

DISEASE AND INSECTS

2015 YWTG



Root Maggots

Adult Fly



Maggot (larval stage)



- Maggots overwinter as larvae, pupate and emerge in spring as flies in previous years beet fields
- Adult flies are monitored in current year beet fields with sticky stakes

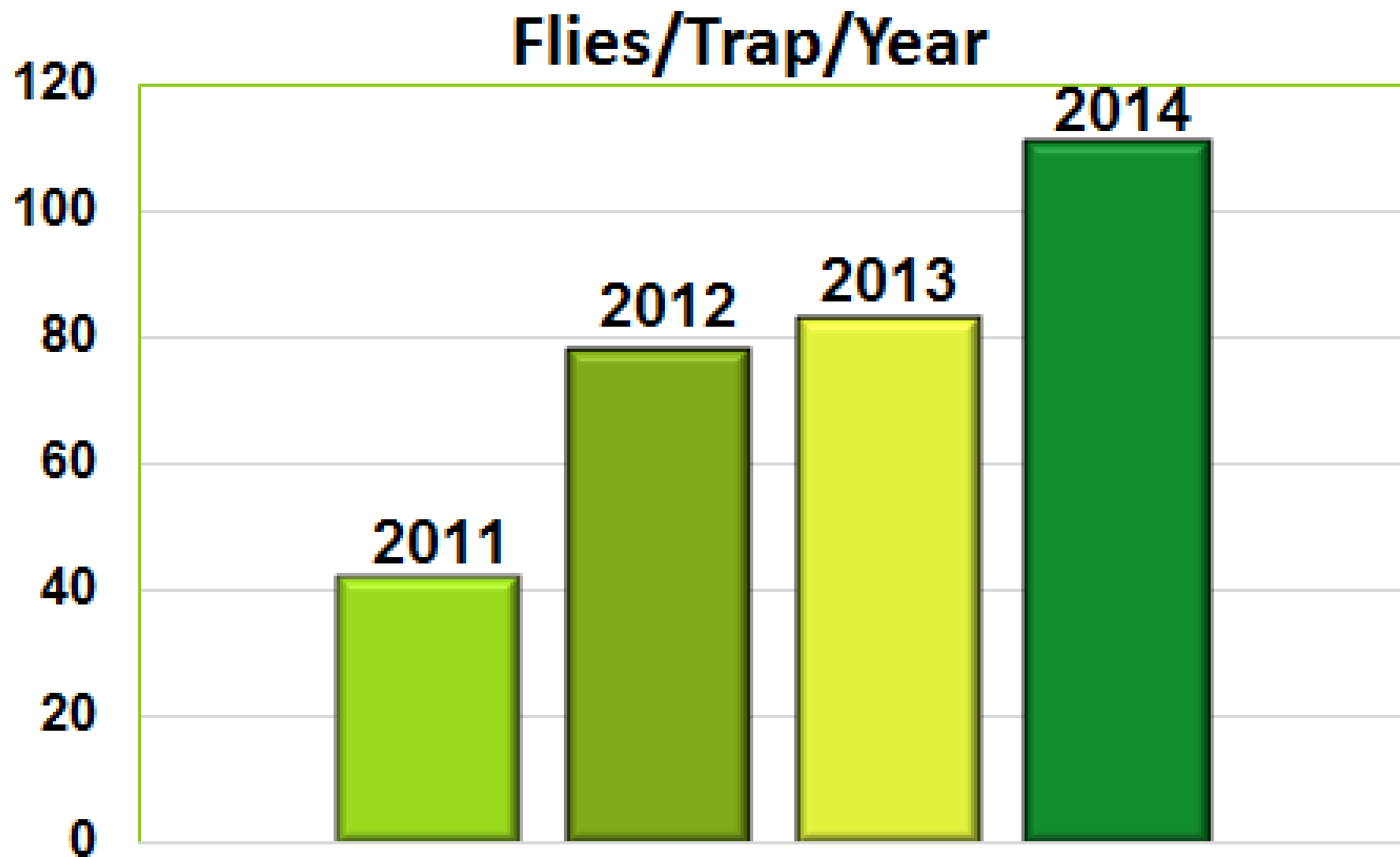


Root Maggots

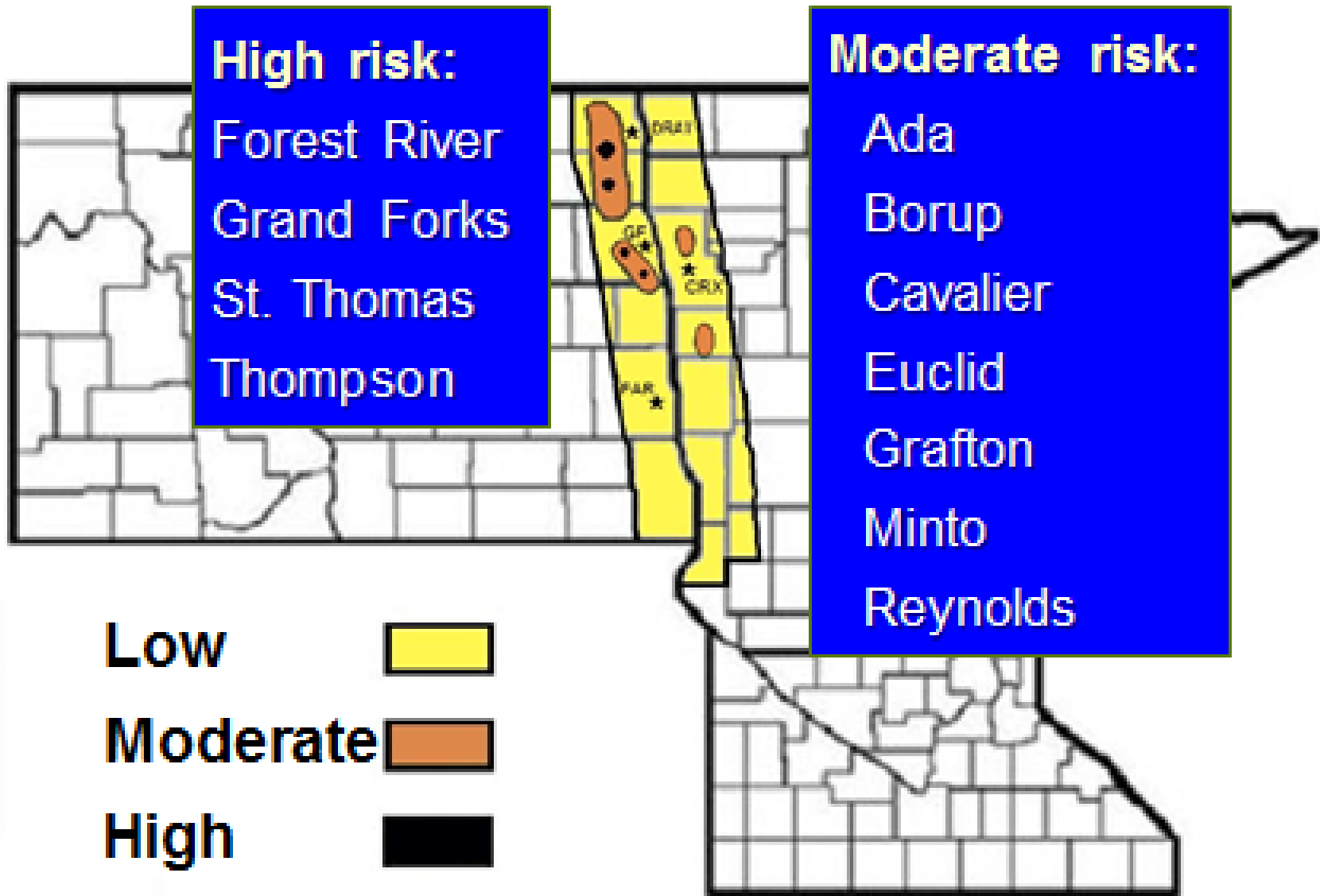
- Peak fly activity can occur anytime after 600DD are accumulated, on average, this occurs at 650DD
 - This is monitored at each ndawn site in RRV
 - NDSU monitors sticky stakes
- It is important to know that warm weather (around 80°), and calm to low wind conditions are most conducive for fly activity
- Flies will remain fairly inactive in cool, rainy, or windy conditions



Root Maggot Populations are Rising!

