

# Seed Week 2019



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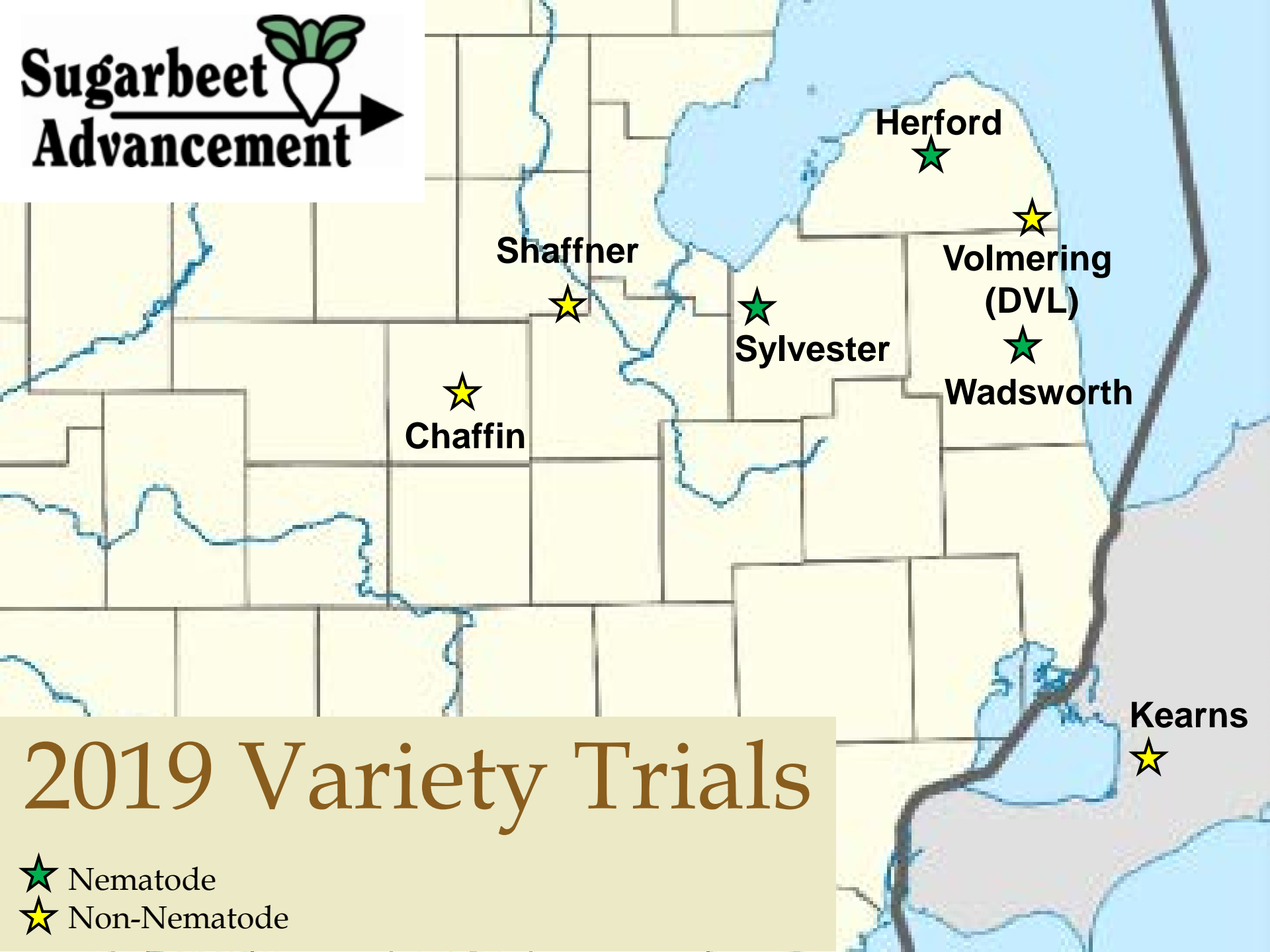
MICHIGAN STATE  
UNIVERSITY

# Sugarbeet Advancement Update



# Thank You Tom!





# 2019 Variety Trials

- ★ Nematode
- ★ Non-Nematode

# Looking Back on 2019...

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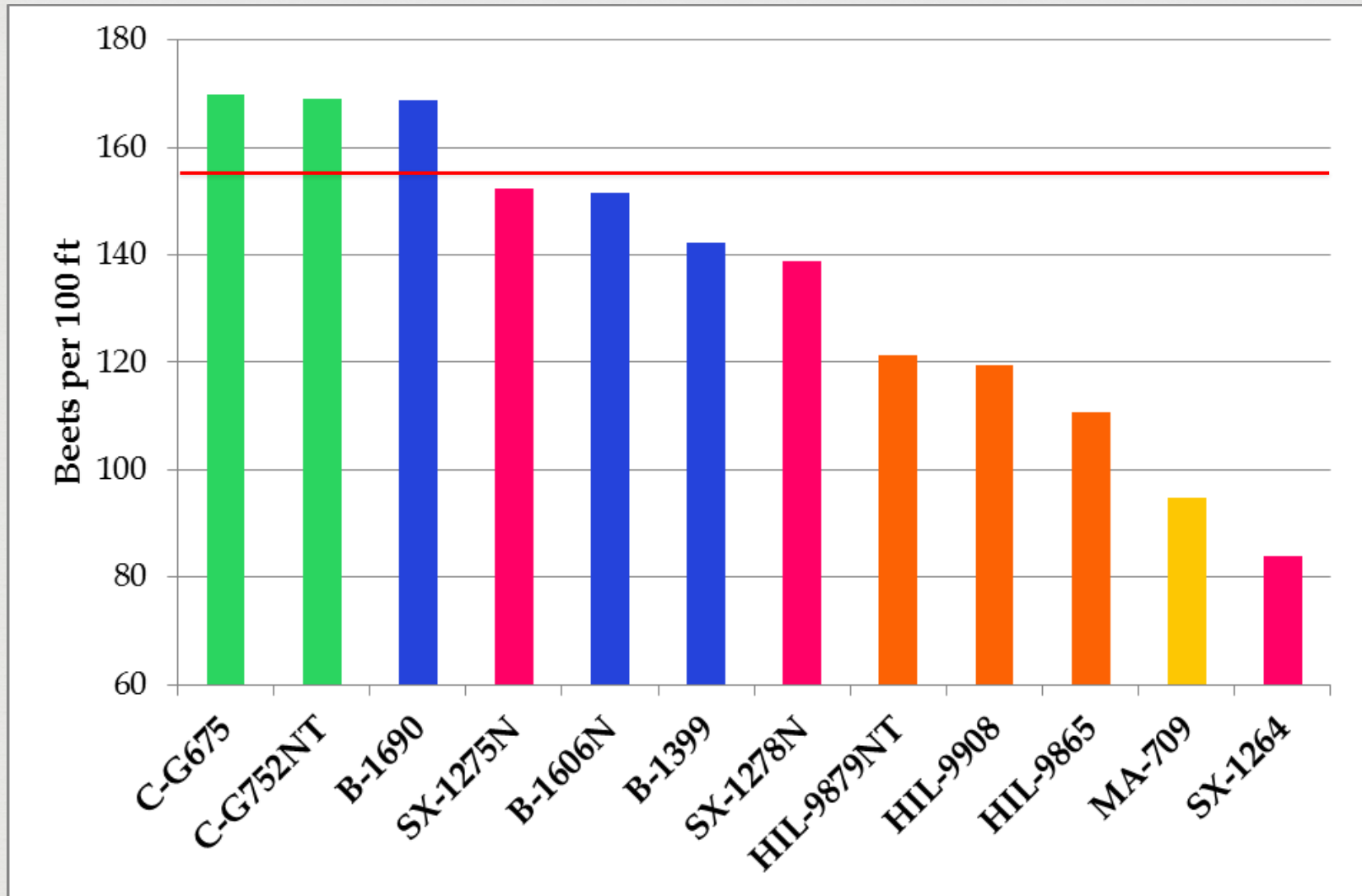


