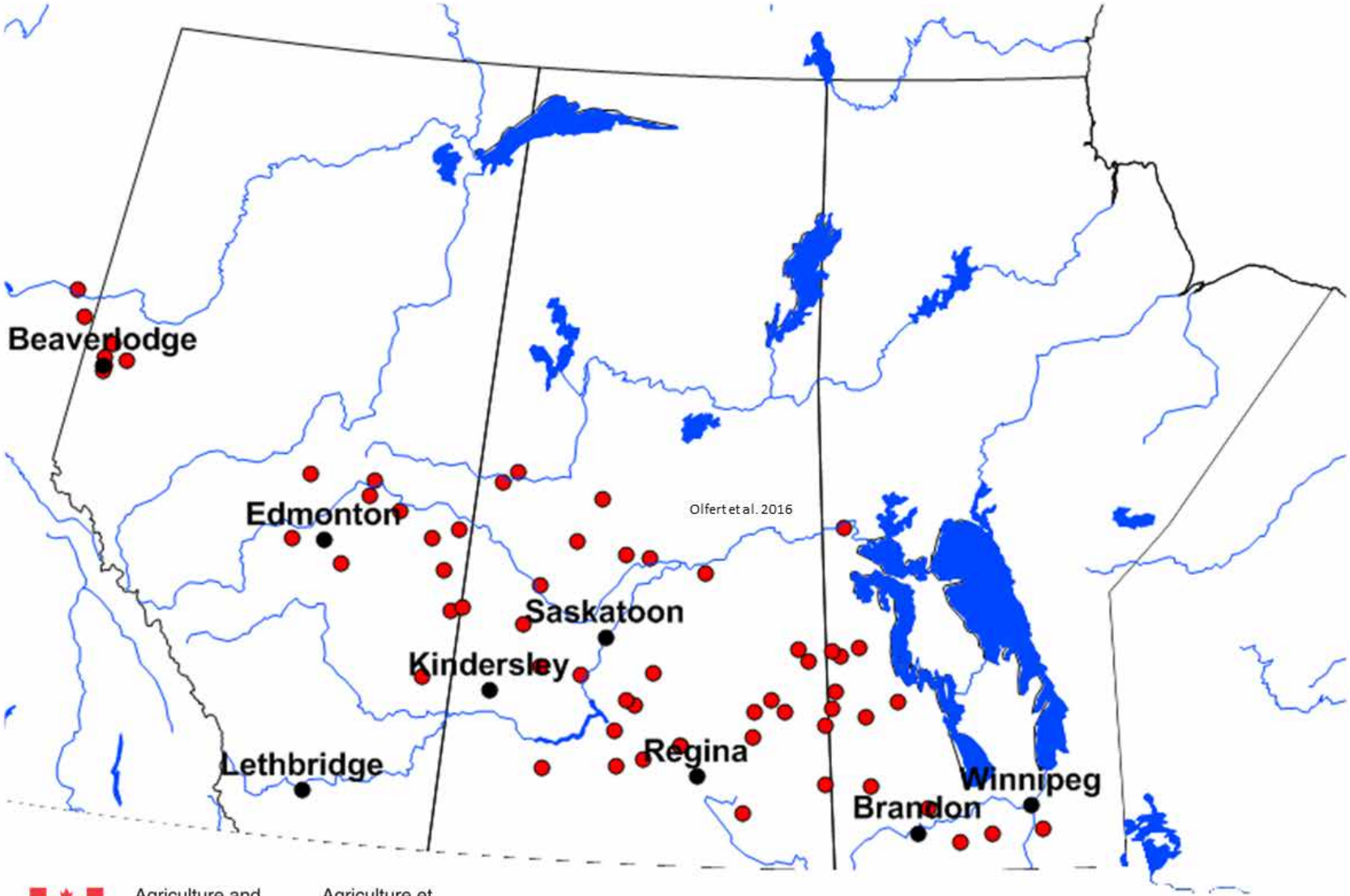
SWEDE MIDGE [UPDATE]

