

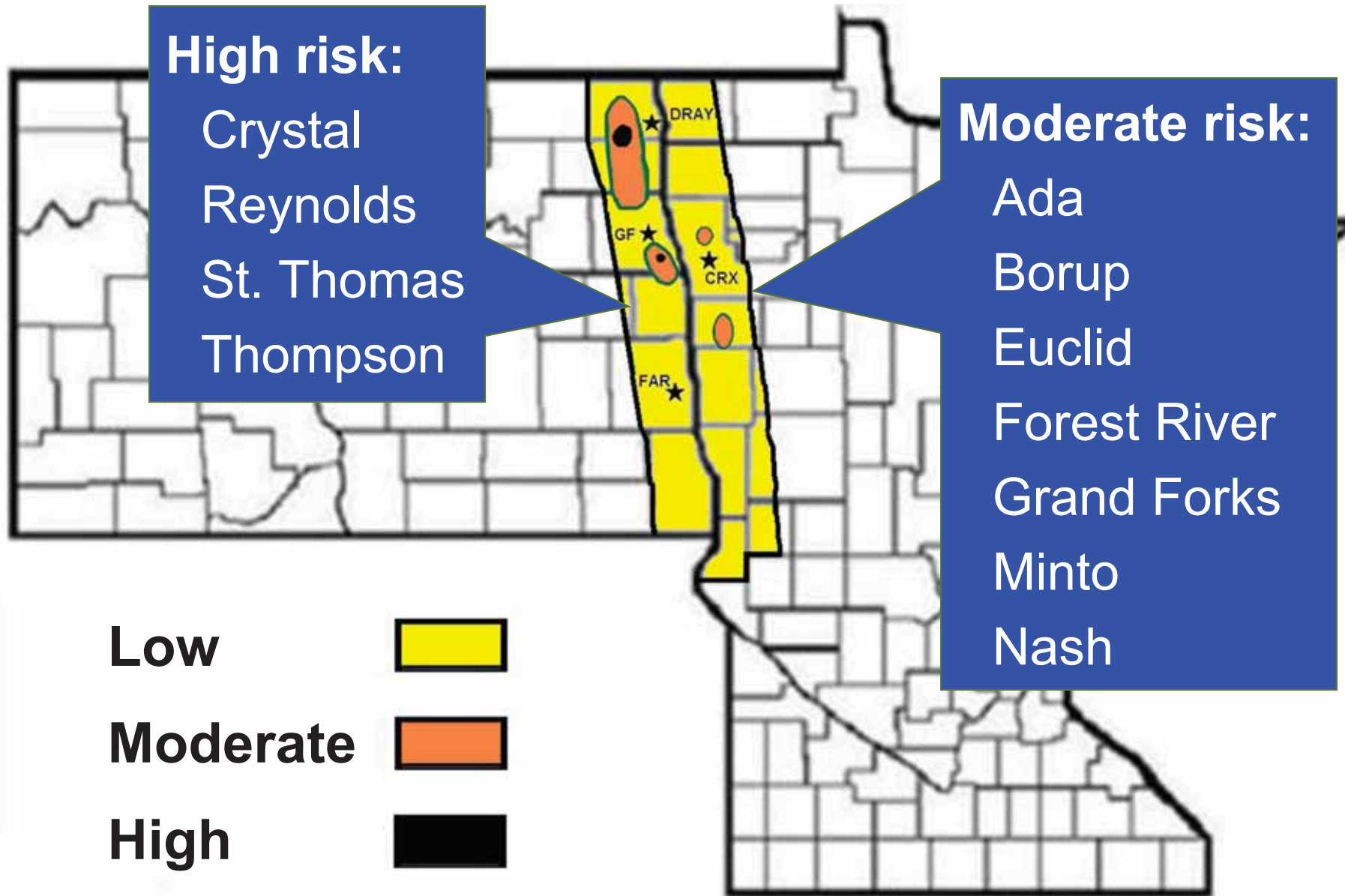
2013 YWTG

INSECTS

# SUGARBEET ROOT MAGGOT

- Large yield increases from all seed treatment insecticides compared to checks
- **Counter** had better protection and yield than any seed treatment in mod-high infestations
- Seed treatments should not be used as a stand alone in mod-high infestations
- Use aggressive post emerge treatments
  - New 10 day app. interval for all Lorsban products
  - Recommend Lorsban @ 2pts/A