# Impact of Weather



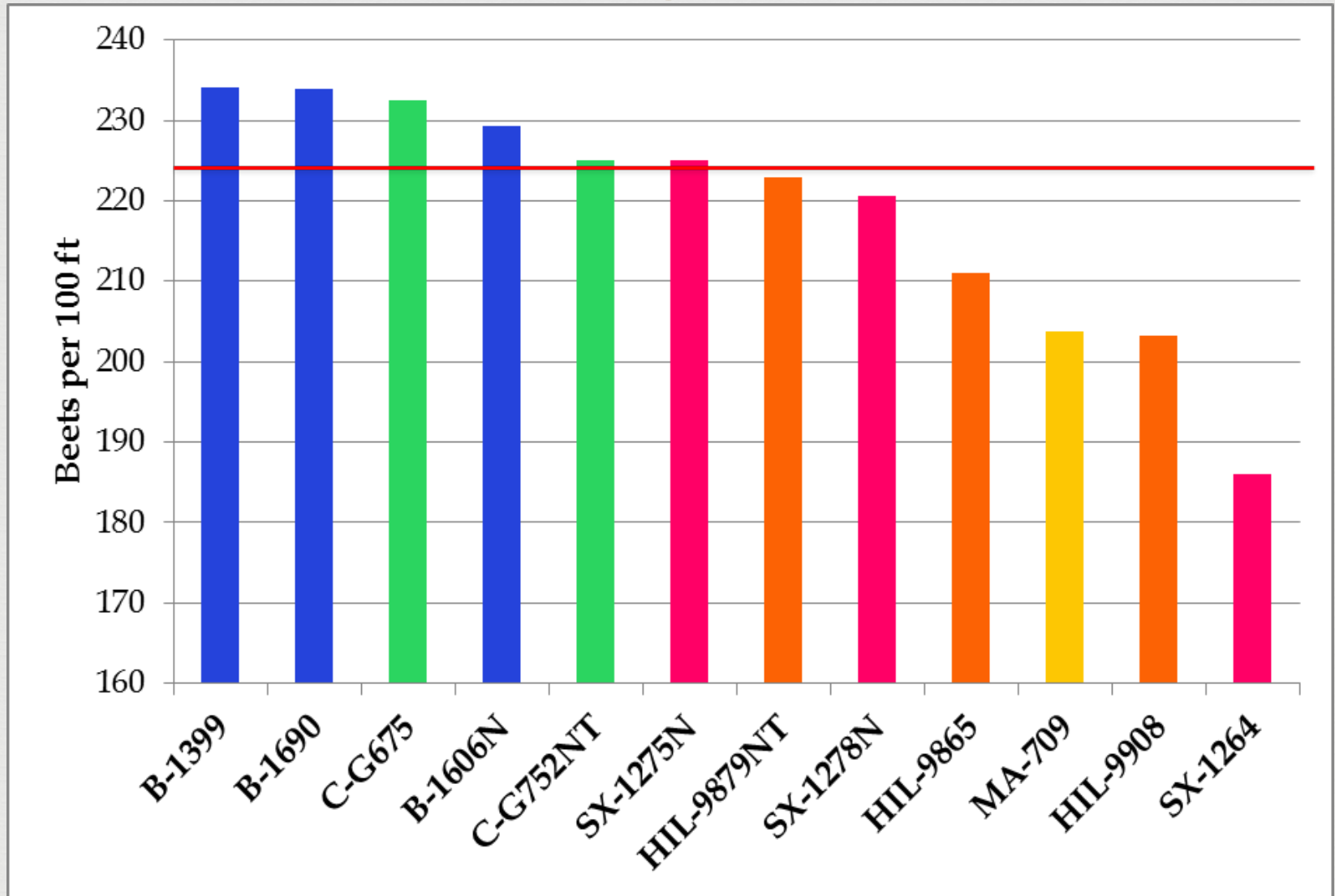
- ❧ Wet spring
  - ❧ Delayed planting for several locations
  - ❧ Good emergence overall
- ❧ Dry weather in July and August
  - ❧ Negative influence on yield
  - ❧ Impacted disease pressure
- ❧ Wet, cold fall made harvest “memorable”
  - ❧ Particularly in the West and Central Districts
  - ❧ Shaffner trial was not taken to yield

# Early Emergence



Average of 6 trials from 11 to 20 days after planting. Does not include Kearns.

# Final Emergence



Average of 6 variety trials, from 36 to 51 days after planting. Does not include Kearns.



