



Forecast and Risk Maps for Insect Pests of Prairie Field Crops based on 2021 Surveys

Presented by Meghan Vankosky
Agriculture and Agri-Food Canada, Saskatoon

With funding and support from*:



Agriculture and
Agri-Food Canada



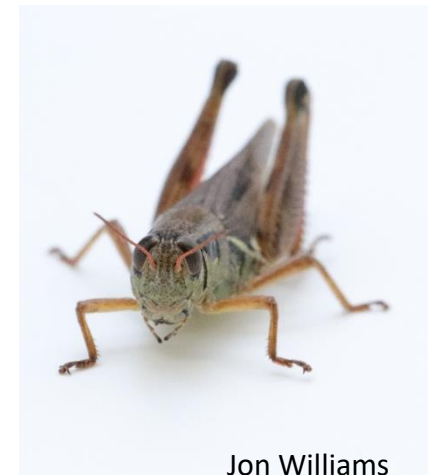
*List limited to current direct funders

Prairie Insect Monitoring Team

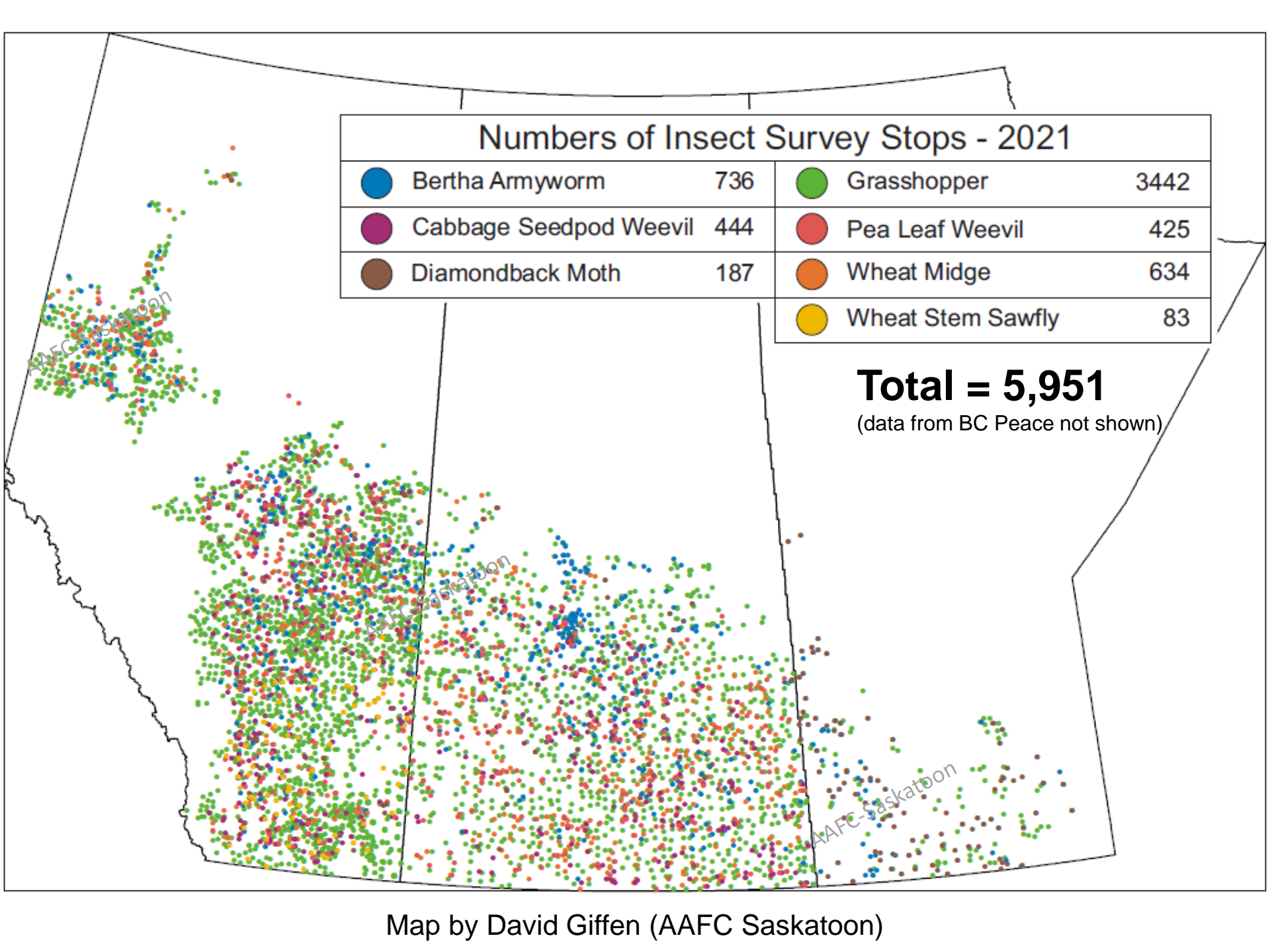
Data provided through partnership with:

- Alberta Agriculture, Forestry and Rural Economic Development
- Saskatchewan Ministry of Agriculture
- Manitoba Agriculture
- Western Grains Research Foundation
- Saskatchewan Canola Development Commission
- Saskatchewan Pulse Growers
- Manitoba Canola Growers Association
- Alberta Wheat Commission
- Saskatchewan Wheat Development Commission
- Prairie Oat Growers Association
- Manitoba Crop Alliance
- Manitoba Pulse and Soybean Growers
- Saskatchewan Flax Development Commission
- BC Grain Producers Association
- Saskatchewan Crop Insurance Corporation
- Canola Council of Canada
- Alberta Canola Producers Commission

Maps prepared by David Giffen, Ross Weiss, and Shane Hladun (Agriculture and Agri-Food Canada – Saskatoon Research and Development Centre).



Jon Williams

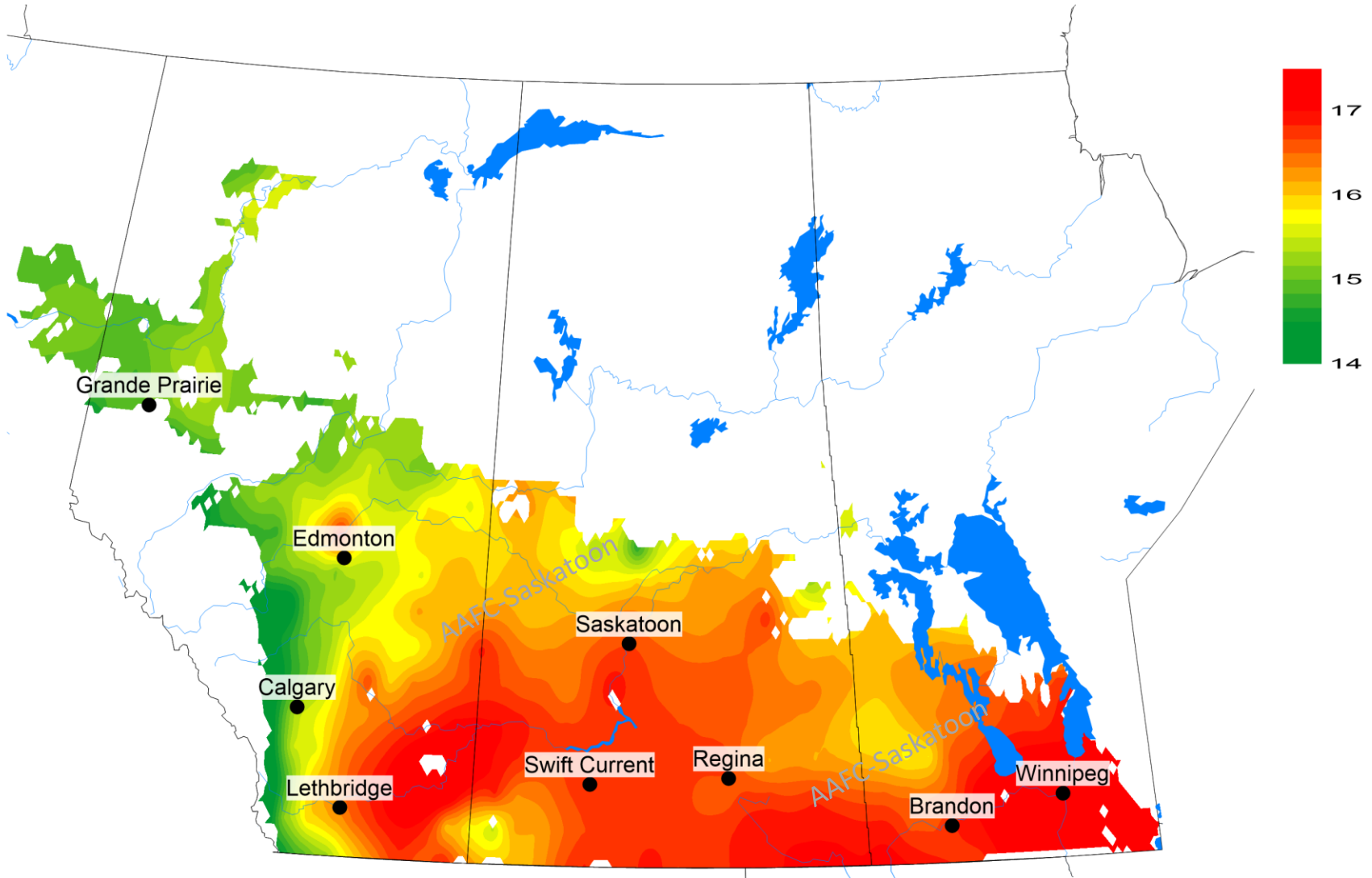


Numbers of Insect Survey Stops - 2021			
● Bertha Armyworm	736	● Grasshopper	3442
● Cabbage Seedpod Weevil	444	● Pea Leaf Weevil	425
● Diamondback Moth	187	● Wheat Midge	634
		● Wheat Stem Sawfly	83

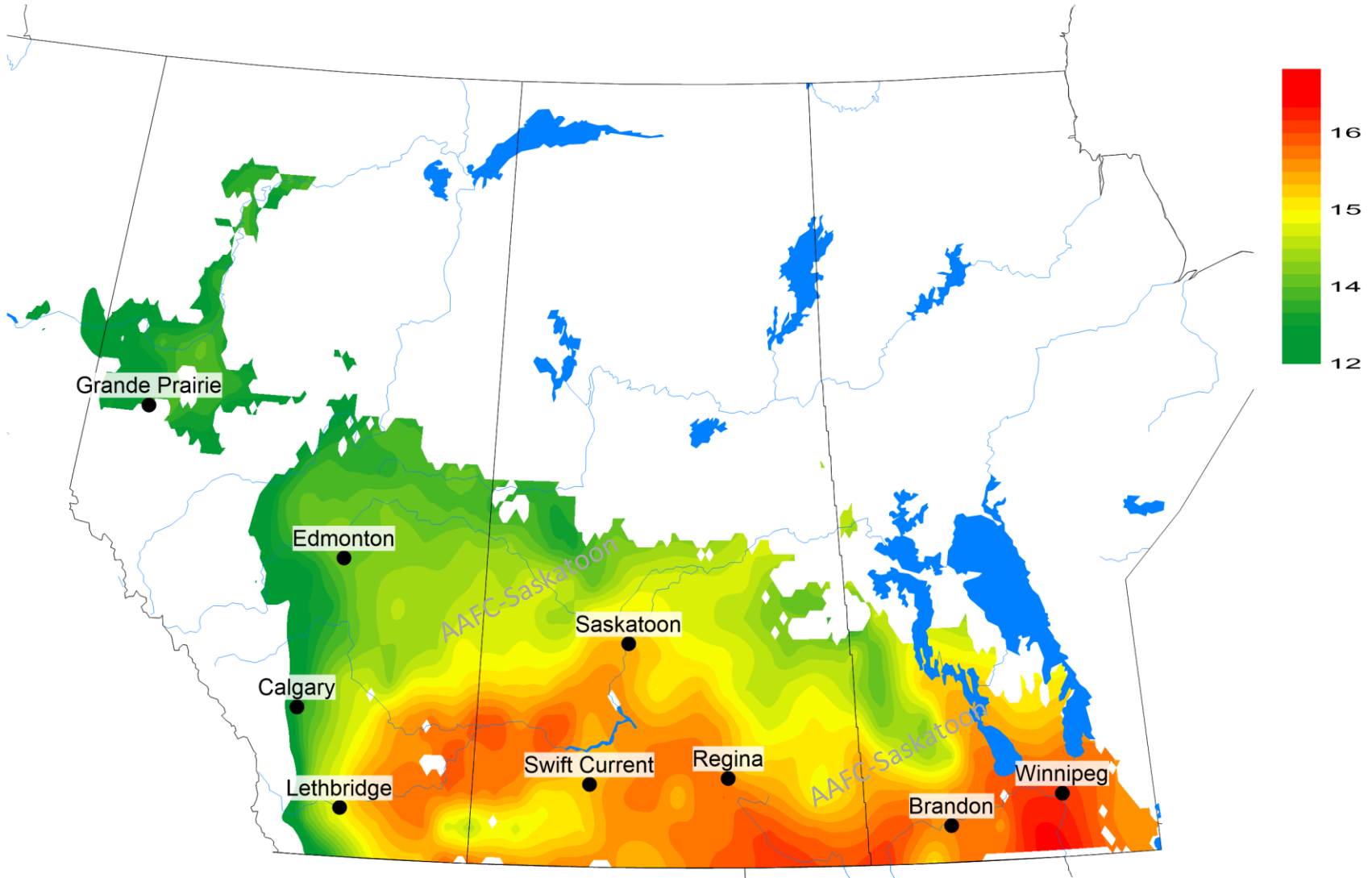
Total = 5,951
(data from BC Peace not shown)