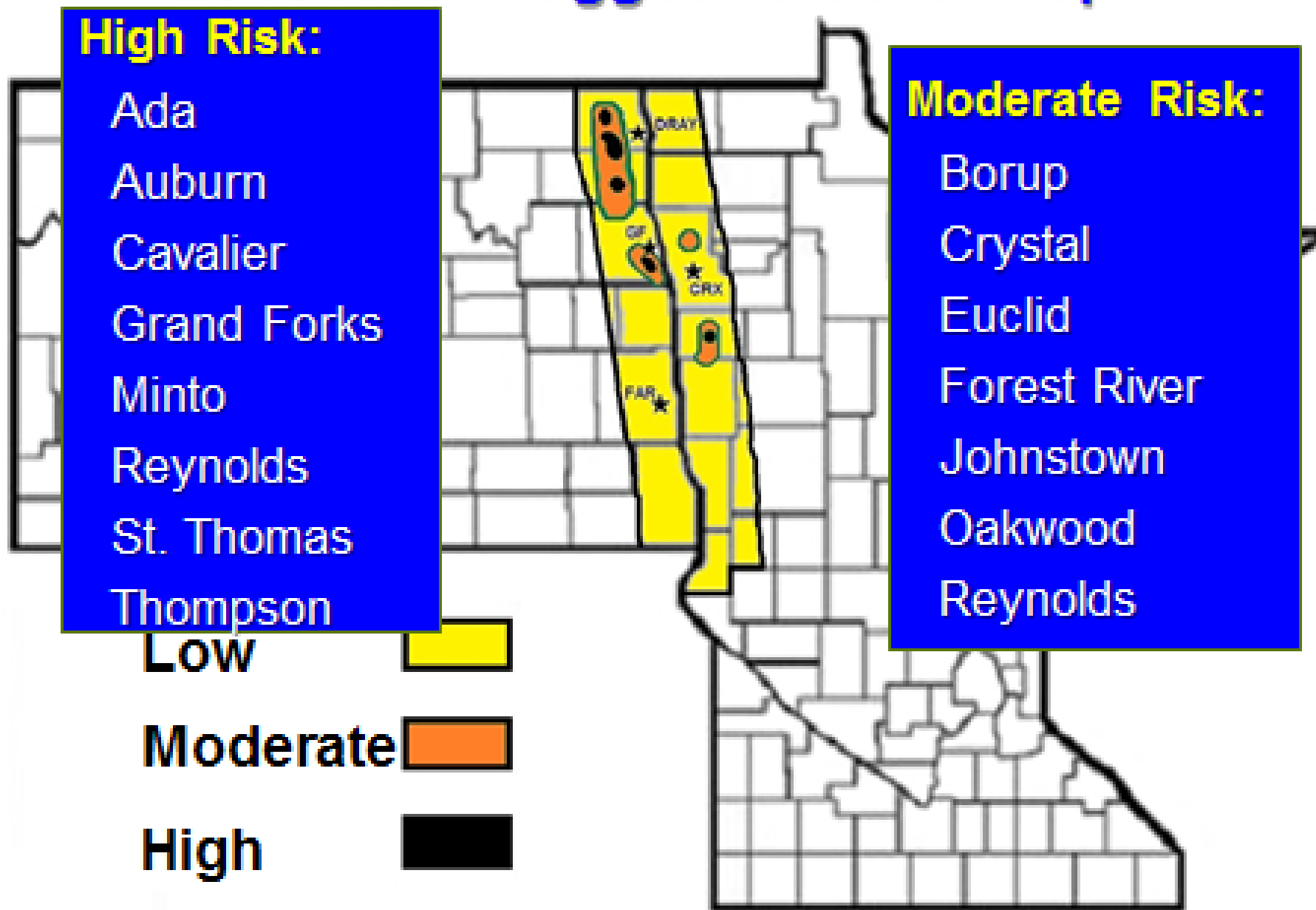


Root Maggot Forecast Map for 2014*



*Based on fly counts & root maggot feeding injury ratings

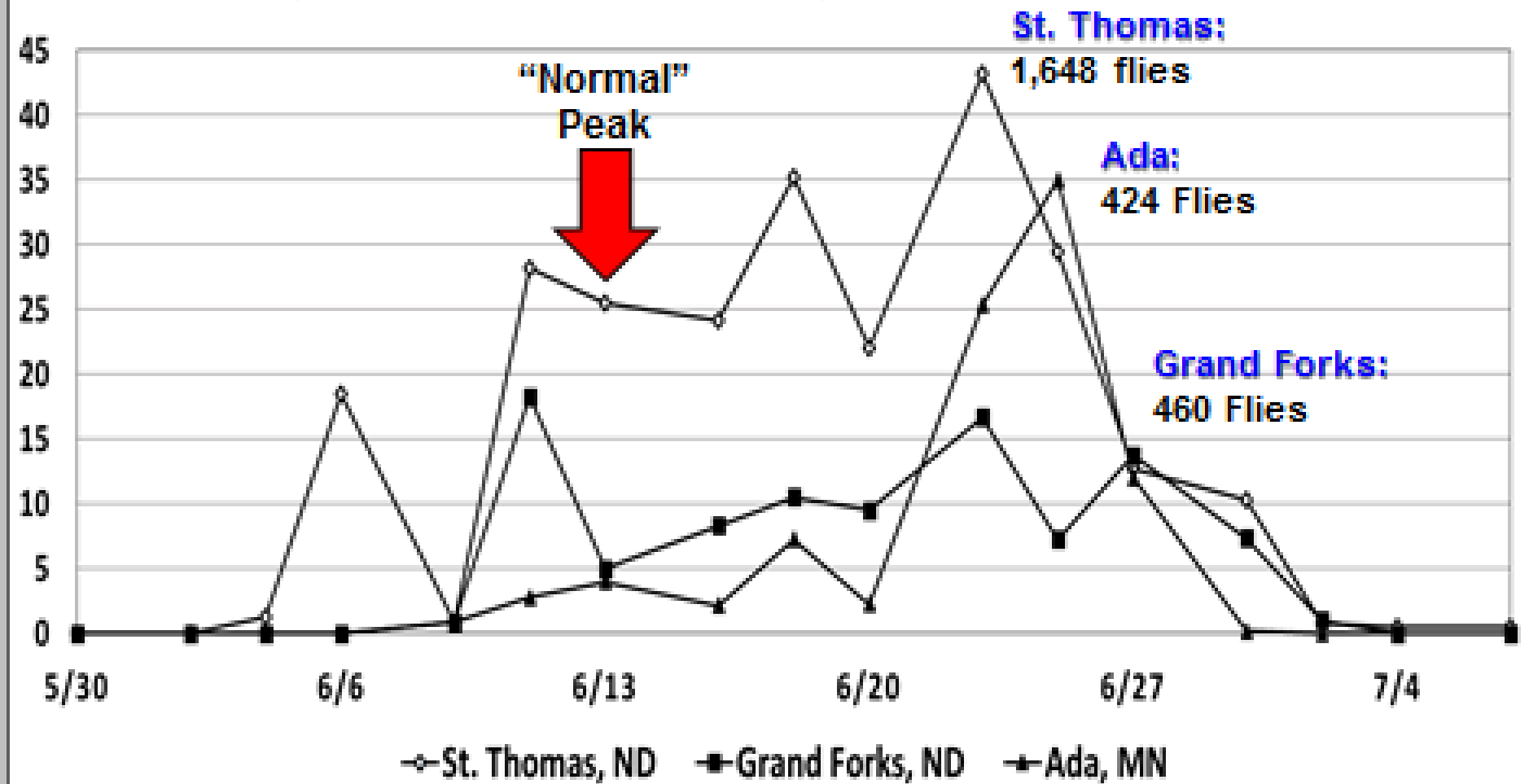
2015 Root Maggot Forecast Map*



*Based on fly counts & maggot feeding injury ratings

2014: fly activity occurred later & lasted longer than normal ...

SUGARBEET ROOT MAGGOT FLY ACTIVITY - 2014



Economic Risk based on Sugarbeet Root Maggot Fly Counts on Sticky-stake Traps

<i>Daily</i> Capture (flies per stake)	<i>Cumulative</i> Capture (flies per stake)	Risk Level*	Suggested Management Tactic**
0-25	0-50	Low	Monitor fields closely.
26-50	51-100	Slight	A postemergence insecticide may be needed if an at-plant insecticide was used at a low rate or no at-plant material was applied.
51-75	101-150	Moderate	A postemergence insecticide is probably justified, even if an at-plant insecticide was applied to the field at a moderate or high rate (a granular insecticide can be used if 7 or more days before expected peak fly activity; use a liquid insecticide if within 4 days of peak fly).
76-100	151-200	Elevated	Apply a postemergence LIQUID insecticide as soon as possible (repeat if <u>daily</u> fly counts exceed 100 per trap.).
101-150	201-300	High	Apply a postemergence LIQUID insecticide immediately
151+	301+	Extreme	Apply a postemergence LIQUID insecticide <u>at high labeled rate</u> immediately (consider a 2 nd application if daily counts resurge).

*Risk will vary based on actual peak fly activity date in a given field. Risk categories and corresponding management tactics in these tables are based on historical population levels and associated insecticide performance in research trials. Management suggestions are offered as general guidelines to assist growers with making informed management decisions; however, no guarantee can be made on whether economic return will be achieved from management tactics.

**Consult the “Sugarbeet Production Guide” (viewable on the internet at <http://www.sbreb.org/Production/production.htm>) for this year’s sugarbeet root maggot forecast and management recommendations. Contact your local agriculturist or Mark Boetel, NDSU Entomologist (701-231-7901), for assistance with specific pest management decisions.