# Influence of Weather on Disease Pressure



## ☞ Root Diseases

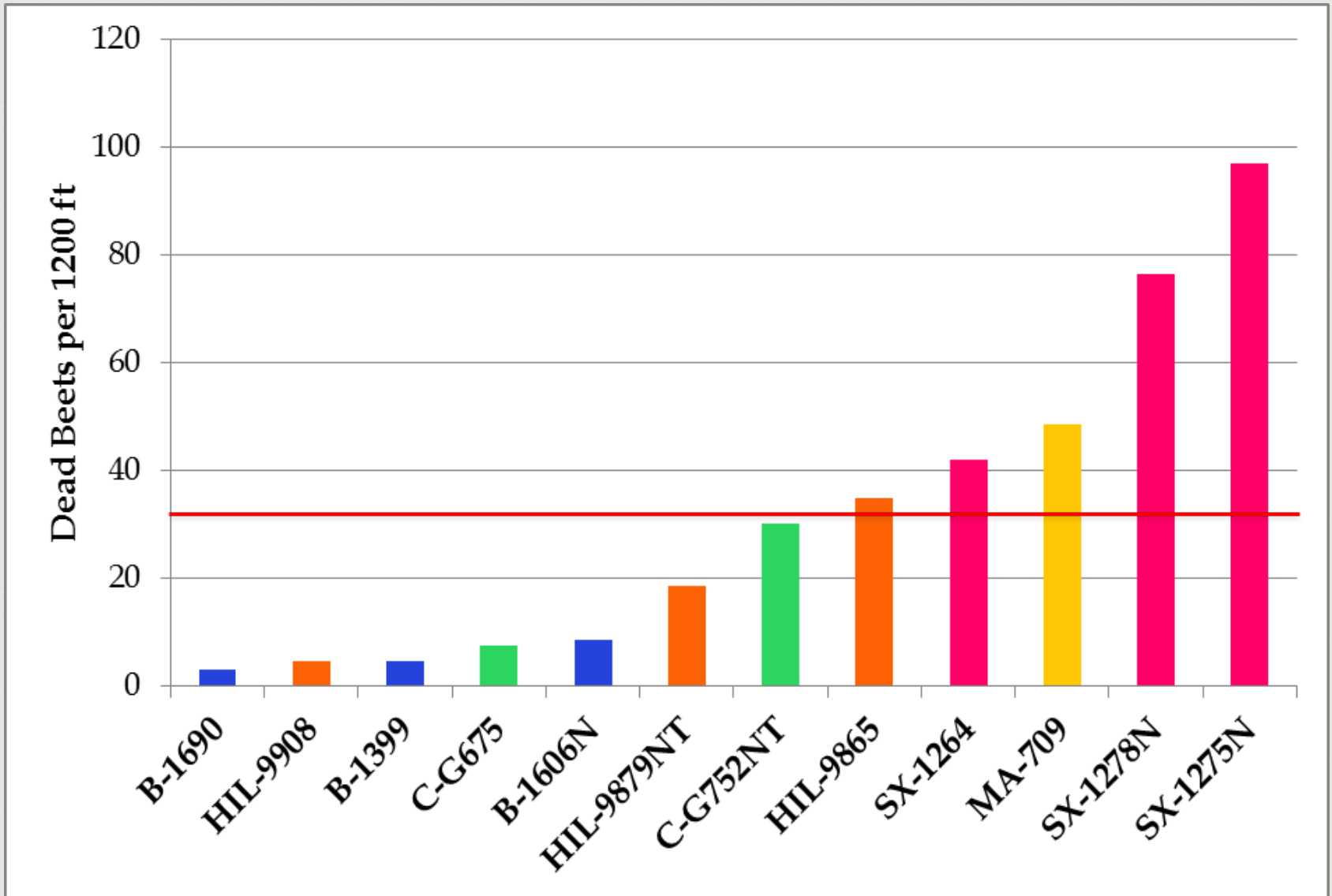
- ☞ Generally low
  - ☞ Chaffin and Shaffner Trials higher
- ☞ Increased levels of adult Aphanomyces
  - ☞ Low if any yield impact

## ☞ Foliar Diseases

- ☞ Less leaf spot than in previous years
  - ☞ Good fungicide application programs
  - ☞ Selection of more **resistant varieties**
  - ☞ Weather
    - ☞ Overall lower pressure than last year



# Dead Beet Counts



Average of 7 variety trials.

# Leaf Spot: 2018 vs 2019

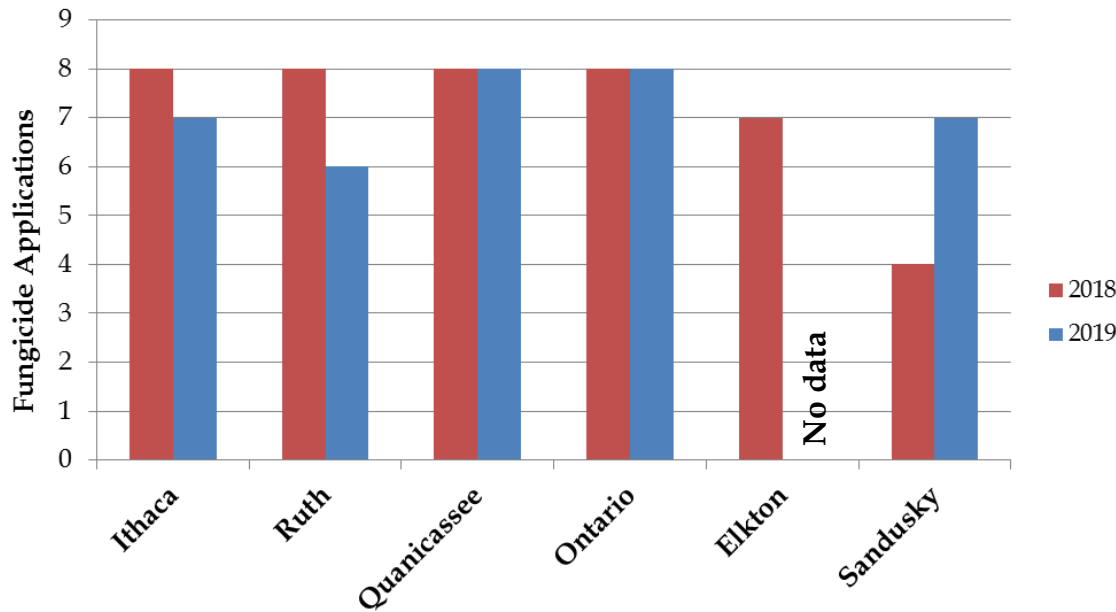
☞ Same or fewer applications at most locations

☞ Only 1 location rated in 2019

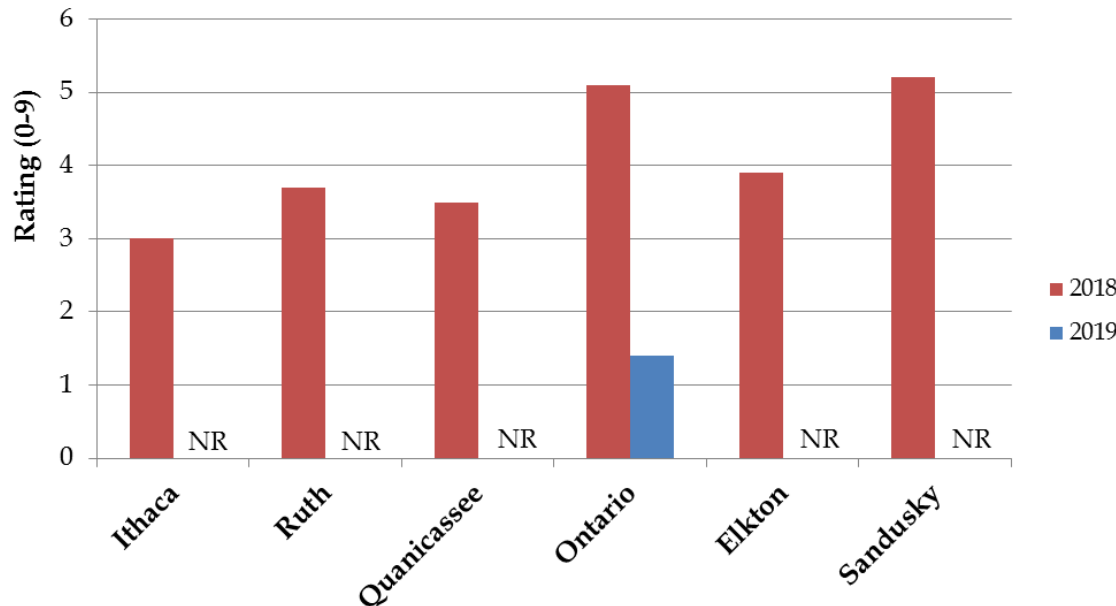
☞ 2018: avg of 4.1

☞ 2019: 1.4

## Fungicide Applications



## Leaf Spot Rating



# Leaf Spot Summary



- Found early (June 18<sup>th</sup>), but never progressed
  - Only 1 trial with enough to rate, 6 could not be rated
  - Dry summer, cooler fall temps