Map by David Giffen (AAFC Saskatoon)

Growing season average temperature (°C) Observed (Average = 15.7 °C) May 1 - August 31, 2021

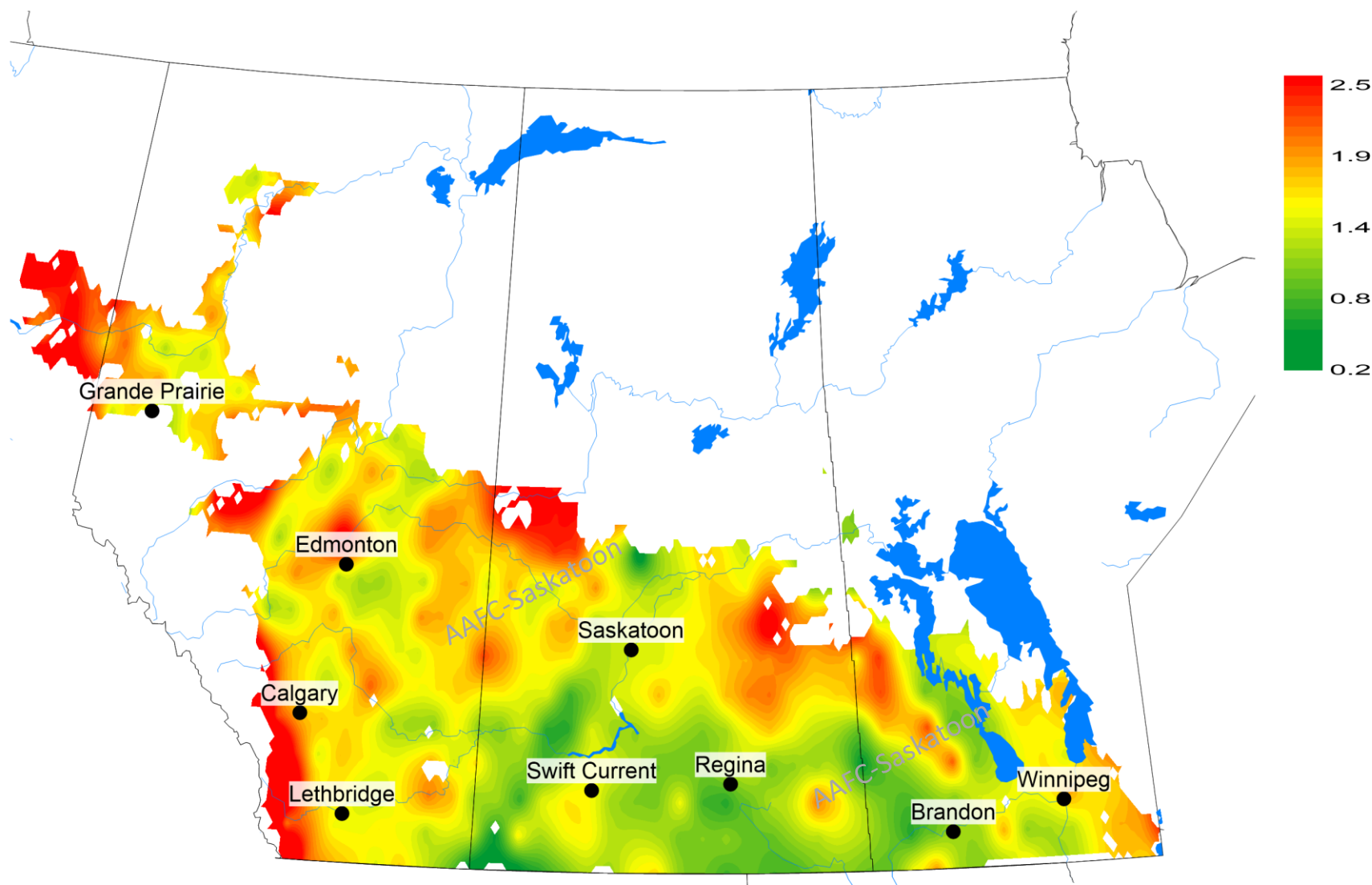


Growing season average temperature ($^{\circ}\text{C}$)
Climate normals (Average = 13.9°C)
May 1 - August 31, 2021

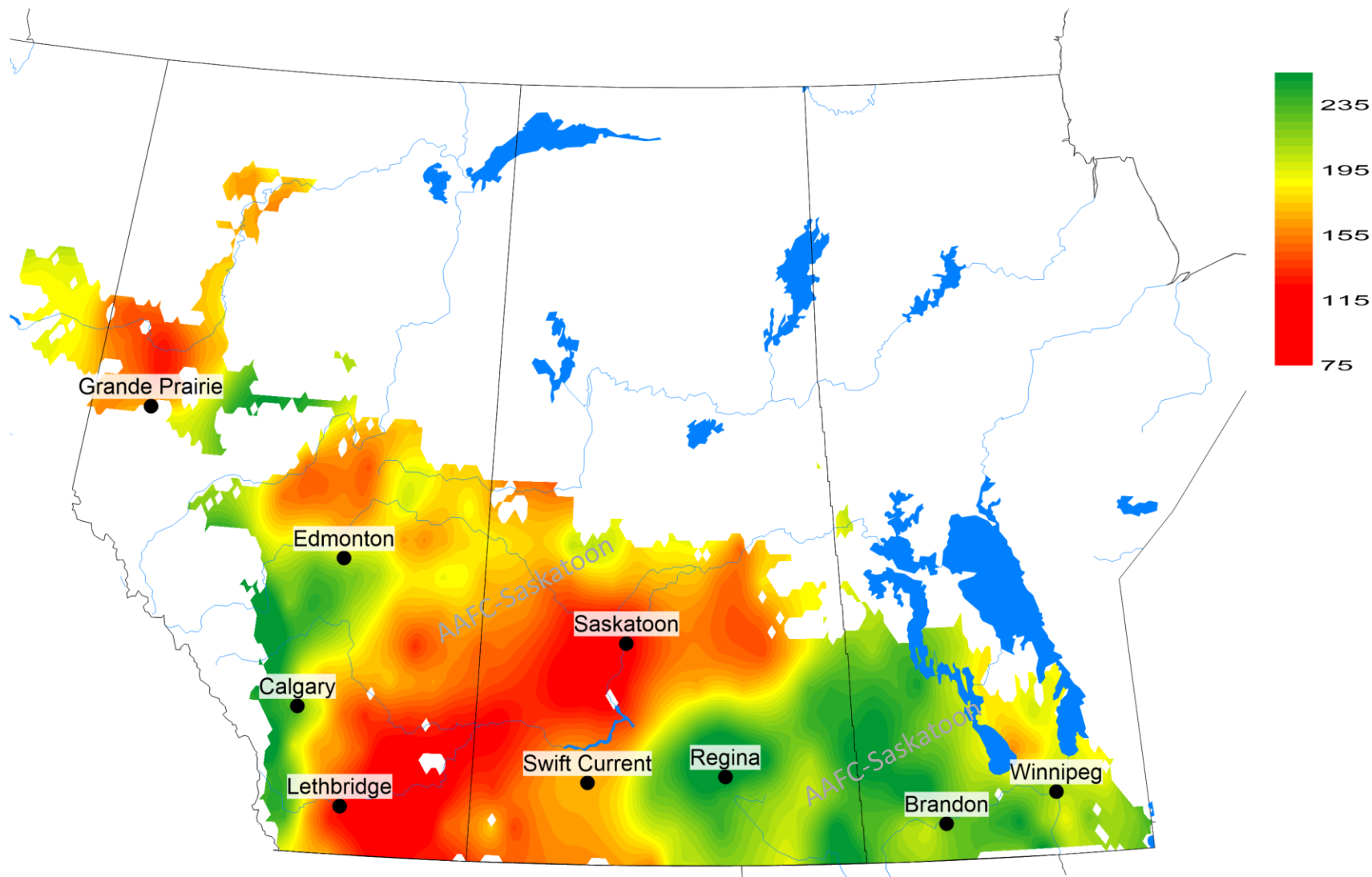


Growing season temperature difference from normal (°C)

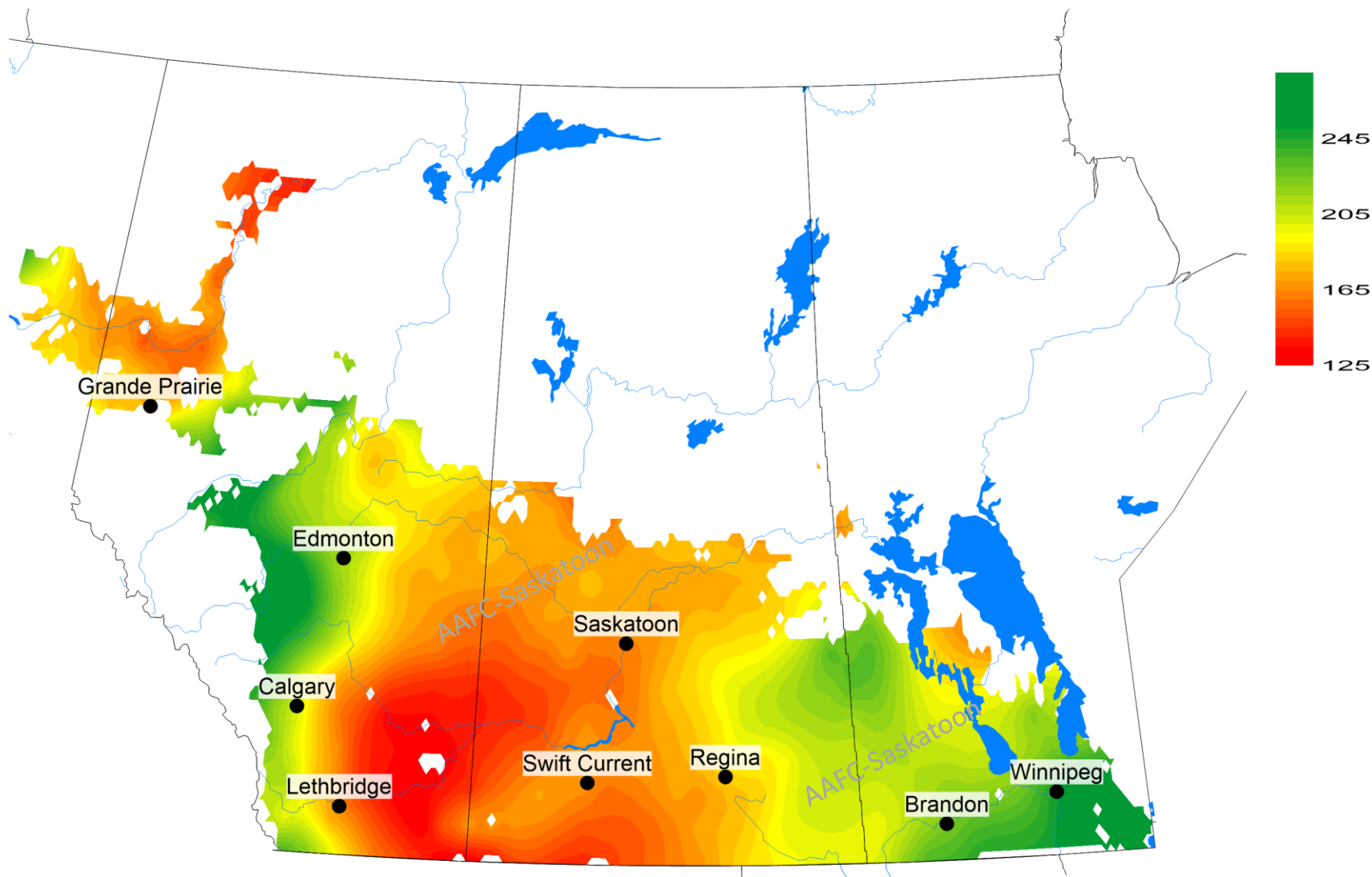
Avg=1.8 °C
May 1 - August 31, 2021



Growing season cumulative rain (mm) Observed (Avg=188.6 mm) May 1 - August 31, 2021