# 2013 ROOT MAGGOT RISK\*



\*Based on fly counts & root maggot feeding injury ratings

# LEAF HOPPERS

- Observed in beet fields May 2012
- Migrated from wheat fields
- Identified as **Aster Leaf Hopper**,  
not Beet Leaf Hopper which vectors Curly Top virus
- Studies have shown seed treatments provide up to 60 days protection from Beet Leaf Hopper
- May suggest some protection from Aster Leaf Hopper also
- No economic threshold is established
- Lorsban @ 1pt/A does provide control



# SPIDER MITES

- Most damage occurs in outer 8 – 12 rows
- Hot weather don't use pyrethroids
  - Asana, Mustang, Warrior, etc.
  - Kills beneficial predators causing mite flare-ups
- Chlorpyrifos products work well
  - Lorsban 4E, Lorsban Advanced, or a generic
- Ring field with 1 pt. of one of the above
- Be aware Lorsban & generics 30 day PHI

# Root Aphids

- Overwinter as eggs on primary hosts
  - Narrow leaf cottonwood
  - Black cottonwood
  - Balsam poplar
  - Lambsquarter
- Spring egg hatch = females
- In leaf gall female asexually produces young that develop into winged adults

# Root Aphids

- Winged adults migrate to beets in early to mid-summer
- All females – 7 generations possible
- Yellowish – white aphids
- Secrete a white waxy mold like substance called “frass”
- Late August-Sept. migrate back to trees
- Some can overwinter in the soil

# Root Aphids



Adults feeding on secondary roots



# Damage

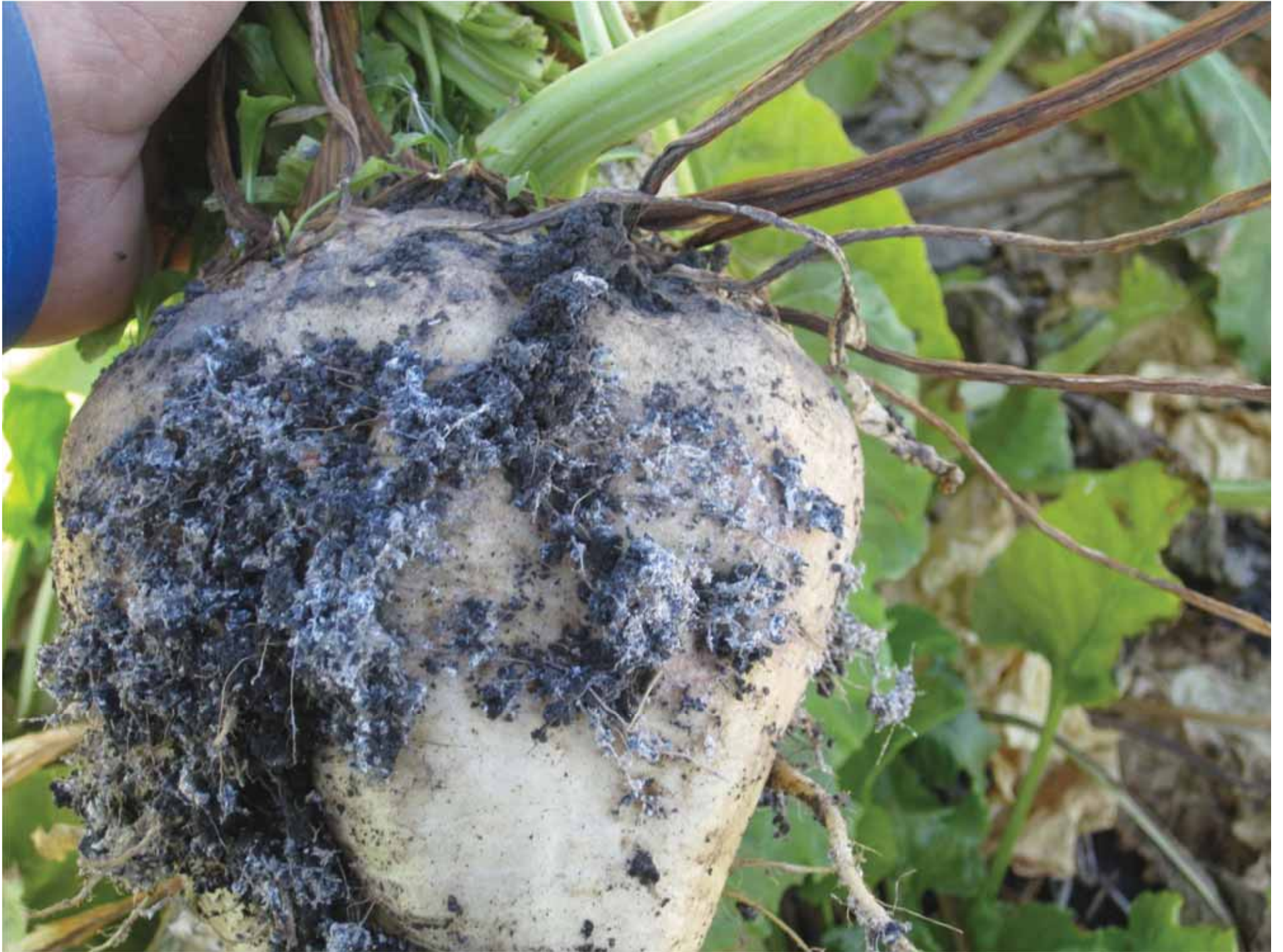
- Feed on secondary roots
- Interfere with water and nutrient uptake
- Greatest damage with drought
- Leaf yellowing, wilting, death