- Decisions for next year cannot be made based off of this year's lower disease pressure
- Good management and **selection of resistant varieties** will be **essential** to managing both *Cercospora* and *Alternaria* leaf spot next year

# Sugarbeet Cyst Nematode



- ❧ Half of 2019 variety trials had significant nematode pressure
  - ❧ More than in previous years
- ❧ Nematodes have a major influence on variety performance
  - ❧ First trait to look for when selecting varieties
- ❧ No combined averages for yield, sugar, and revenue
  - ❧ Two averages reported
    - ❧ Non-nematode trials
    - ❧ Nematode trials



# Non-Nematode Trials

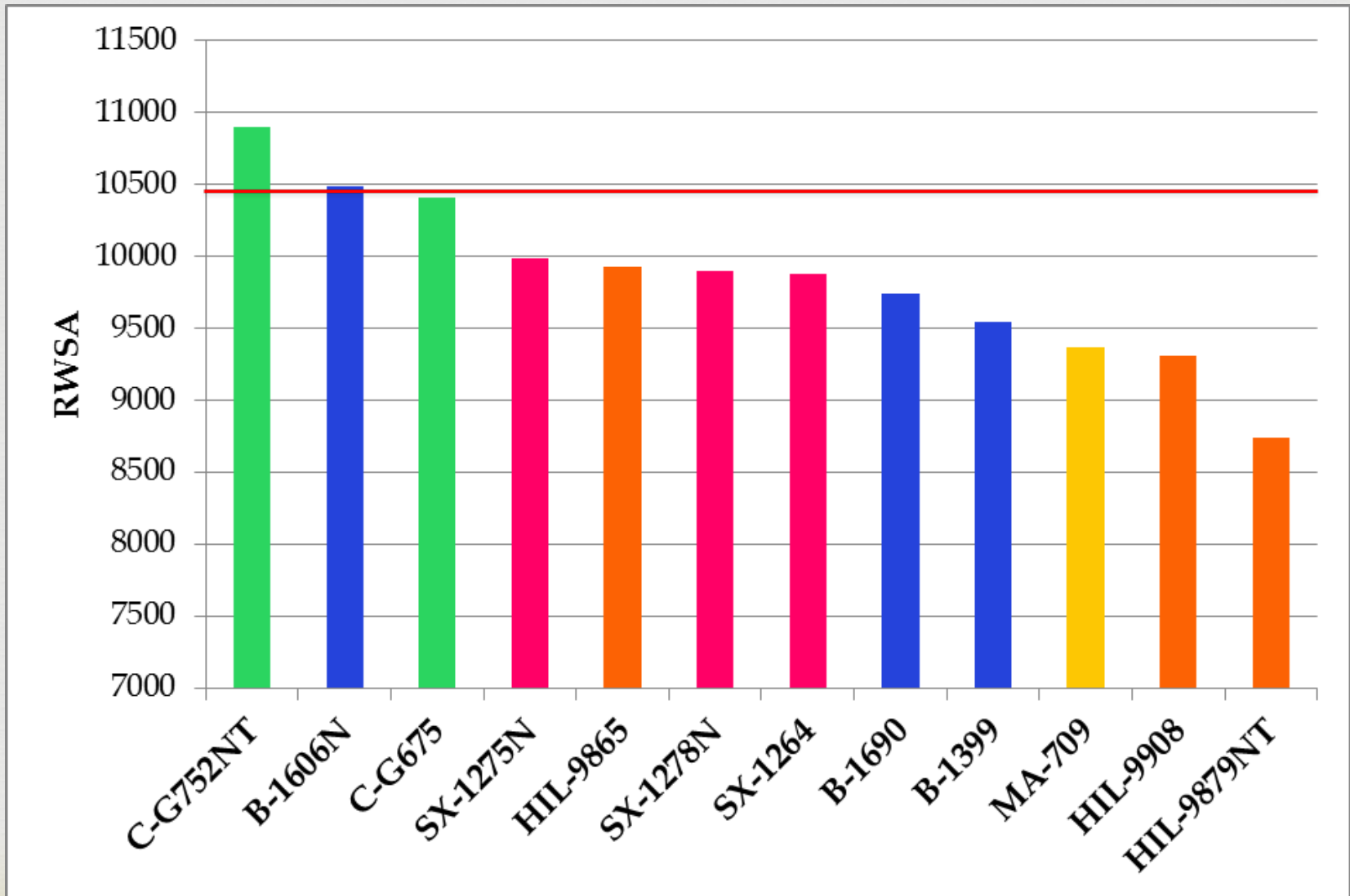


- ∞ Chaffin - Ithaca
- ∞ DVL - Ruth
- ∞ Kearns - Ontario
- ∞ Shaffner - Freeland (Not included in yield averages)