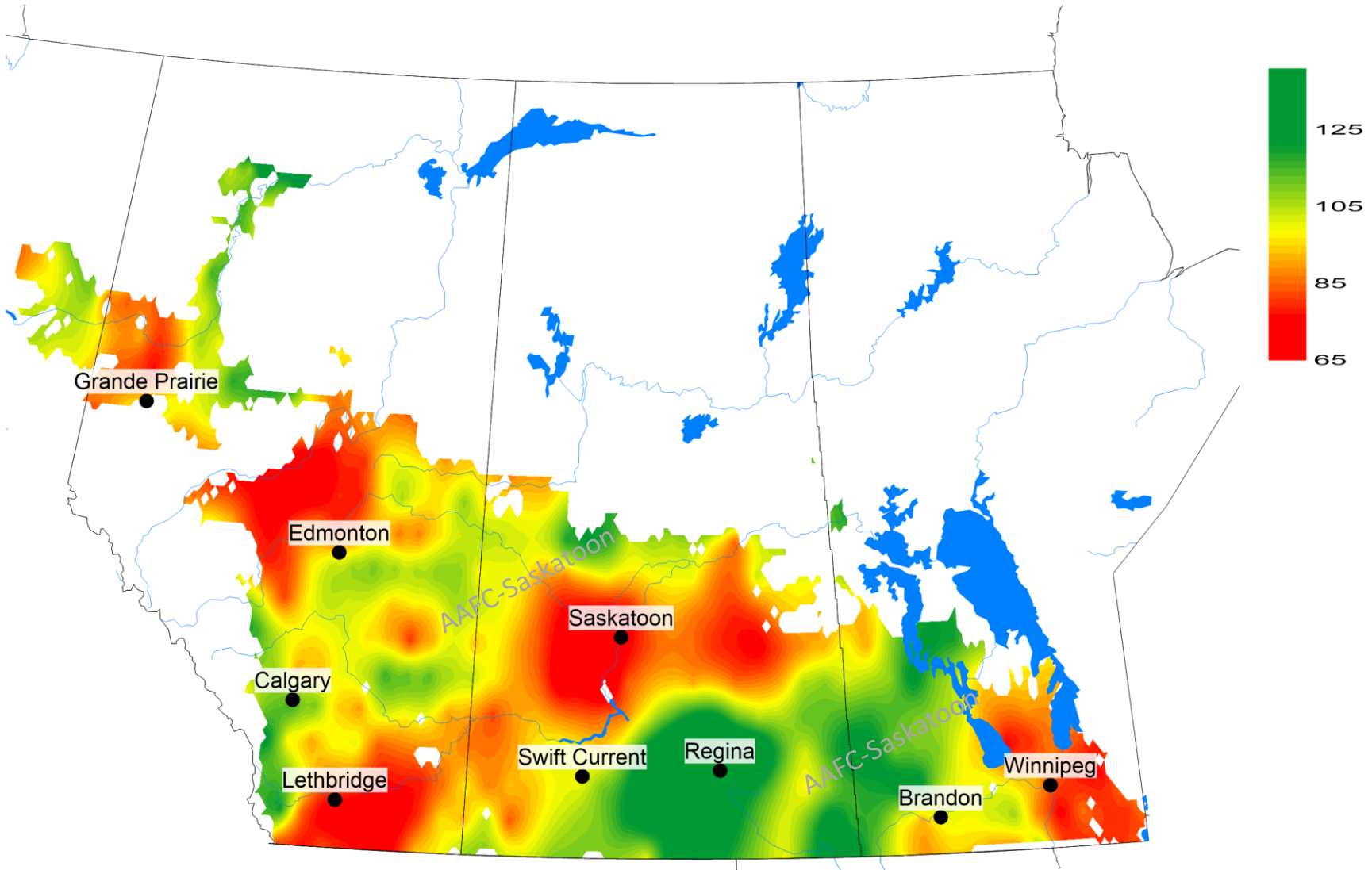


Growing season cumulative rain (mm)
Climate normals (Avg=190.1 mm)
May 1 - August 31, 2021

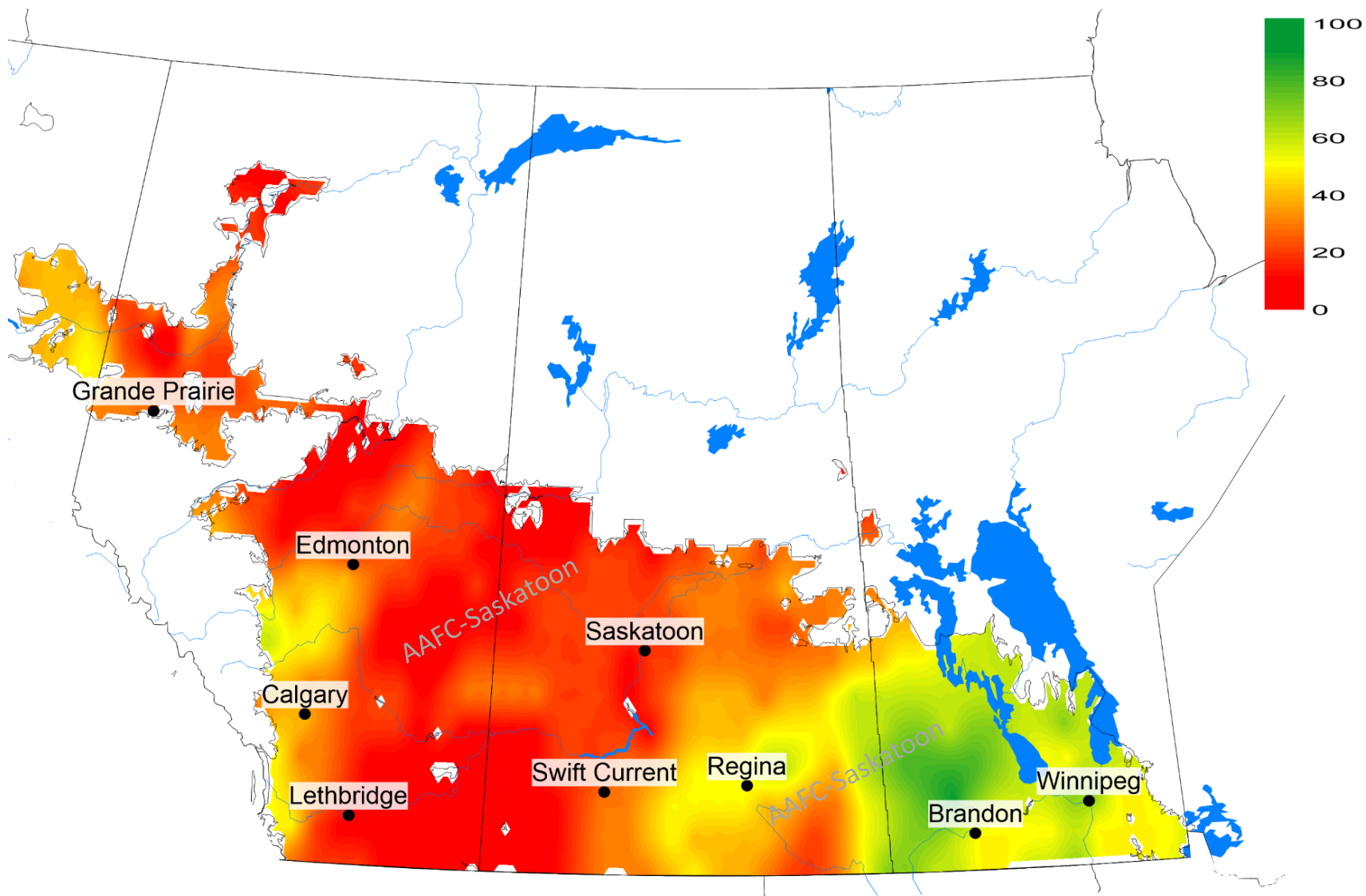


Growing season percent of normal rain (%)

Percent of climate normal (99.8%)
May 1 - August 31, 2021



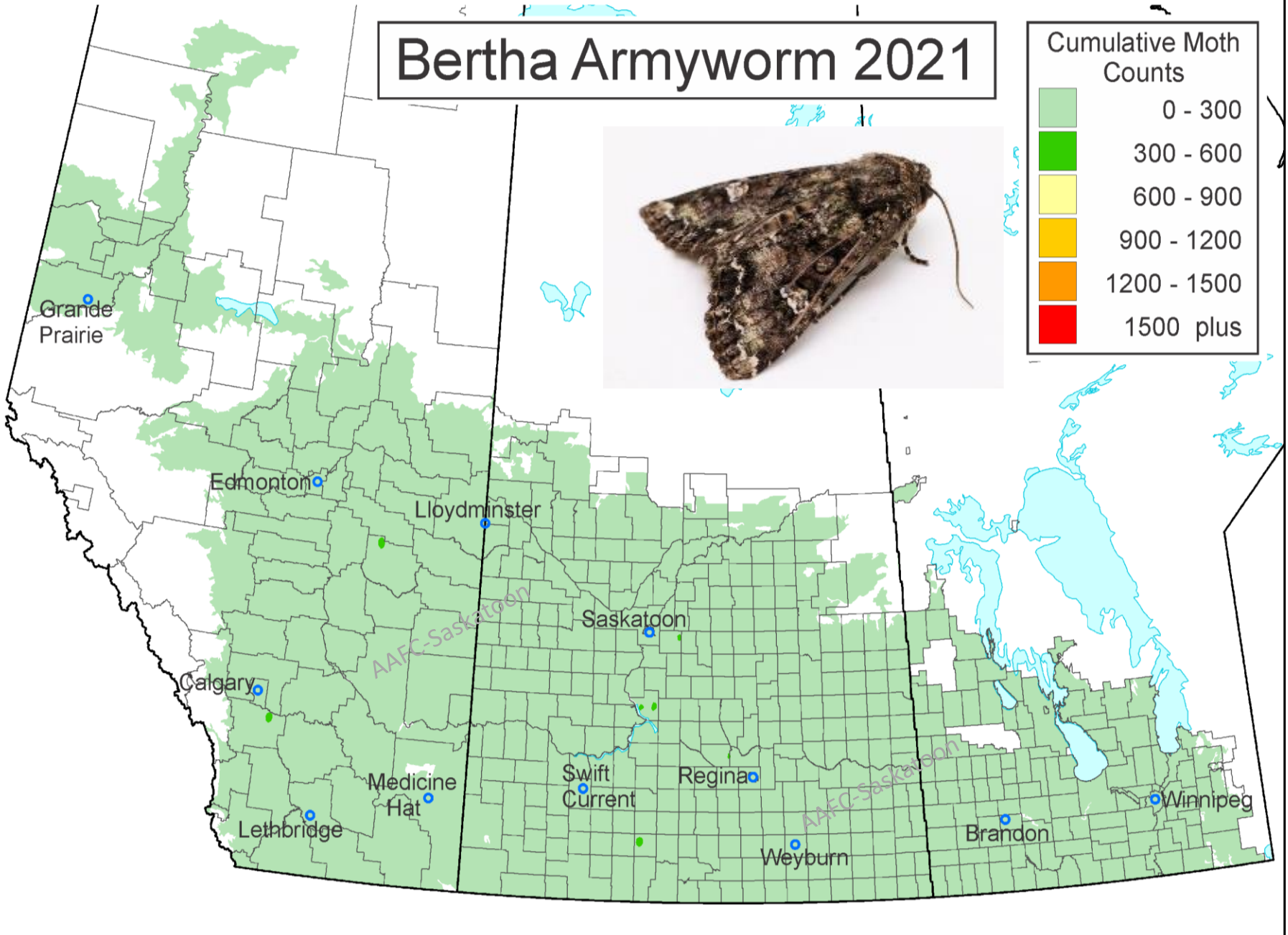
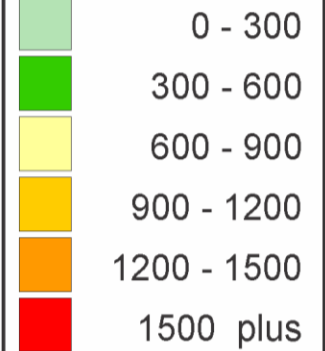
Modelled soil moisture (%) August 31, 2021