- Primarily in the NE but found in visual surveys in the past in several areas across the Prairies
- Continuing research at AAFC, Saskatoon
- New midge confirmed in NE, very similar to swede midge
  - *Contarinia* sp.
  - Official name release early 2018

omafra.gov.on.ca

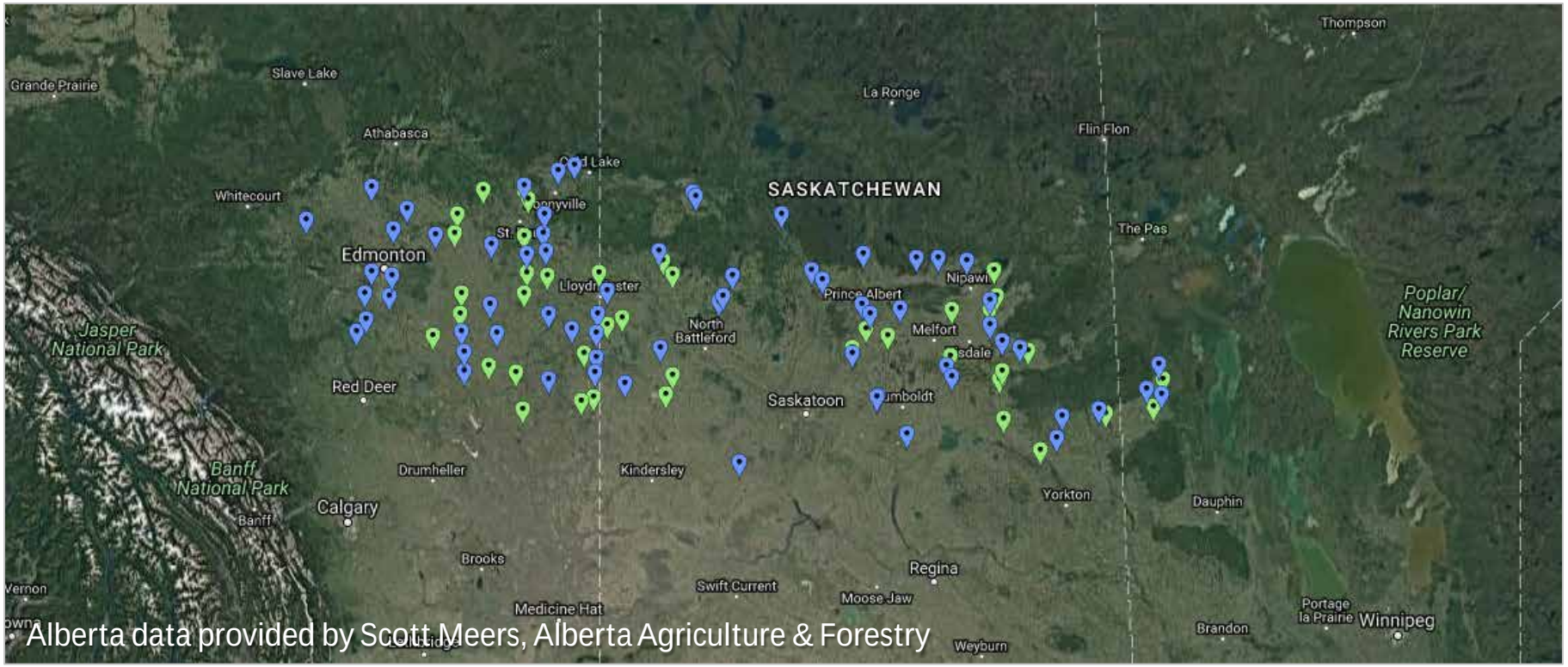
Ø 2016 Swede midge pheremone traps

- All negative



New *Contarinia* sp.: Distribution

2017 Field Survey



Potential damage

Damage with larvae present

Contarinia sp.: Damage

Photo courtesy of Boyd Mori, AAFC

Photo courtesy of Boyd Mori, AAFC

SWEDE MIDGE DAMAGE [ONTARIO]

- damage to growing point: “bouquet” of pods

‘New’ Midge Damage [Saskatchewan]

Petals ‘glued’ together

- Saskatchewan symptoms:
  - florets affected
  - Most severe damage in field margins

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Swede midge larvae in canola flower

swede midge larva jumps (credit Danielle Barratt Cavalier Agrow).MOV

Video courtesy of Danielle Barratt

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Swede midge [Life Cycle]