Updates on root maggot development and expected peak fly activity dates will be released on NDSU’s Crop & Pest Report and the “Sugarbeet Growing Tips” program on several area radio stations (visit <http://www.ag.ndsu.nodak.edu/aginfo/sugar/radio.html> for a list of stations and broadcast scheduling).

Root Maggot Control Recommendations 2015

- **Moderate Risk area**

- **Counter 20g @ 7.5#** at plant(preferred)
 - Or poncho/nipsit/cruiser at plant (least preferred)
- **Planned post emerge Lorsban @ 2pts/a**
 - At or just prior to peak fly

- **High Risk area**

- **Counter 20g @ 8.9#** at plant
- **Planned post emerge Lorsban @ 2pts/a**
 - At or just prior to peak fly



Root Maggot- Summary

- Populations are increasing
 - We have to get them under control
- Aggressive control is a must in areas of high risk and rising populations
- Counter: better root protection & yield than any seed treatment (in high pressure)
- Seed treatments or low rates of at-plant granules are not sufficient w/out a post insecticide
- Post control tools may be key to success



ROOT MAGGOT

QUESTIONS?

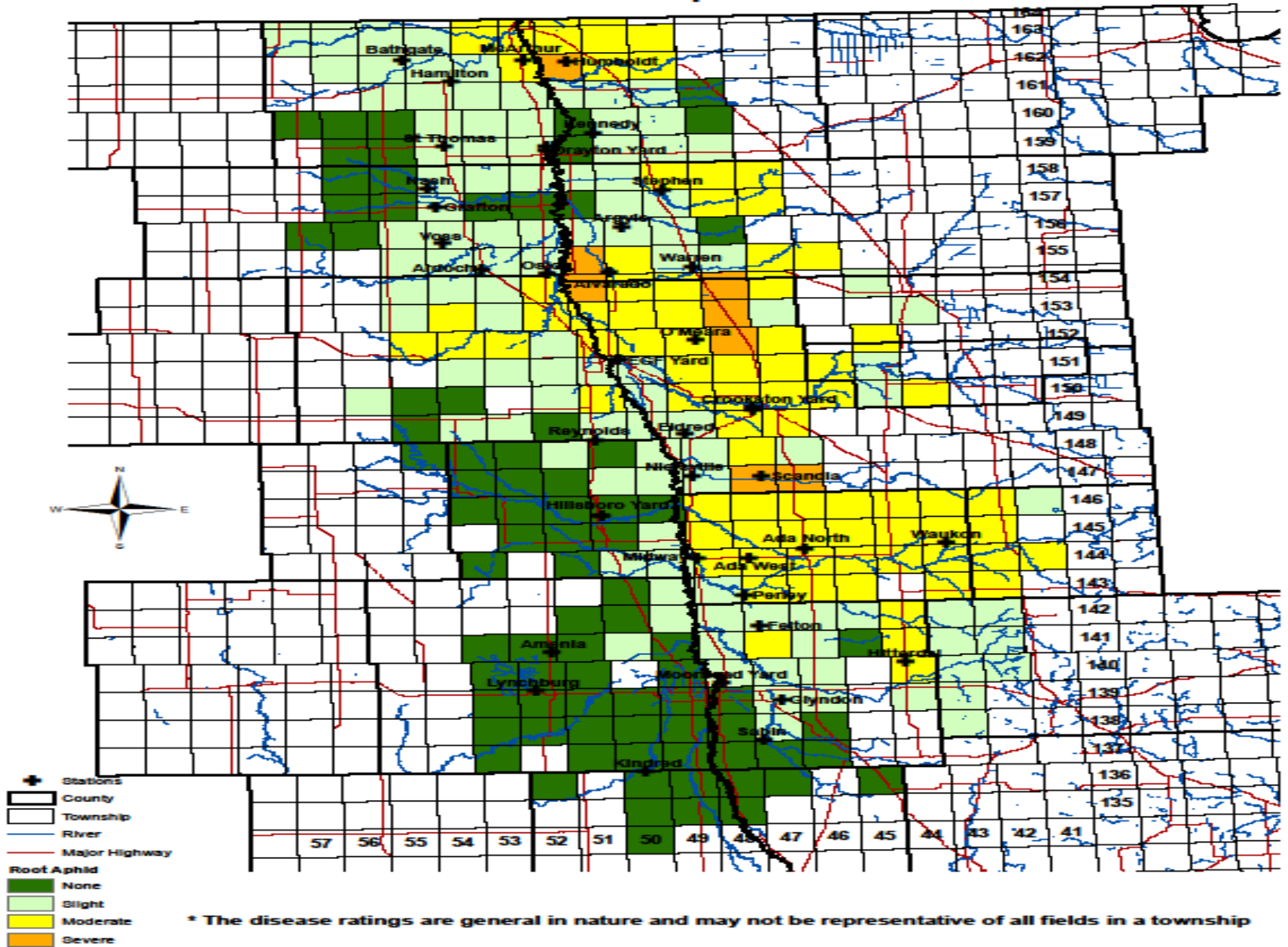


Root Aphids

- Present in low numbers in 2014
- U of M suction traps
 - High numbers late at Ada trap site
- Keep planting tolerant varieties
- Root Aphid Destruction Policy
 - Effective for 2015 crop



2014 Disease Rating* Root Aphid

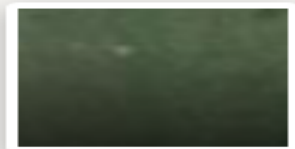
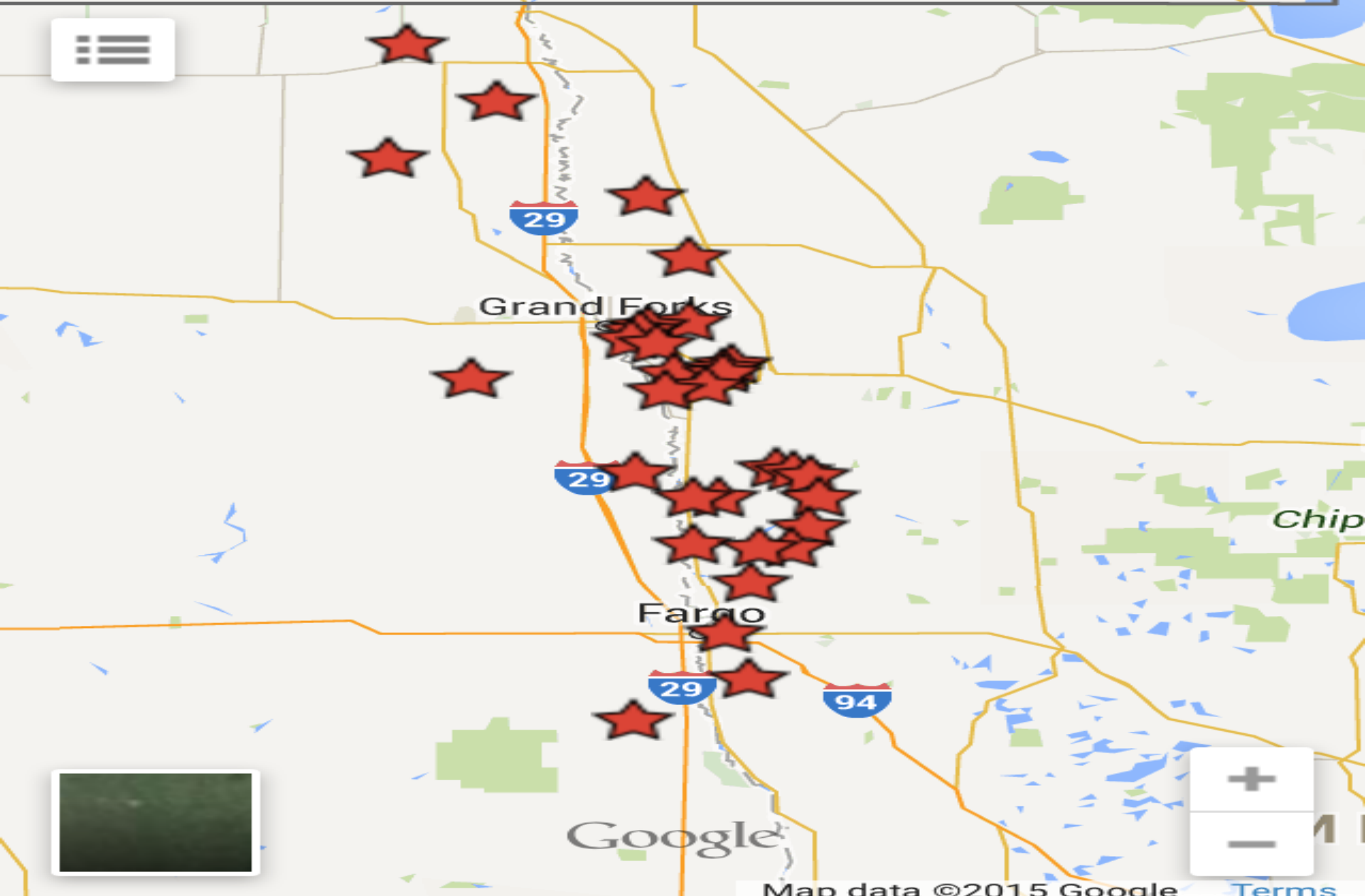