Bertha Armyworm 2021

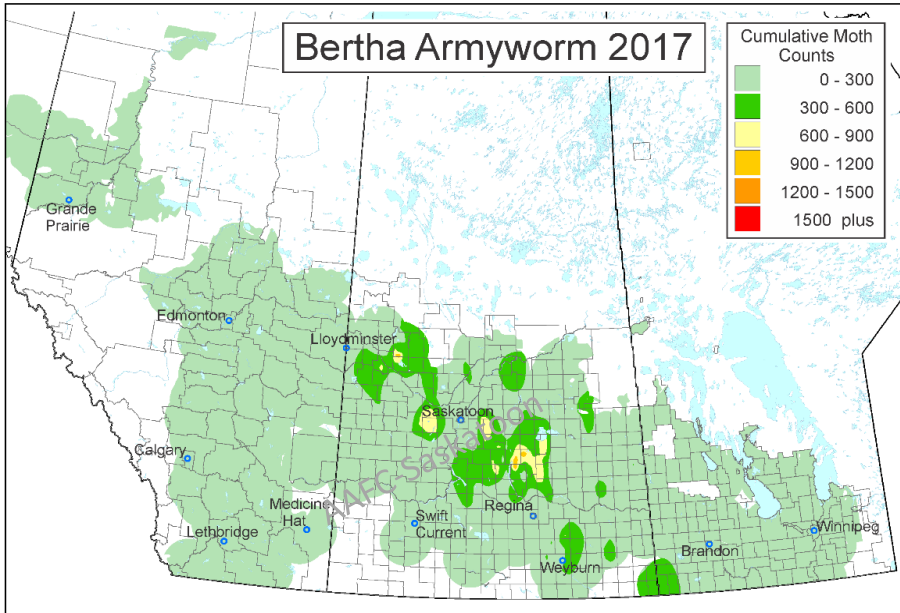


Cumulative Moth Counts

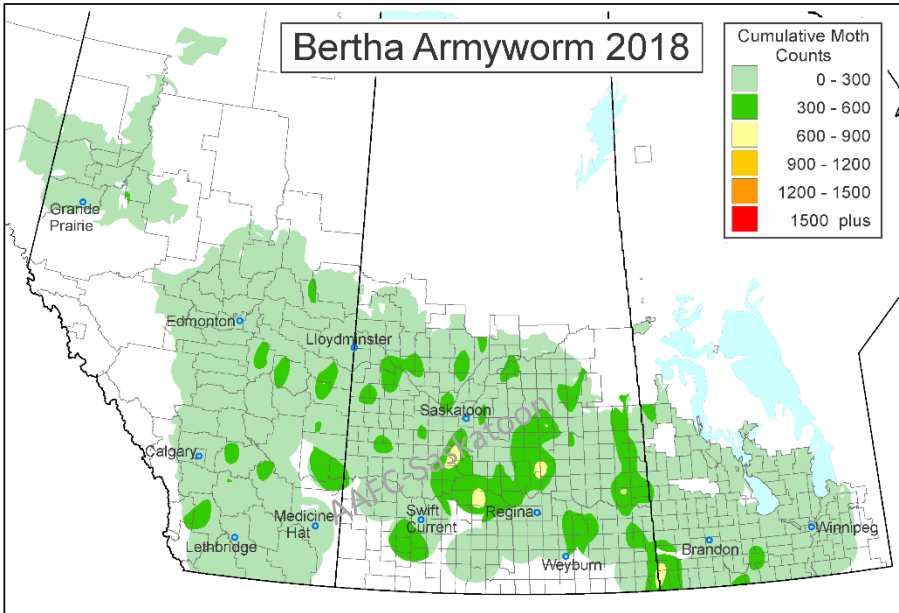


Map by David Giffen; Image by Jon Williams

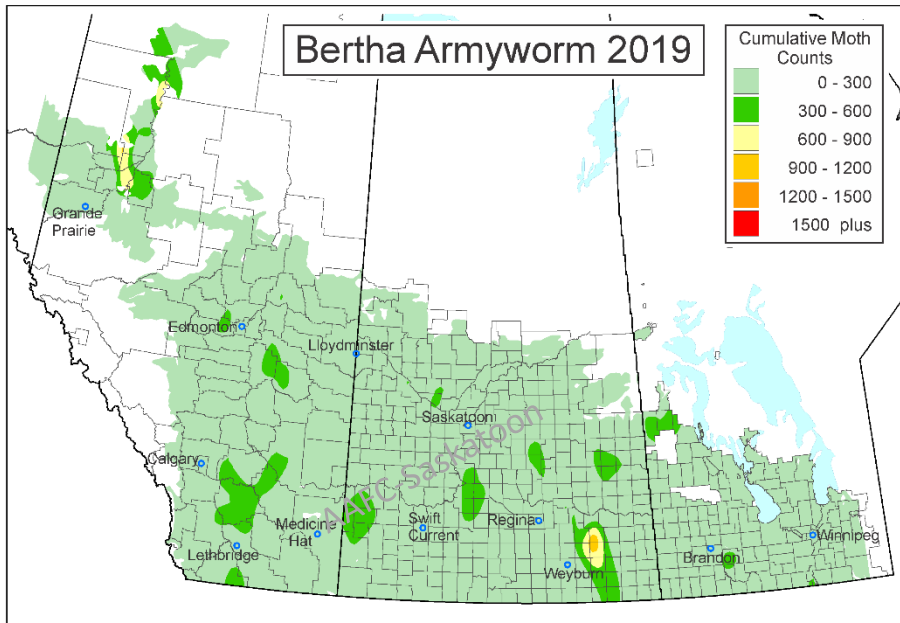
Bertha Armyworm 2017



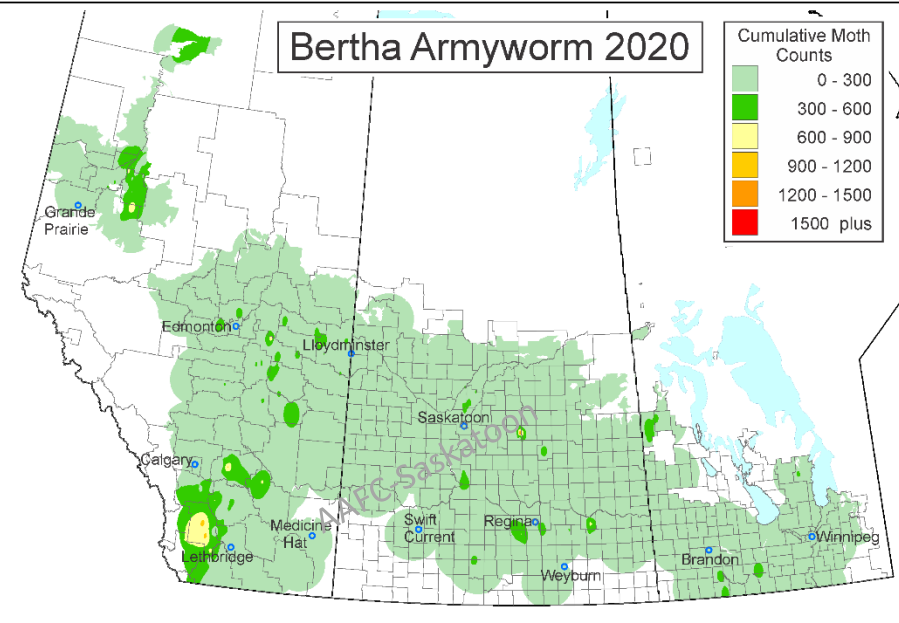
Bertha Armyworm 2018



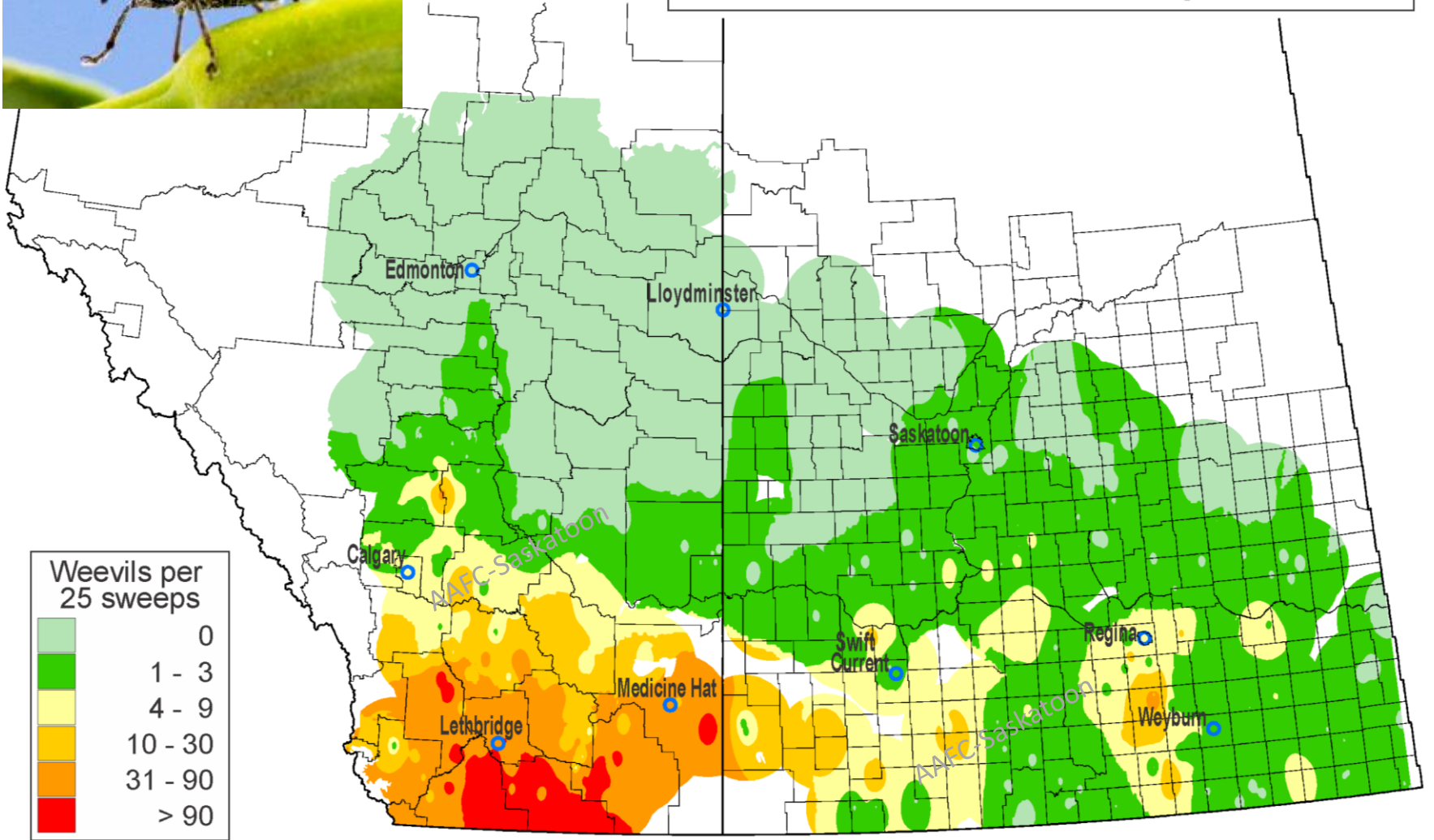
Bertha Armyworm 2019



Bertha Armyworm 2020

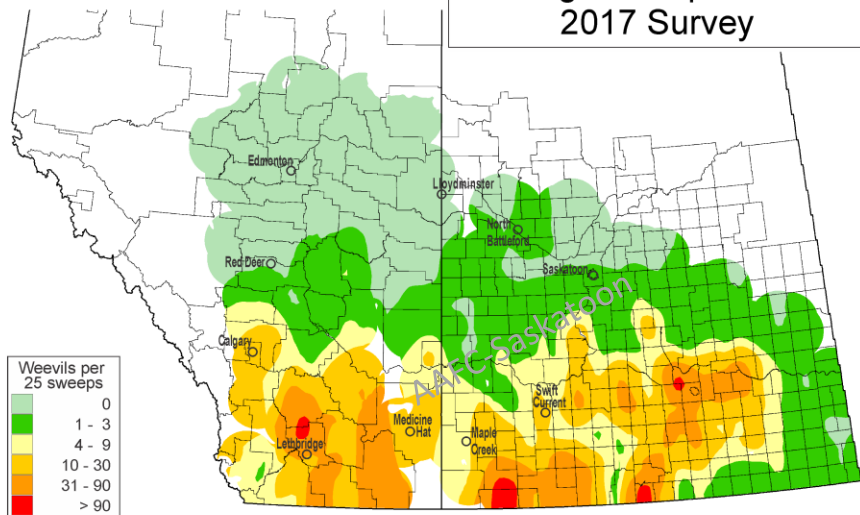


Cabbage Seedpod Weevil 2021 Survey

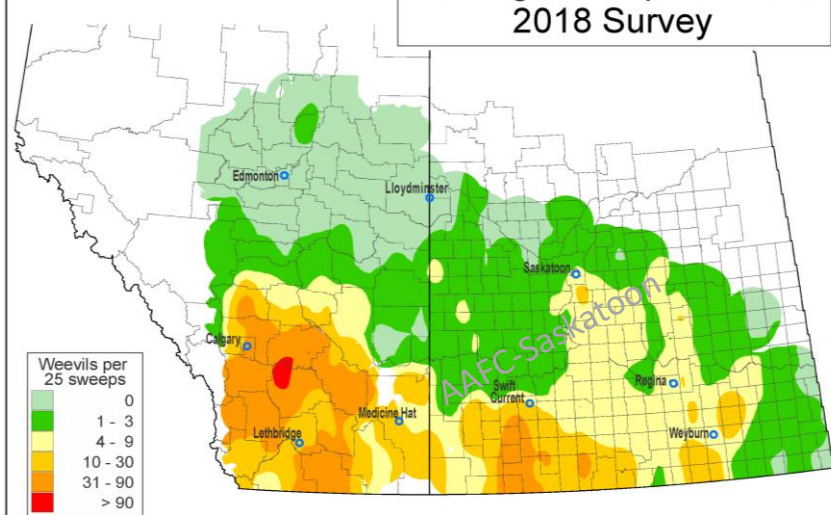