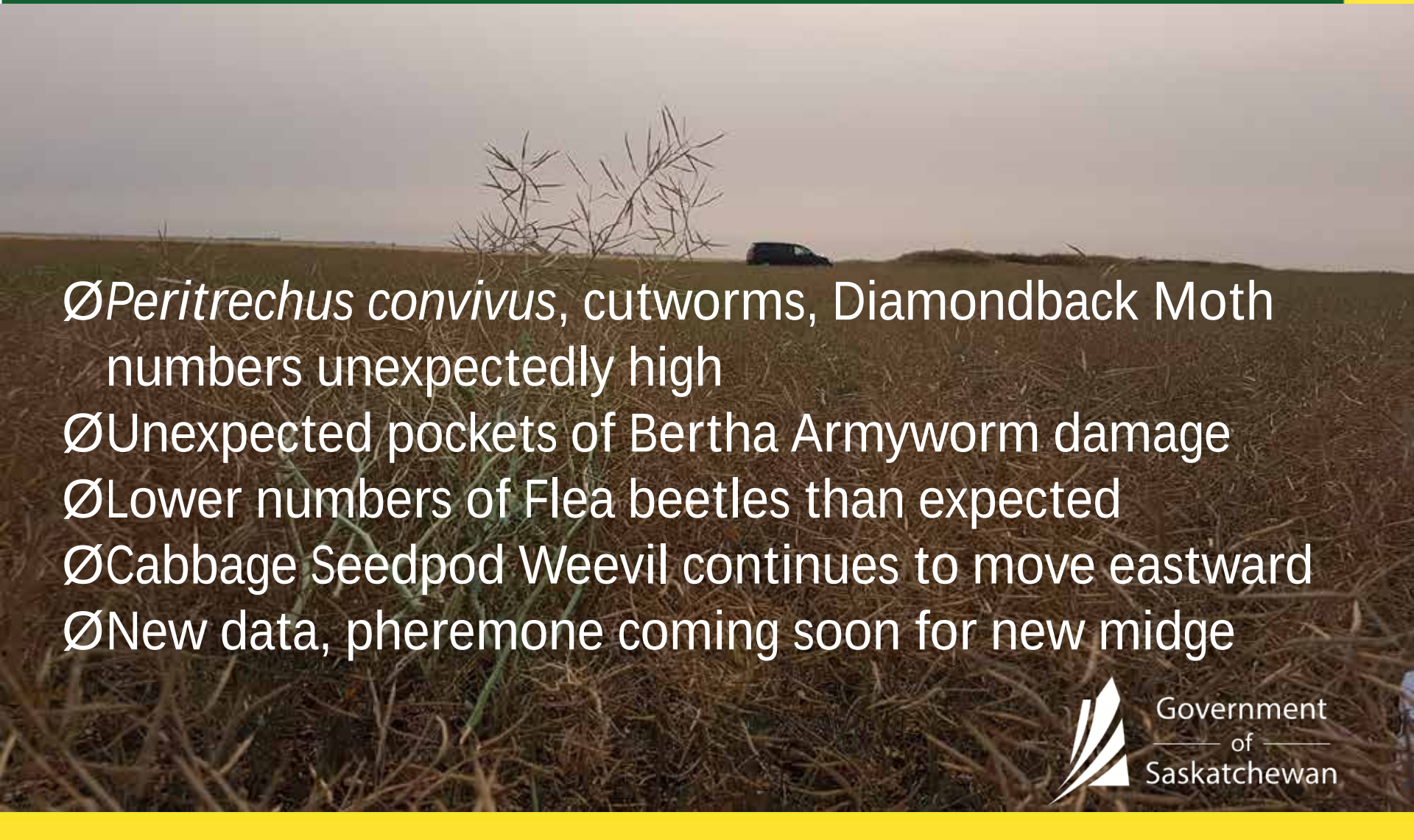
Multiple, overlapping generations

- 4 in Ontario
- 2 or 3 in Saskatchewan

Other Insects Reported

- Painted Lady Butterfly (thistle caterpillar) widespread
- Root maggots also widespread
- Slugs in North West, wet areas
- Psyllids (fungus feeders) in stored grain
  - More of an indicator of damp/wet grain
- Tent caterpillar

SUMMARY [INSECTS]



- *Peritrechus convivus*, cutworms, Diamondback Moth numbers unexpectedly high
- Unexpected pockets of Bertha Armyworm damage
- Lower numbers of Flea beetles than expected
- Cabbage Seedpod Weevil continues to move eastward
- New data, pheremone coming soon for new midge

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Thank you

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