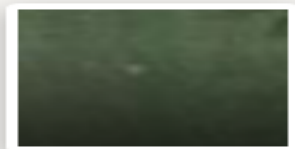
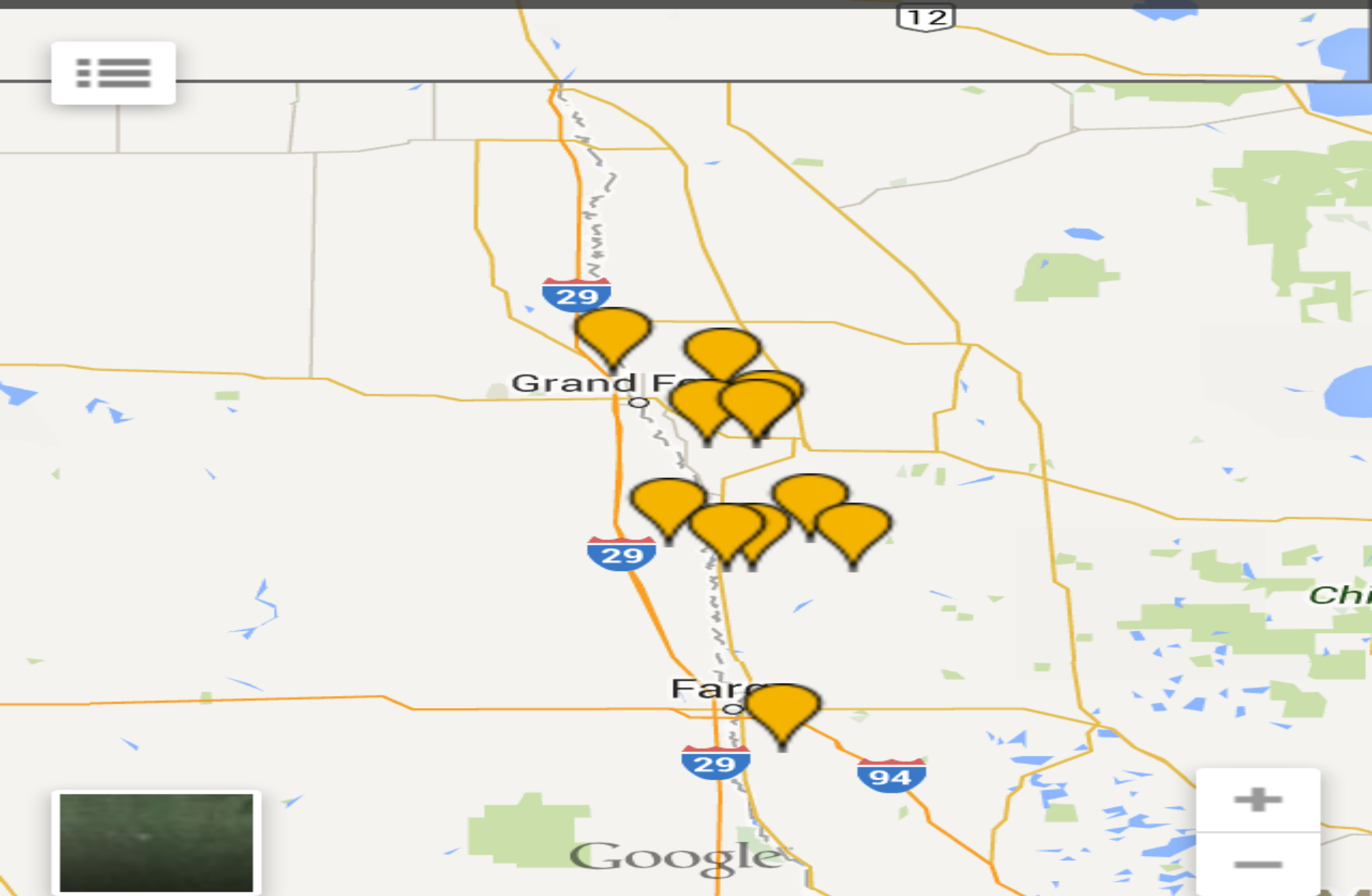
* The disease ratings are general in nature and may not be representative of all fields in a township