Map by David Giffen; Image by Shelley Barkley

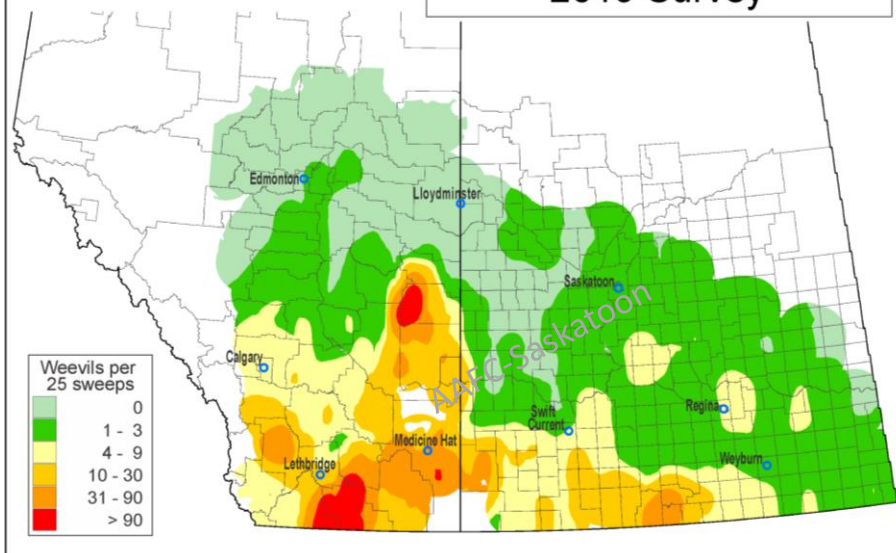
Cabbage Seedpod Weevil
2017 Survey



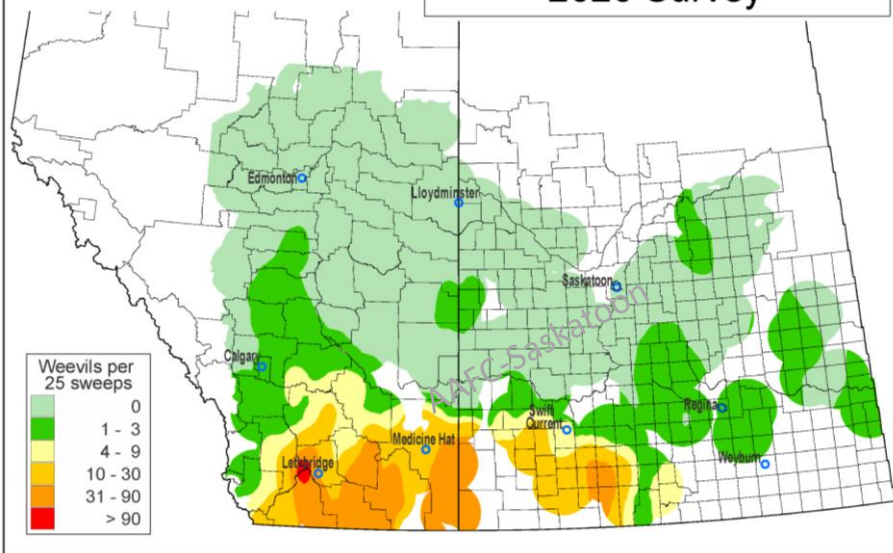
Cabbage Seedpod Weevil
2018 Survey



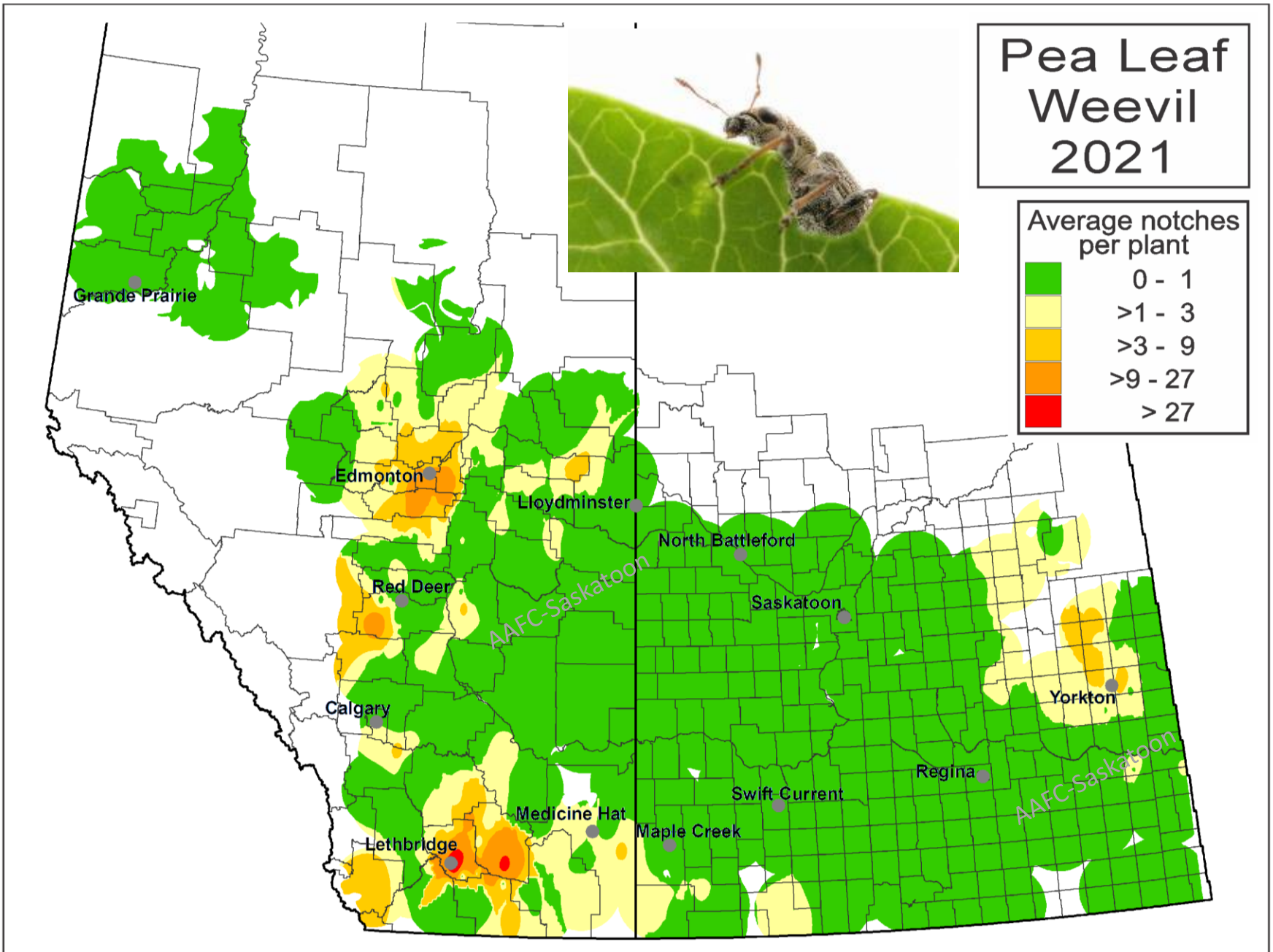
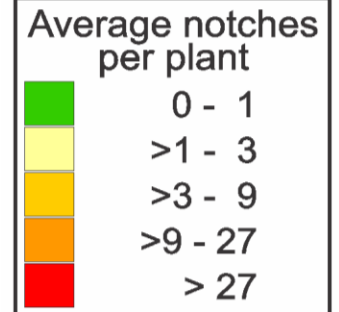
Cabbage Seedpod Weevil
2019 Survey



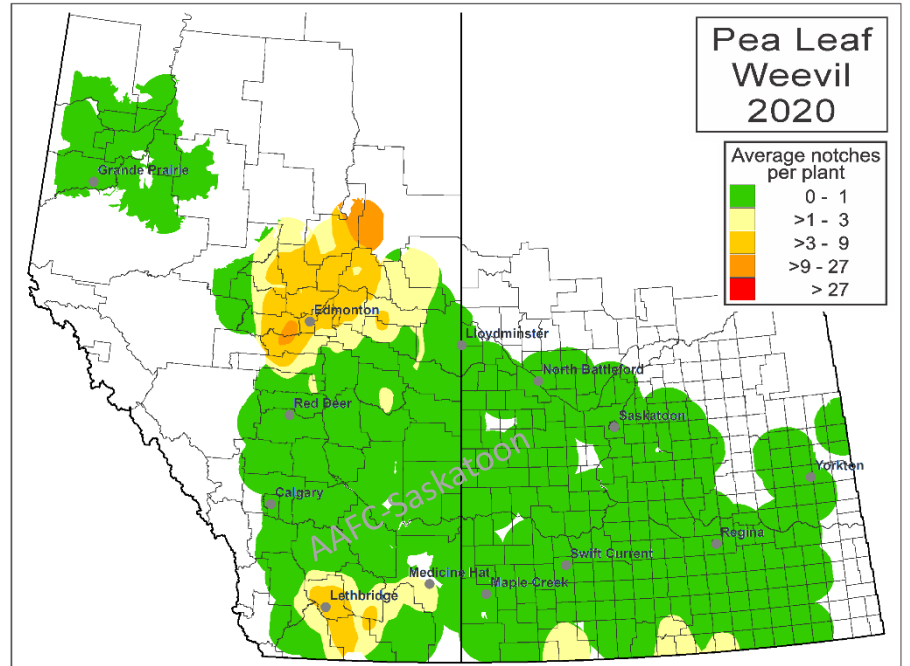
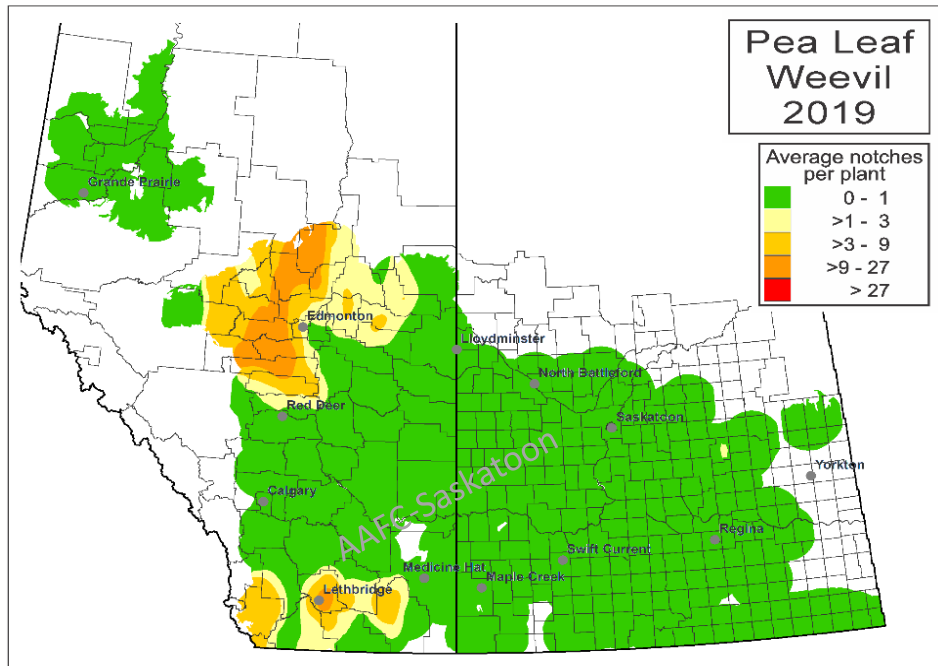
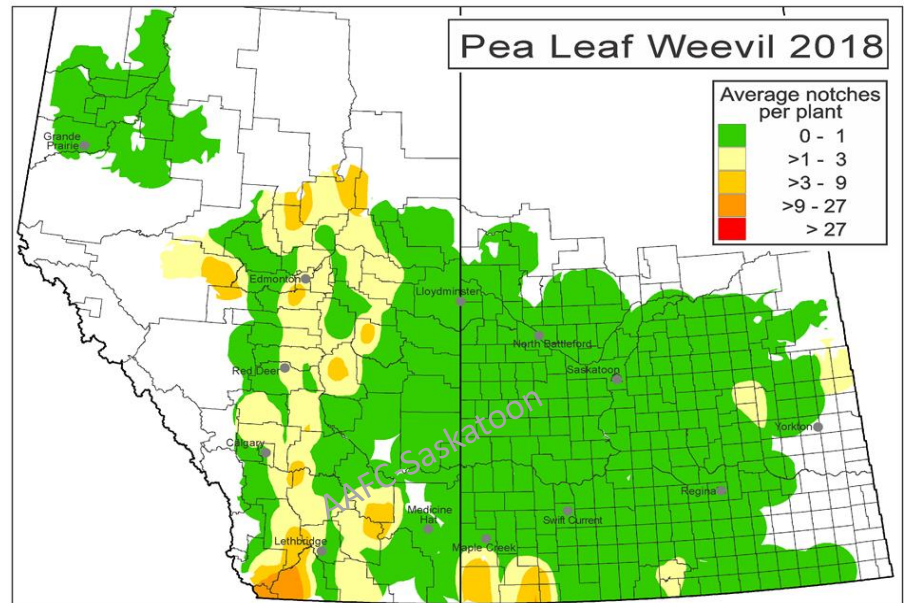
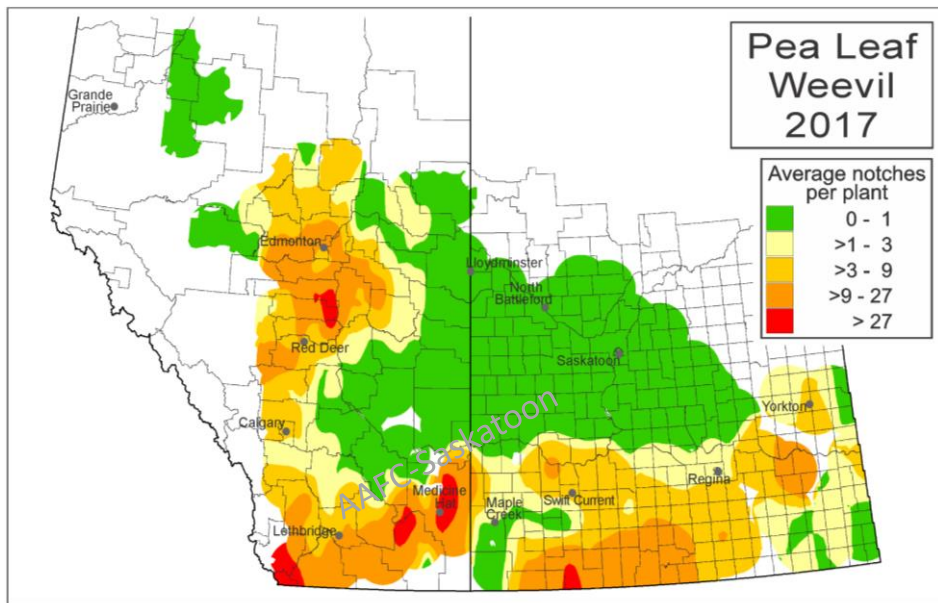
Cabbage Seedpod Weevil
2020 Survey