Rhizoctonia  
Or  
Root Aphids?

**FRASS**











# Yield Losses

- 20-40 % in tonnage
- Very severe sugar losses
  - 50% or more
- Severe storage losses
- Greatest losses on heavy soils
- Infected areas freeze easily



# 2012 Root Aphid / Storage Neilsville Minnesota

|                                      | Minimal Aphid Damage | Extensive Aphid Damage |
|--------------------------------------|----------------------|------------------------|
| 30 DAH                               |                      |                        |
| Sucrose, %                           | 15.5                 | 6.1                    |
| Purity, %                            | 92.2                 | 71.8                   |
| Extractable Sugar /<br>Ton           | 261                  | 60                     |
| Root Weight, G/Root                  | 568                  | 280                    |
| Respiration, mg<br>CO2/kg Roots/Hour | 4.76                 | 13.87                  |
| DAH – Days After Harvest             |                      |                        |

Larry Campbell, USDA

# Management Practices

- No registered insecticides
- Counter may give suppression
- Reduce drought stress
  - Field selection
  - Irrigation
- Harvest early – possible prepile
- Resistant varieties – single gene
  - Use near cottonwoods, poplar trees, near 2012 fields with problems

# Resistant/Tolerant Varieties

## High Tolerance

Crystal 765

Crystal 768

Crystal 878

Crystal 093

Crystal 101

Beta 89RR83

Beta 80RR32

Beta 89RR10

Beta 81RR78

Beta 81RR12

Beta 81RR41

## Moderate Tolerance

Crystal 986

Crystal 095

Beta 81RR52

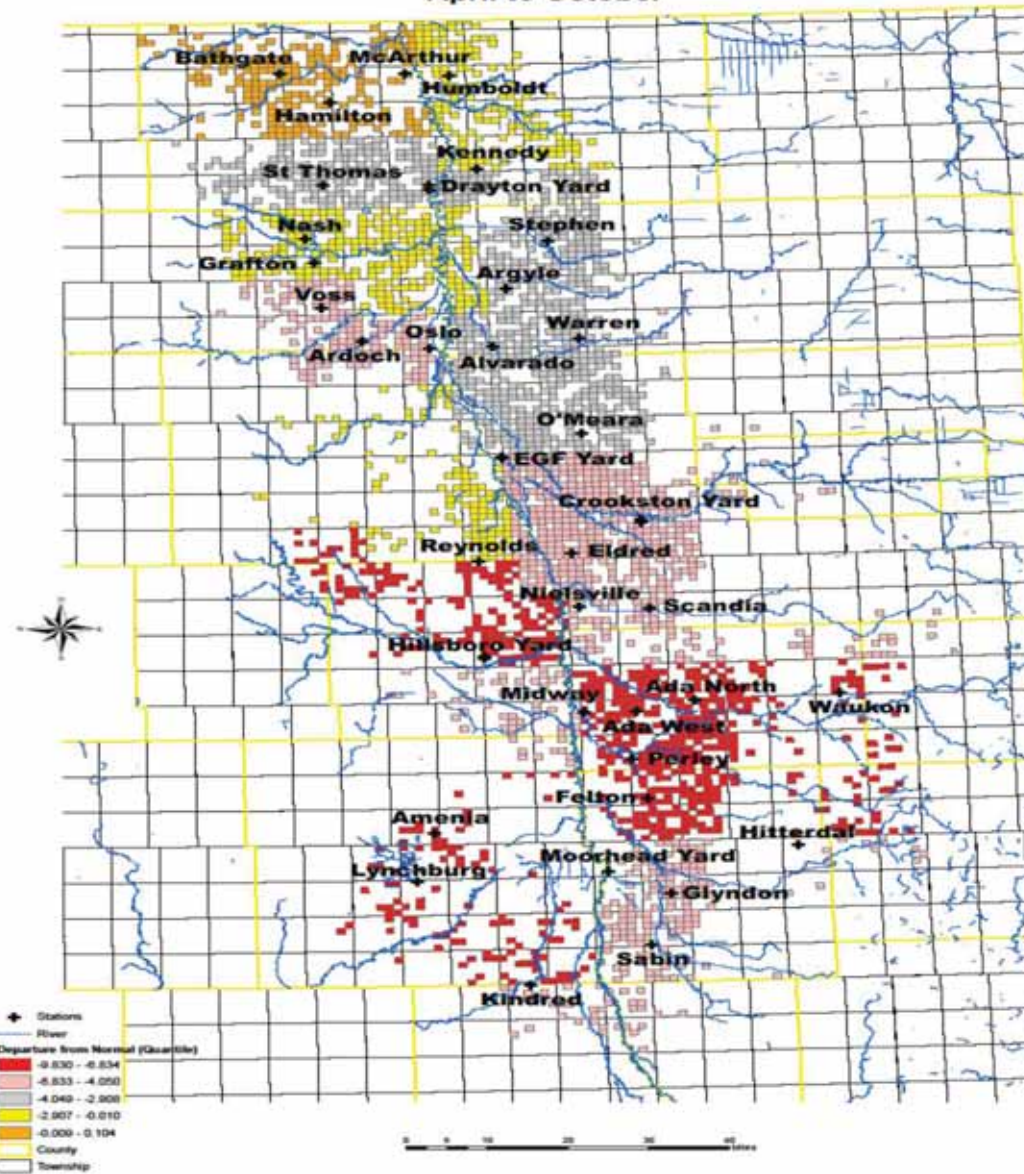
Beta 81RR17

Beta 81RR50

Beta 81RR30

Beta 81RR40

### 2012 Total Rainfall Departure from Normal April to October



Questions

?





# Resistant/Tolerant Varieties

| Variety   | Tolerance Level |
|-----------|-----------------|
| SVDH      | None Identified |
| Hilleshög | None Available  |



# Resistant/Tolerant Varieties

| Variety     | Tolerance Level |
|-------------|-----------------|
| Beta 89RR83 | High            |
| Beta 80RR32 | High            |
| Beta 89RR10 | High            |
| Beta 81RR78 | High            |
| Beta 81RR12 | High            |
| Beta 81RR41 | High            |
| Beta 81RR52 | Moderate        |
| Beta 81RR17 | Moderate        |
| Beta 81RR50 | Moderate        |
| Beta 81RR30 | Moderate        |
| Beta 81RR40 | Moderate        |

# Resistant/Tolerant Varieties

| Variety     | Tolerance level |
|-------------|-----------------|
| Crystal 658 | Low             |
| Crystal 765 | High            |
| Crystal 768 | High            |
| Crystal 875 | Low             |
| Crystal 878 | Mod-high        |
| Crystal 985 | Low             |
| Crystal 986 | Moderate        |
| Crystal 093 | High            |
| Crystal 095 | Moderate        |
| Crystal 101 | High            |