# Average RWSA Non-Nematode



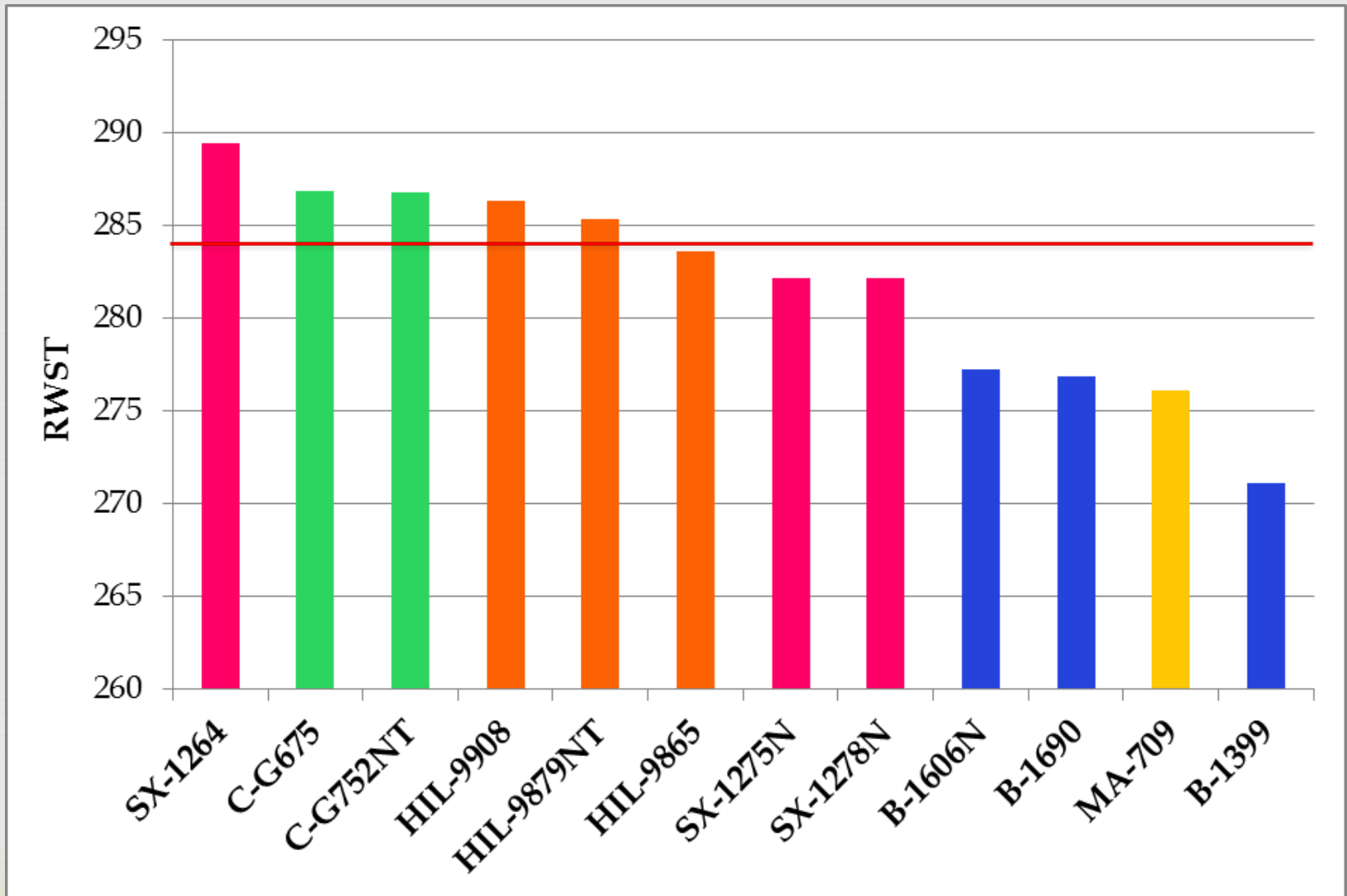
CV=4.4



# Average RWST Non-Nematode



CV=2.2

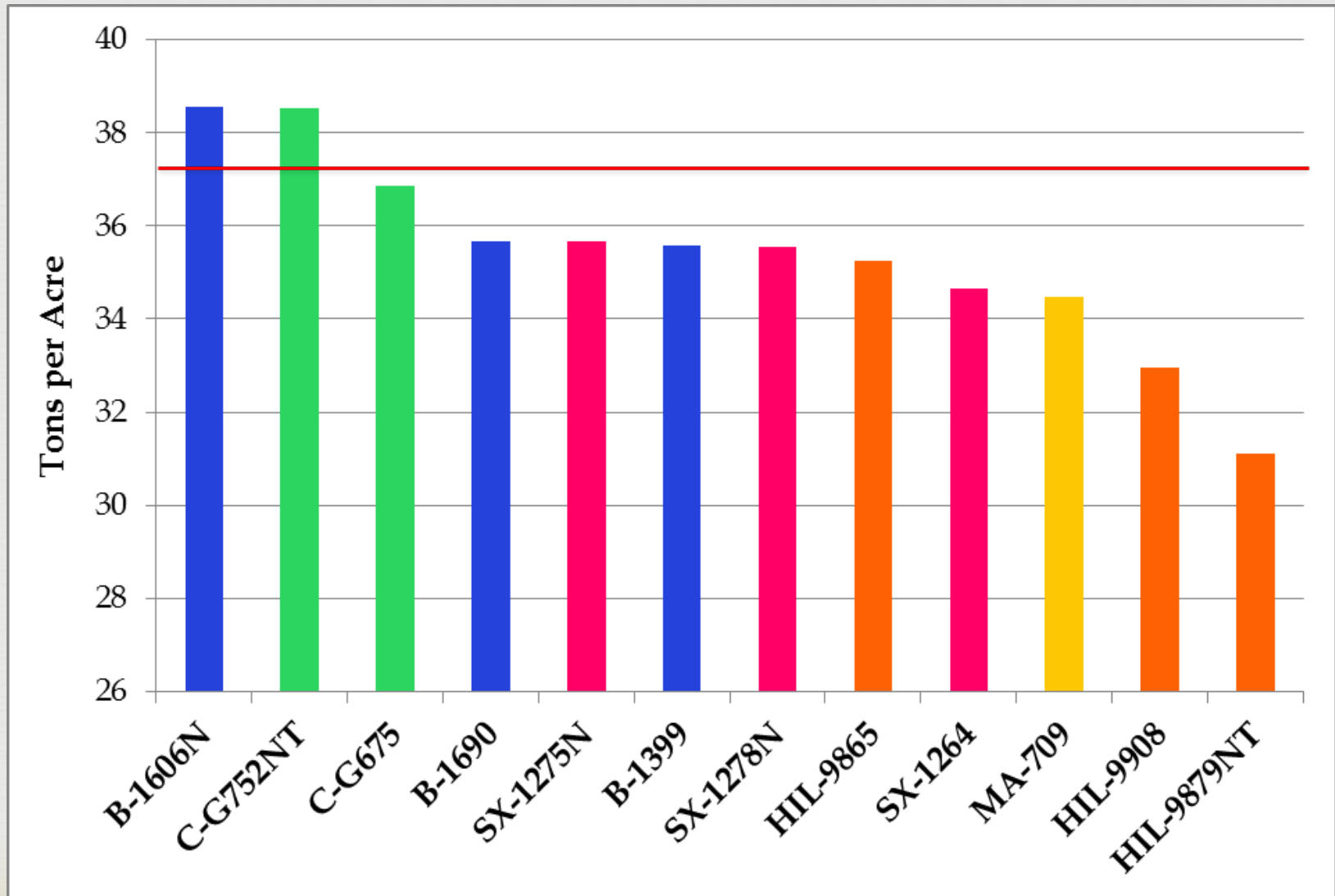




# Average Tons/Acre Non-Nematode



CV=4.2



# Chaffin Trial - Ithaca



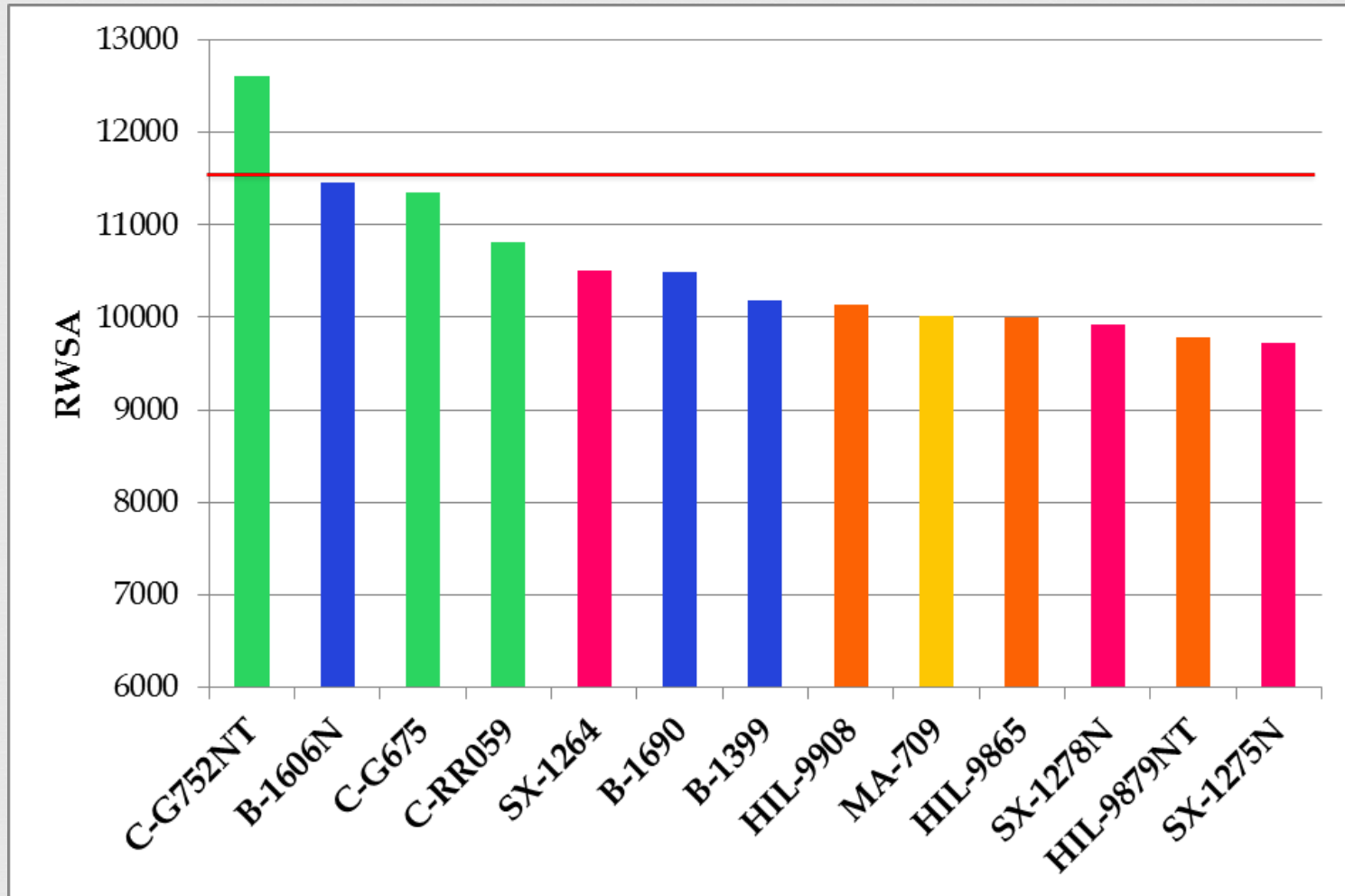
- ❧ Planted April 25<sup>th</sup>
- ❧ Harvested November 8<sup>th</sup>
- ❧ Trial quality: Good
  
- ❧ Key characteristics:
  - ❧ Irrigated, muck soil, manure applied in the fall
    - ❧ Highest trial for tonnage (avg 43.6 tons/acre)
    - ❧ Low sugar (avg 241 RWST)
  - ❧ Weed pressure
  - ❧ Minor water damage
  - ❧ High dead beet count (avg 49/1200 ft)