Pea Leaf Weevil 2021



Map by David Giffen; Image by Jon Williams

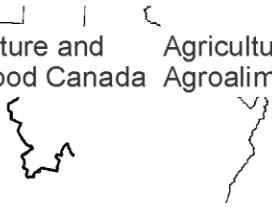


Map by David Giffen (AAFC-Saskatoon)

Wheat Stem Sawfly 2021 Survey



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Alberta

Field margin survey

Percent stems cut

Damage severity

0 - 2



Very low

2 - 10



Low

10 - 25

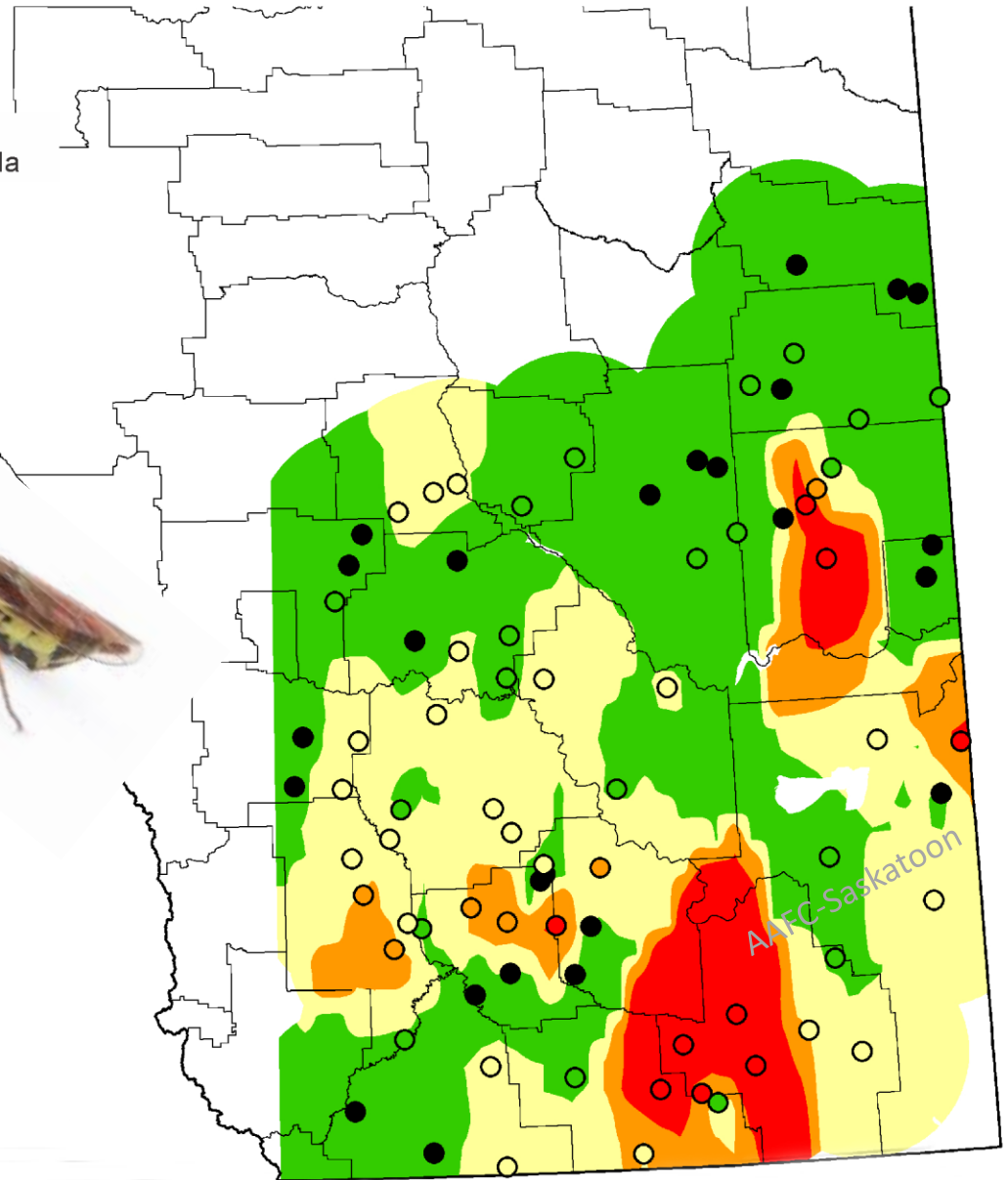


Moderate

> 25



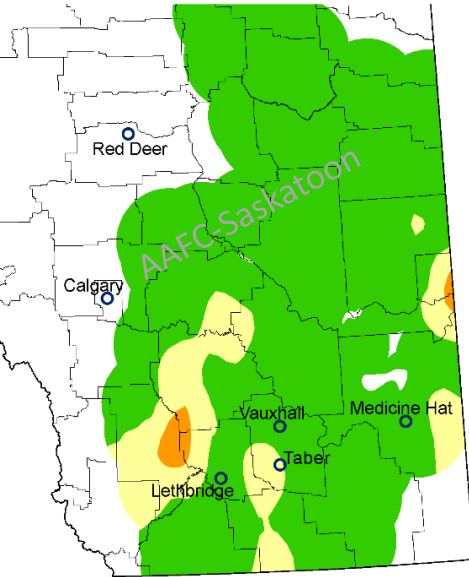
High



Map by David Giffen; Image by Dylan Sjolie

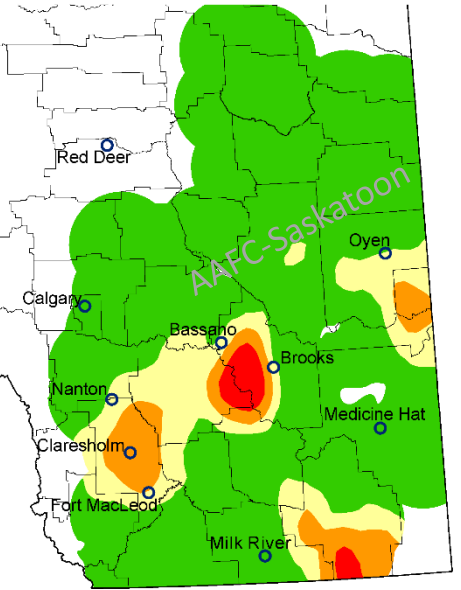
Wheat Stem Sawfly 2017 Survey

Field margin survey	
Percent stems cut	Damage severity
0 - 2	Very low
2 - 10	Low
10 - 25	Moderate
> 25	High



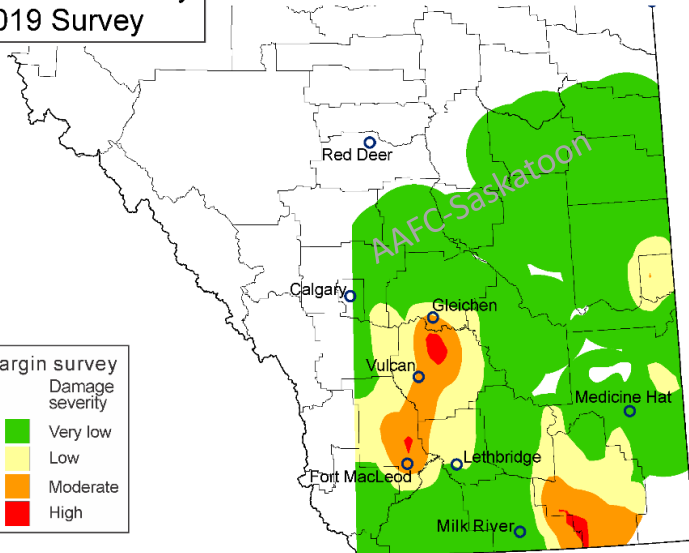
Wheat Stem Sawfly 2018 Survey

Field margin survey	
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0 - 2	Very low
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> 25	High