Rhizomania

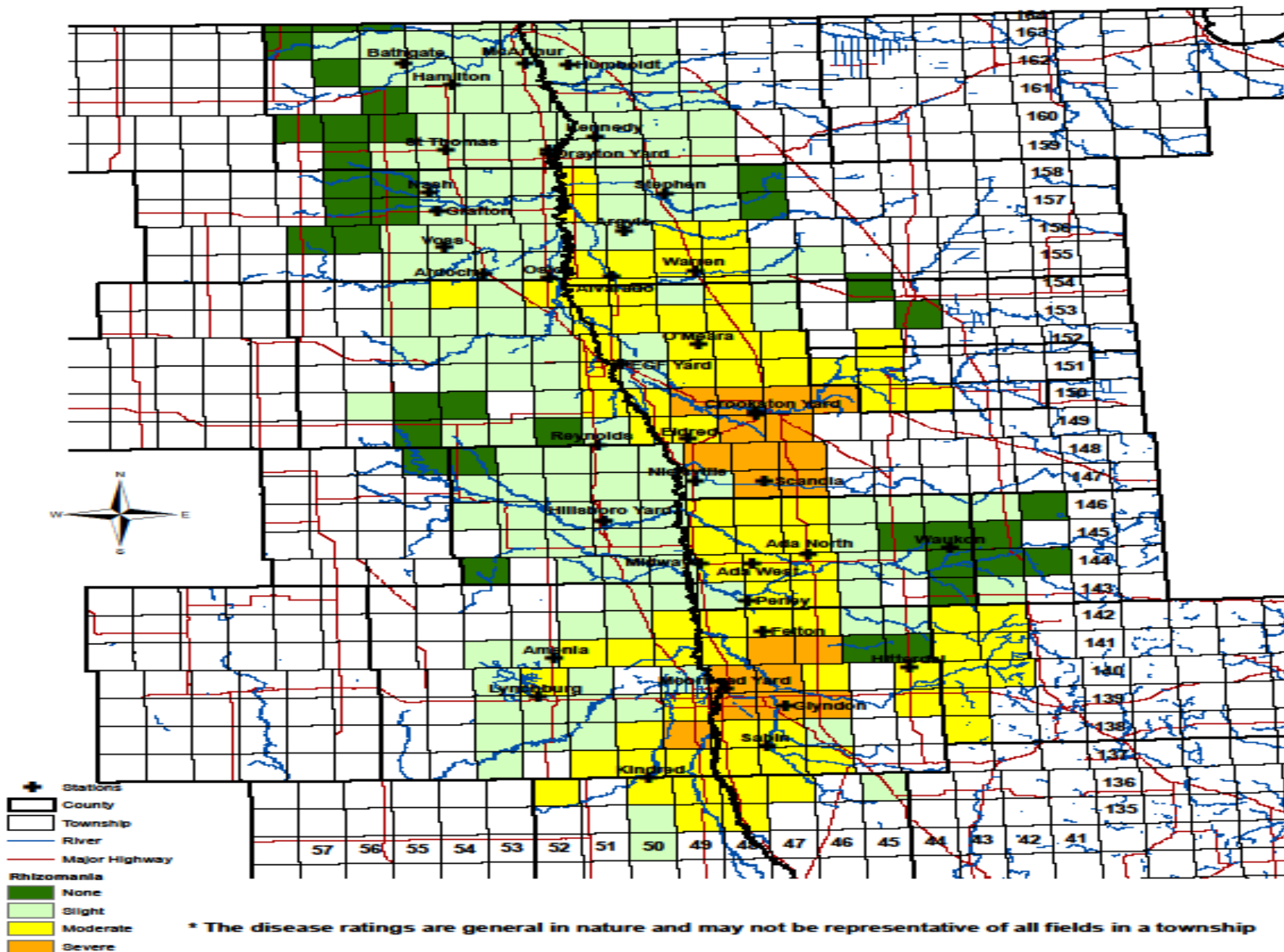
- USDA testing for “resistance-breaking” strains
 - ACSC agriculturists collected 368 soil samples in spring of 2014
 - USDA planted susceptible, Rz1, Rz2, and Rz1+Rz2 varieties into soil
 - So far, found 11 of the 368 samples to have resistance-breaking strains to Rz1 varieties
 - Study not complete, have to test Rz2 and Rz1+Rz2 varieties yet. More to come.....







2014 Disease Rating* Rhizomania



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Questions?