    - ❧ Low compared to previous trials
    - ❧ Likely impacted rank

# Chaffin Trial

## RWSA



CV=6.3



Dead beet counts

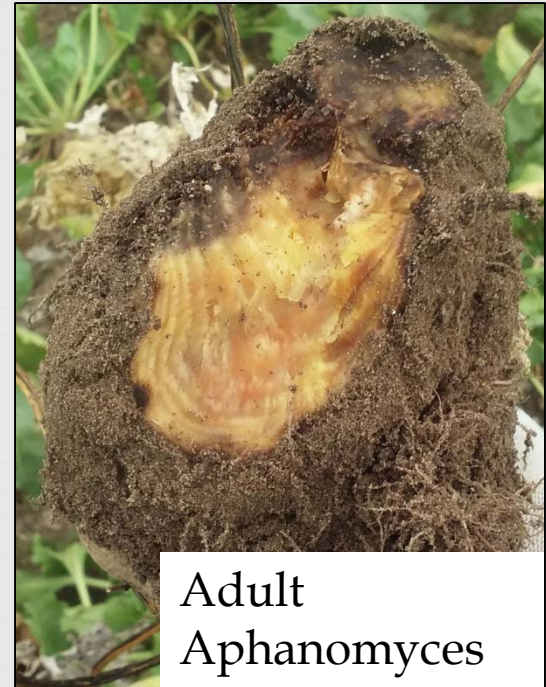
SX-1278N: 126

SX-1275N: 274

# DVL Trial - Ruth



- œ Planted May 6<sup>th</sup>
- œ Harvested November 2<sup>nd</sup>
- œ Trial quality: Very Good
  
- œ Key characteristics:
  - œ Loamy sand soil type
    - œ Hurt more severely by drought
  - œ Low to moderate level of root diseases
    - œ Rhizoctonia and adult Aphanomyces both observed
    - œ May have impacted yield, but did not have large influence on variety rank