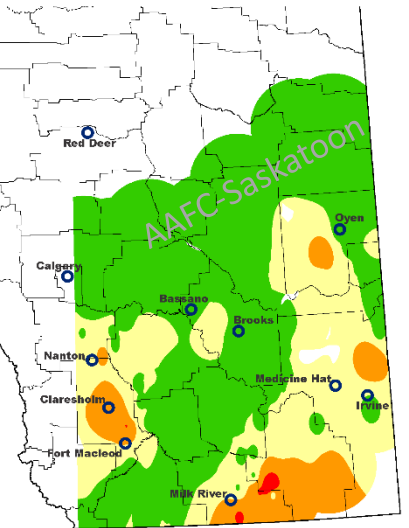
Wheat Stem Sawfly 2019 Survey

Field margin survey	
Percent stems cut	Damage severity
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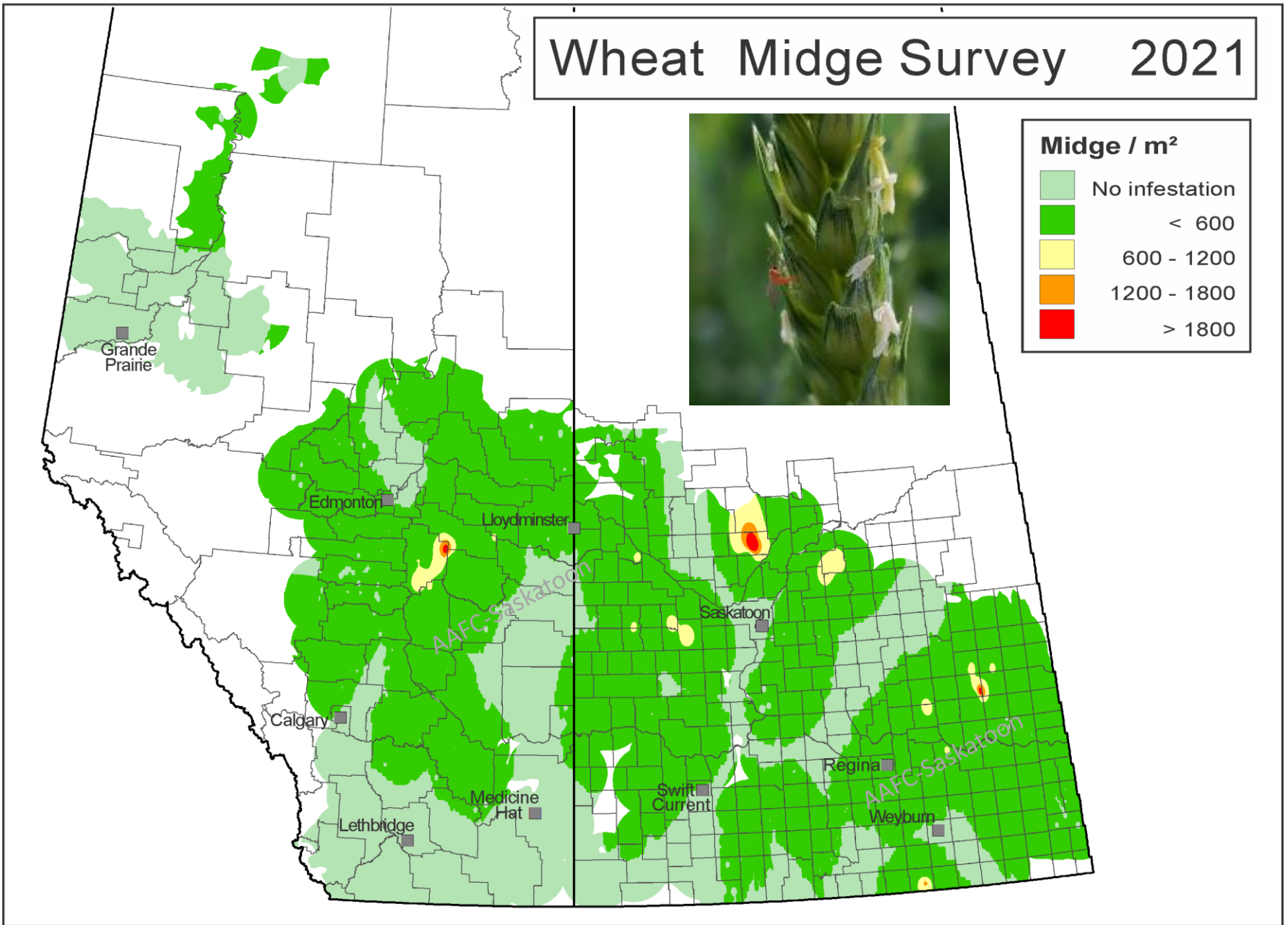


Wheat Stem Sawfly 2020 Survey

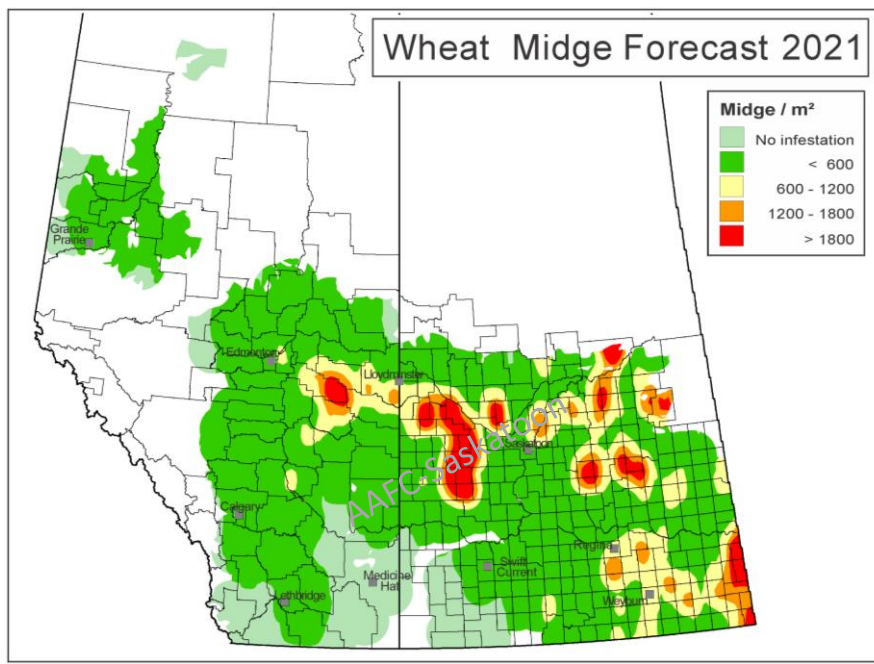
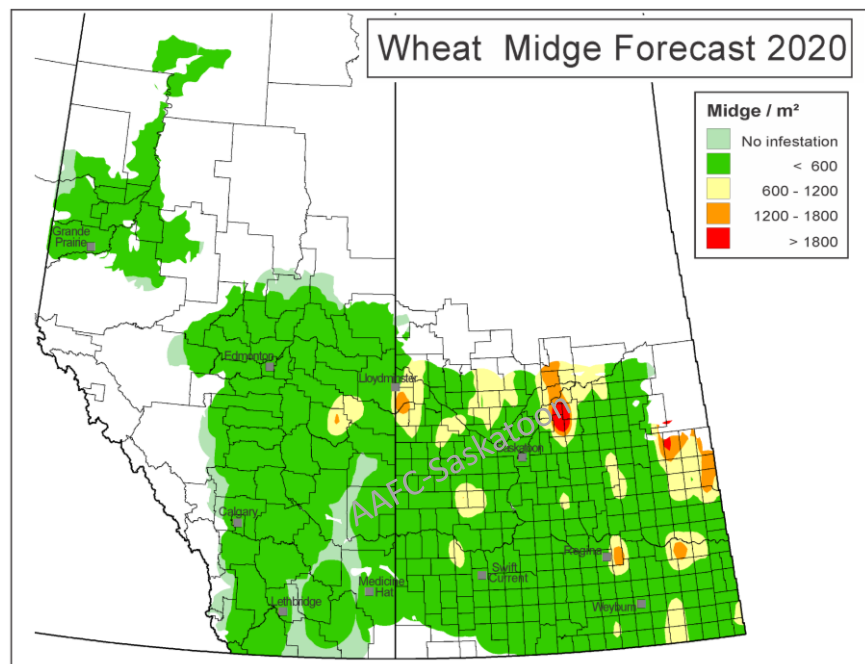
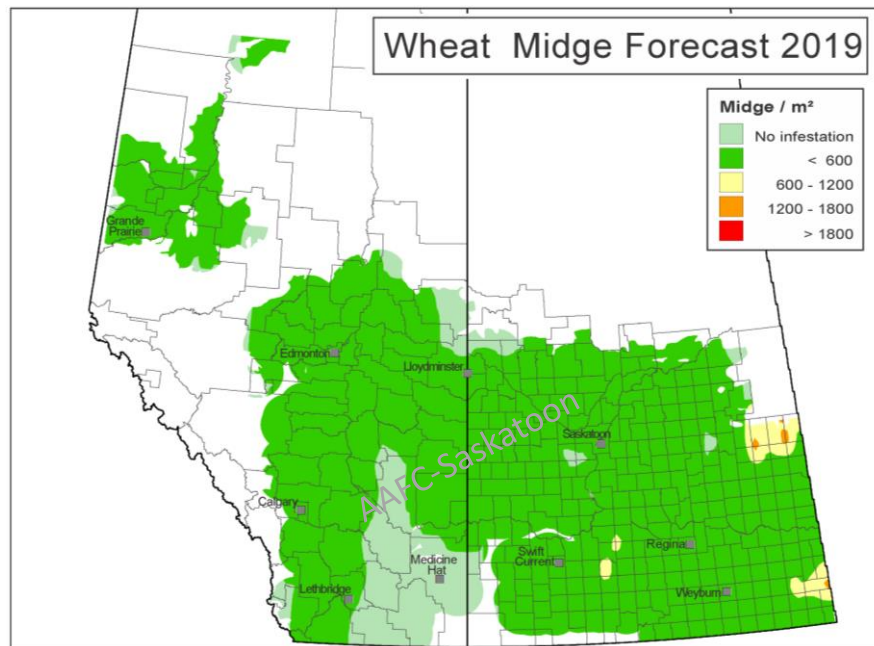
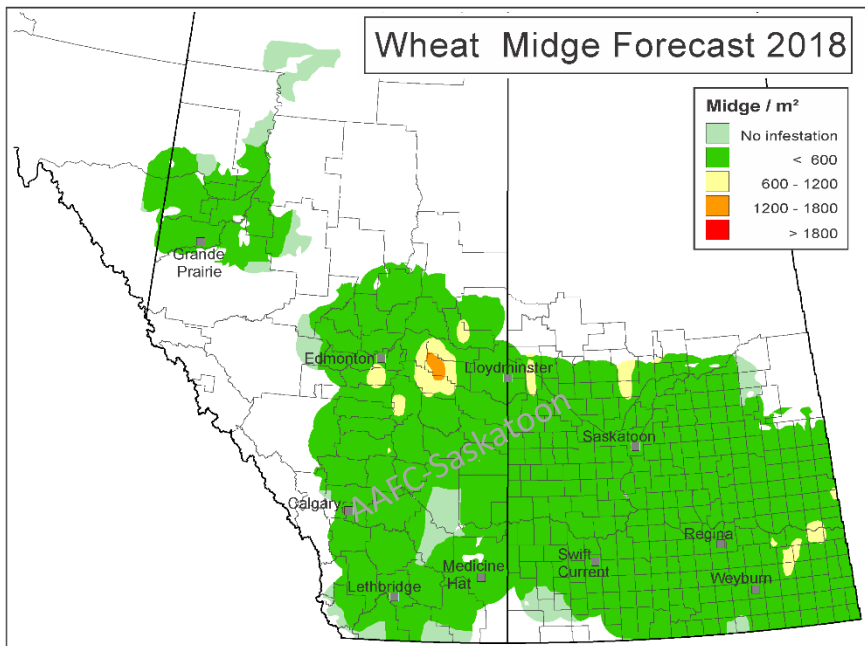
Field margin survey	
Percent stems cut	Damage severity
0 - 2	Very low
2 - 10	Low
10 - 25	Moderate
> 25	High