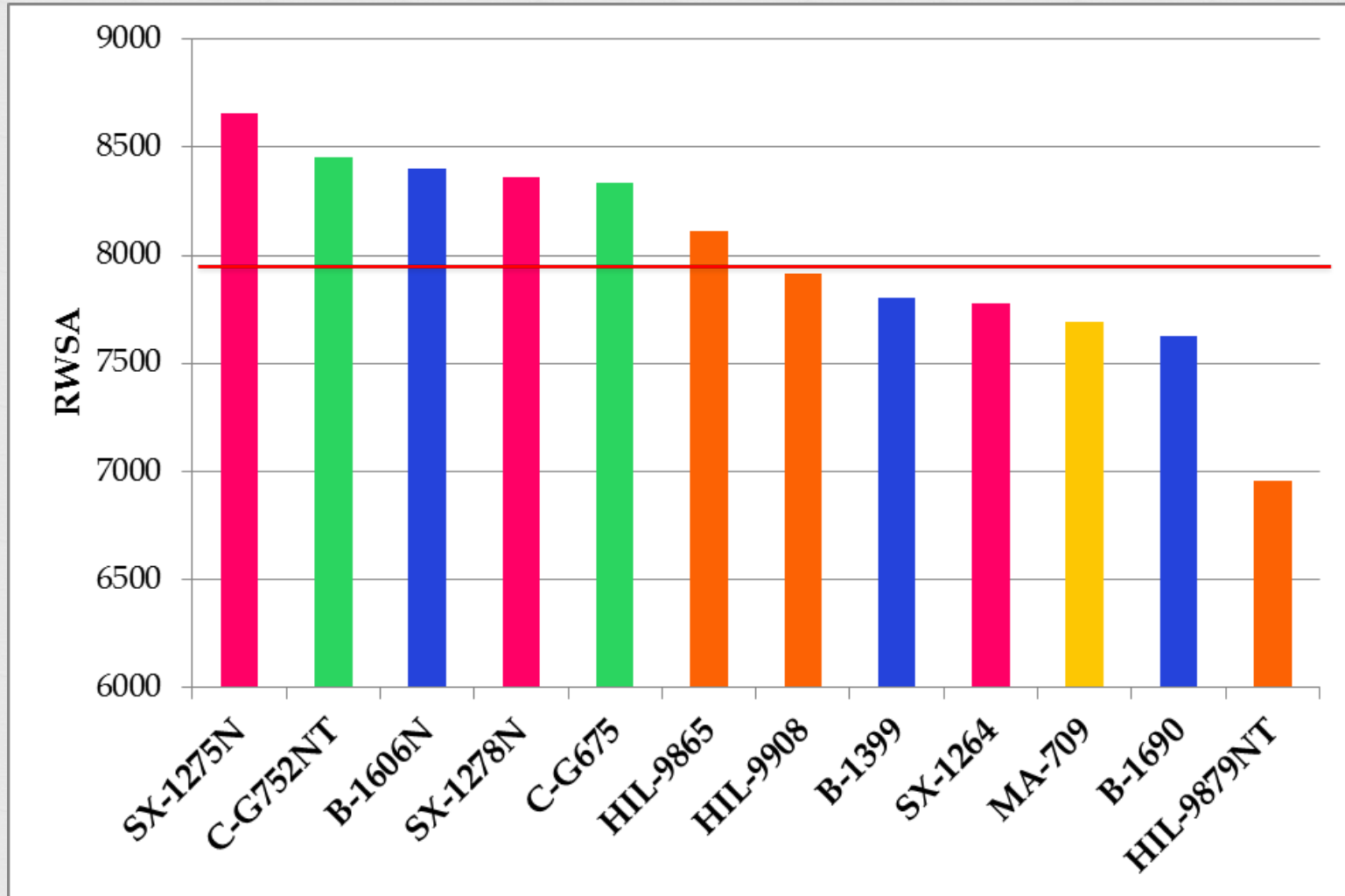


# DVL Trial

## RWSA



CV=5.4



# Kearns Trial - Ontario



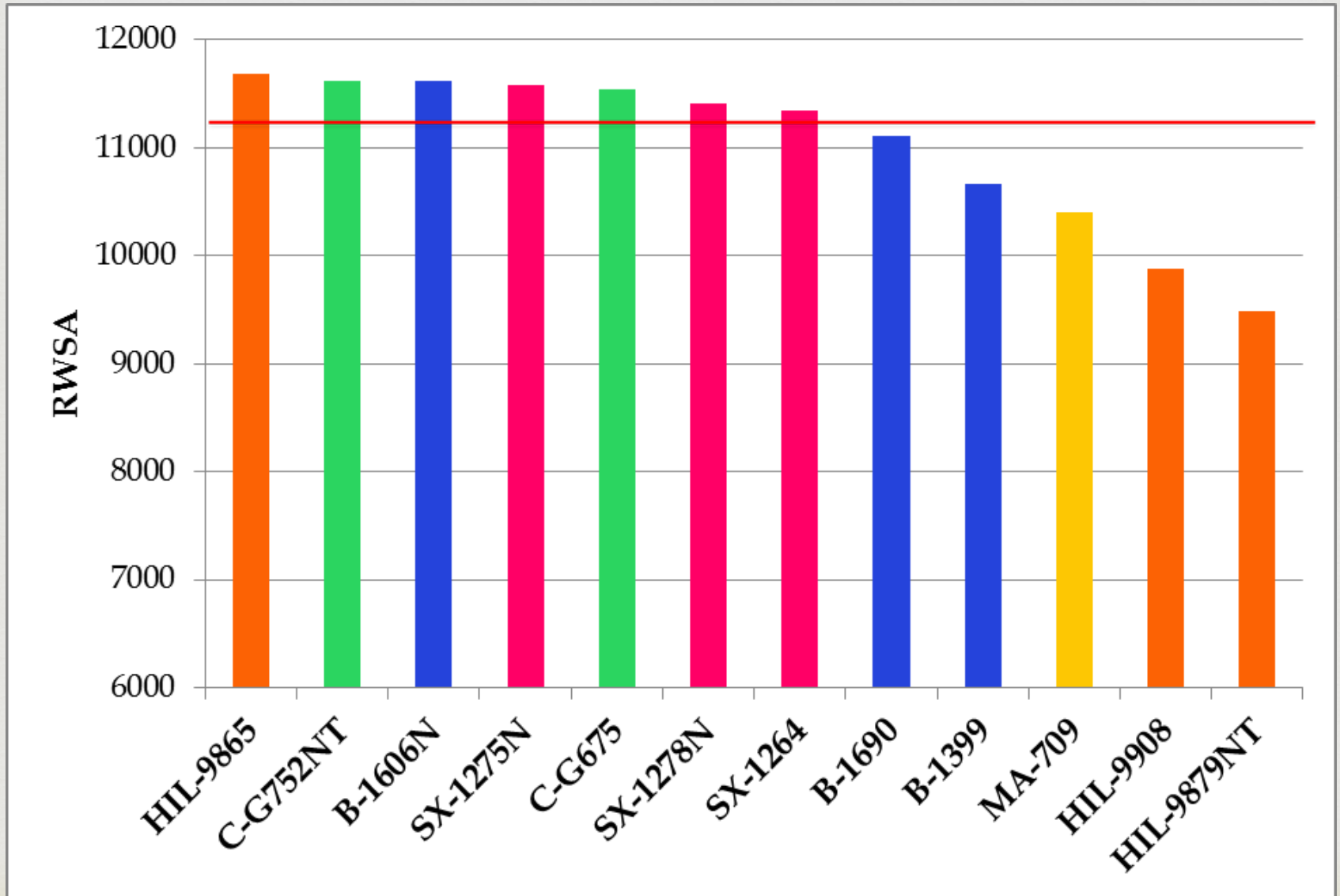
- œ Planted May 18<sup>th</sup>
- œ Harvested October 18<sup>th</sup>
- œ Trial quality: Excellent



- œ Key characteristics:
  - œ Exceptional quality, no major outside influences
  - œ Only trial rated for Cercospora (avg 1.4, highest 1.8)
  - œ Very high sugars (avg RWST 311)

# Kearns Trial

## RWSA



# Shaffner Trial - Freeland

- Planted May 14<sup>th</sup>
- Not taken to yield
- Trial quality: Excellent

## Key characteristics:

- No yield data taken due to extended harvest
- Highest level of root diseases (avg dead beet count: 83)
  - Rhizoctonia, adult Aphanomyces, and Fusarium observed