Wheat Midge Survey 2021

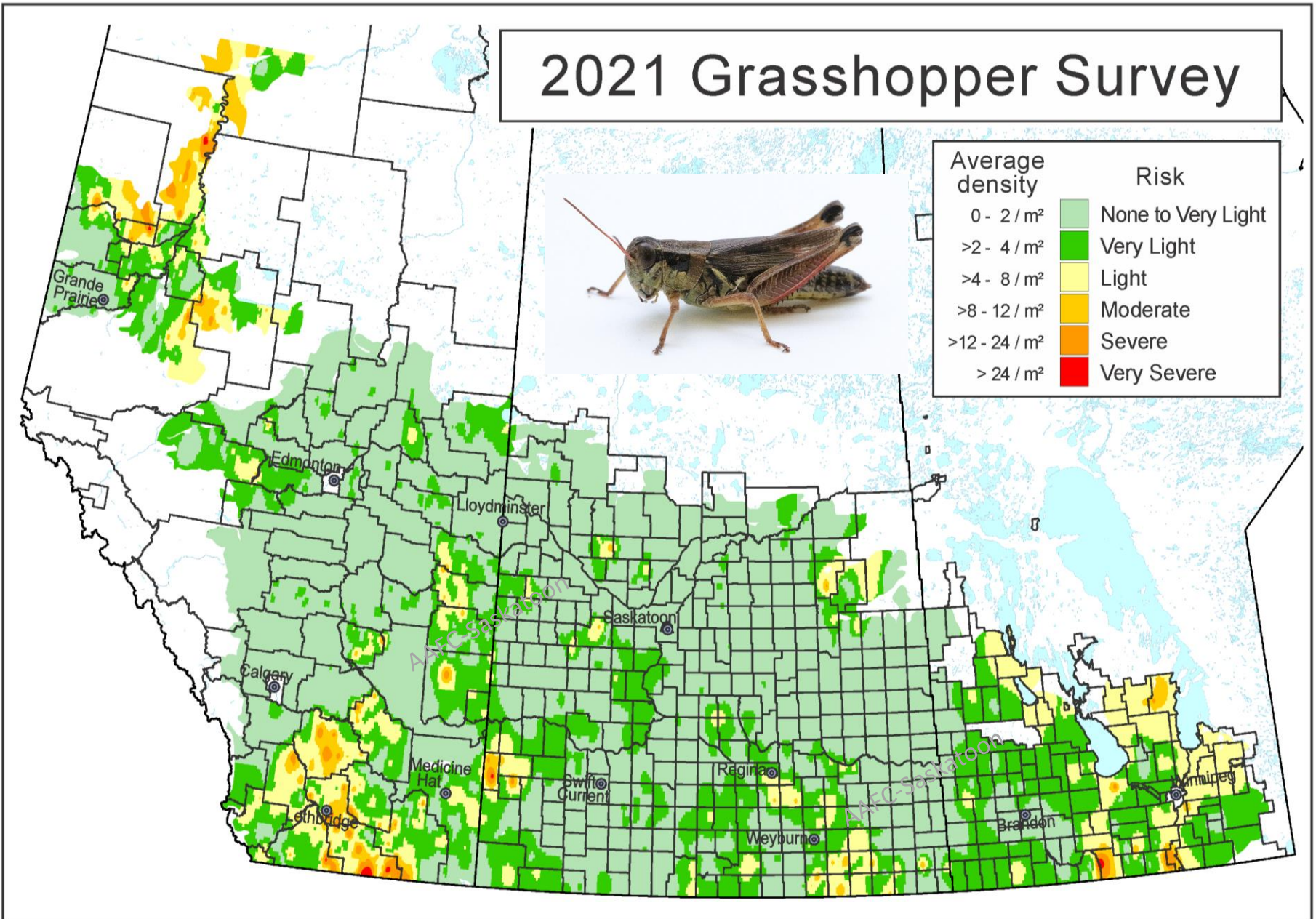


Map by David Giffen; Image by Tyler Wist; Data from BC Peace not shown



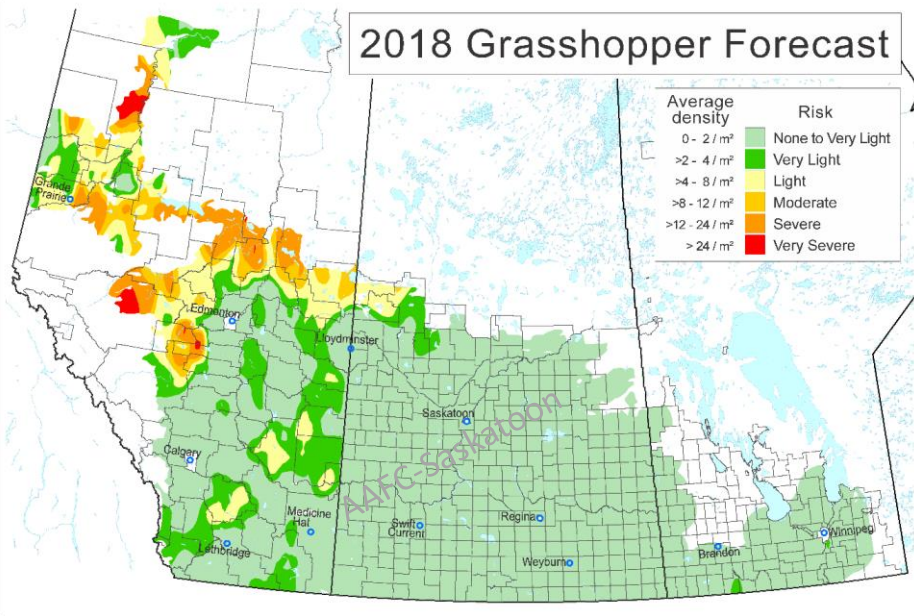
Maps by David Giffen (AAFC-Saskatoon); Data from BC Peace not shown

2021 Grasshopper Survey

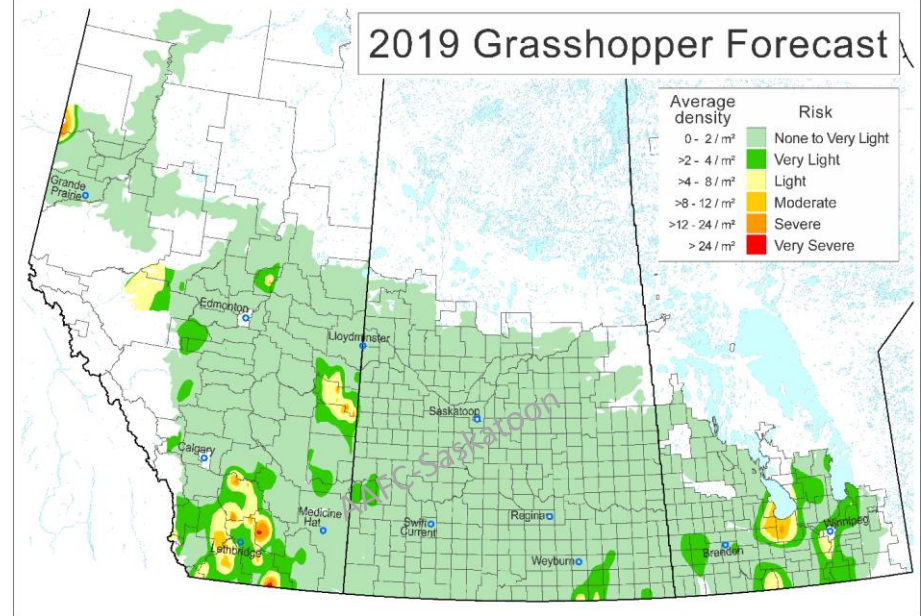


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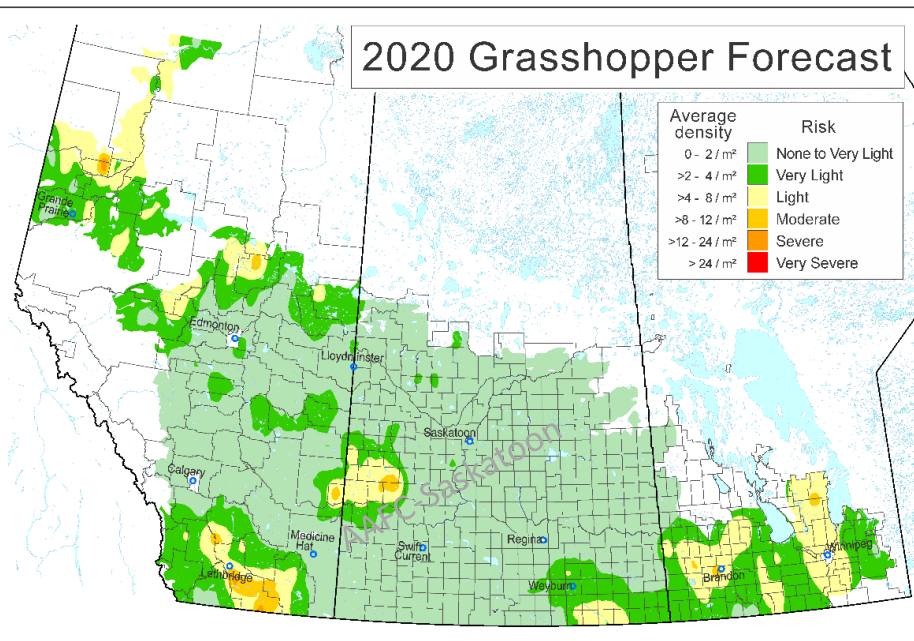
2018 Grasshopper Forecast



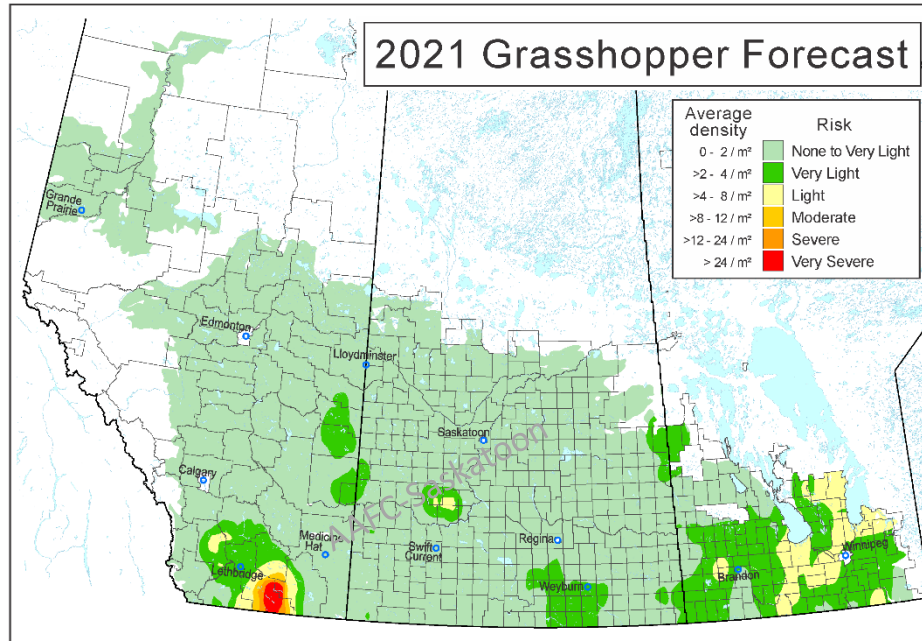
2019 Grasshopper Forecast

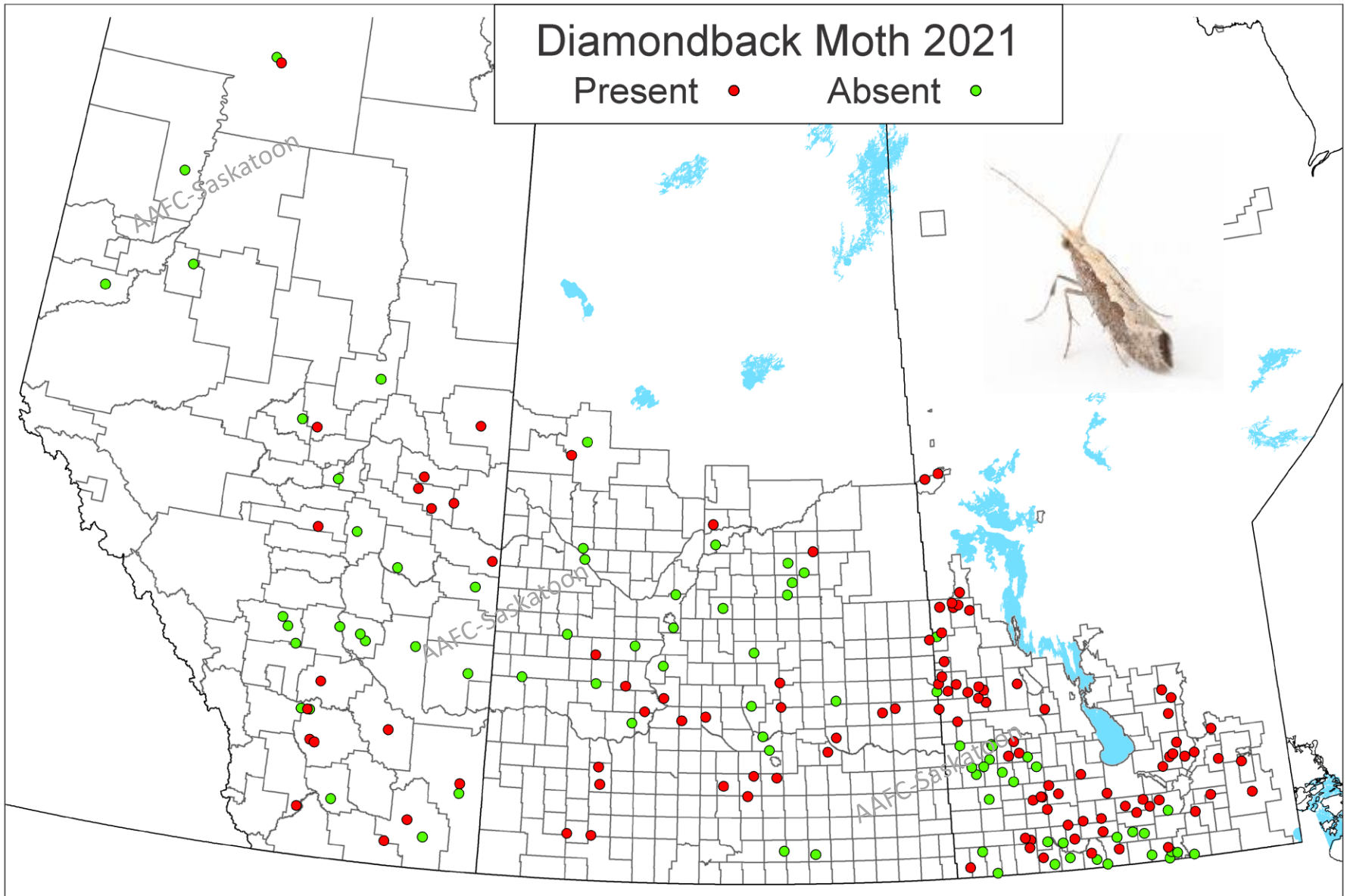


2020 Grasshopper Forecast



2021 Grasshopper Forecast





Map by David Giffen; Image by Jon Williams

No swede midge were caught in pheromone traps in 2020 or 2021.



Swede Midge Trap Locations
2006 - 2019



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