Rhizoctonia



Fusarium



# Nematode Trials



☞ Herford - Elkton

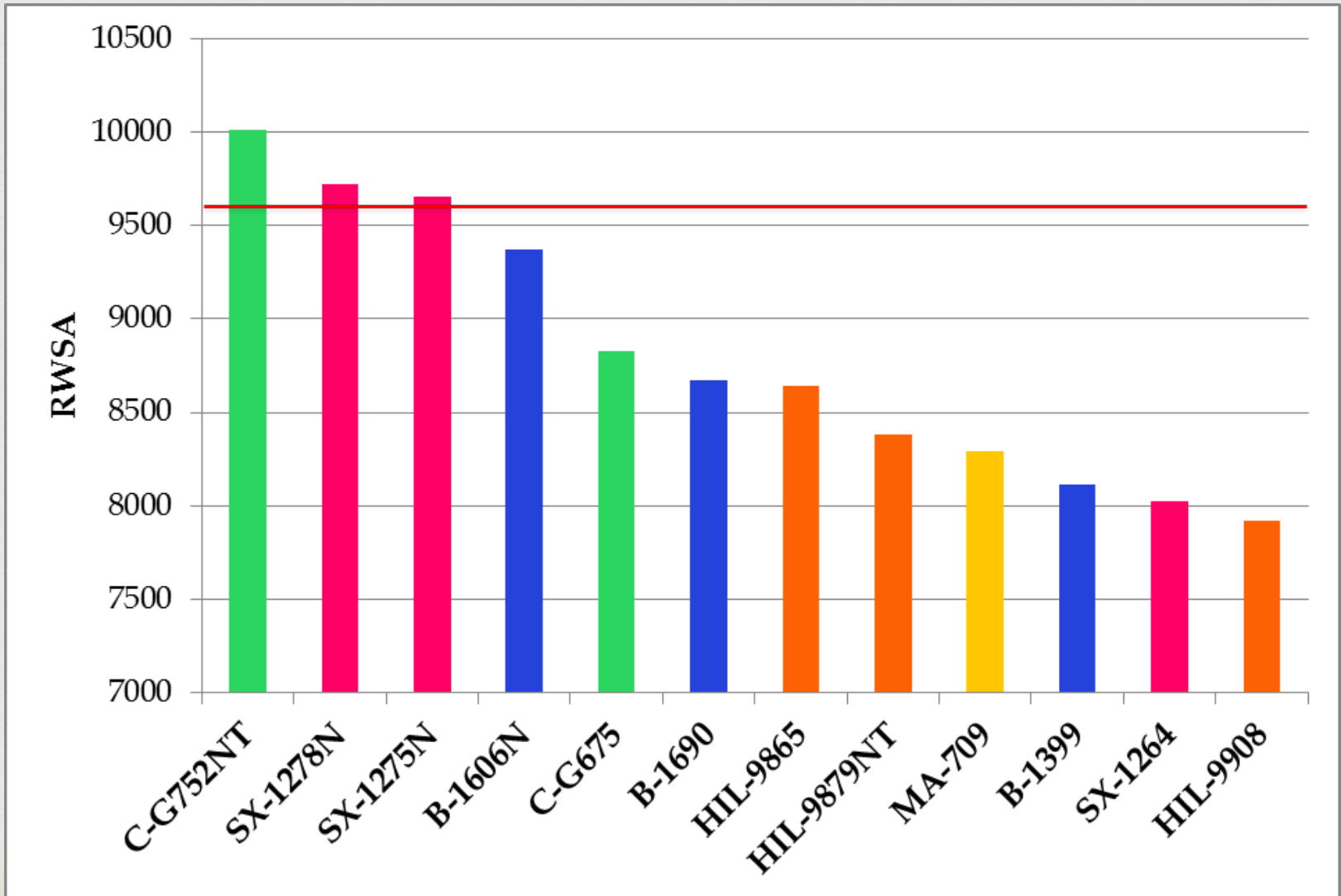
☞ Sylvester - Quanicassee

☞ Wadsworth - Sandusky

# Average RWSA Nematode



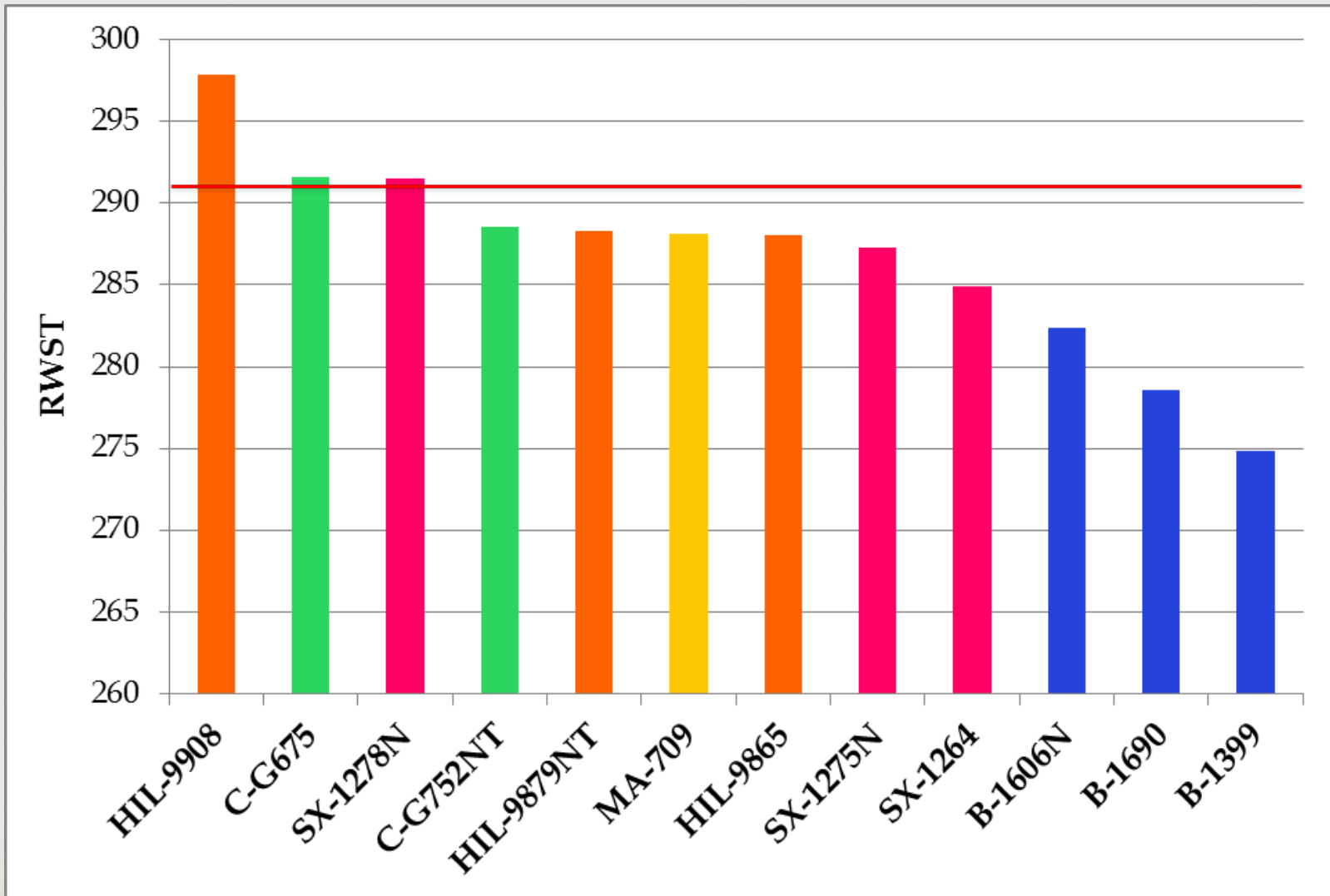
CV=5.4



# Average RWST Nematode



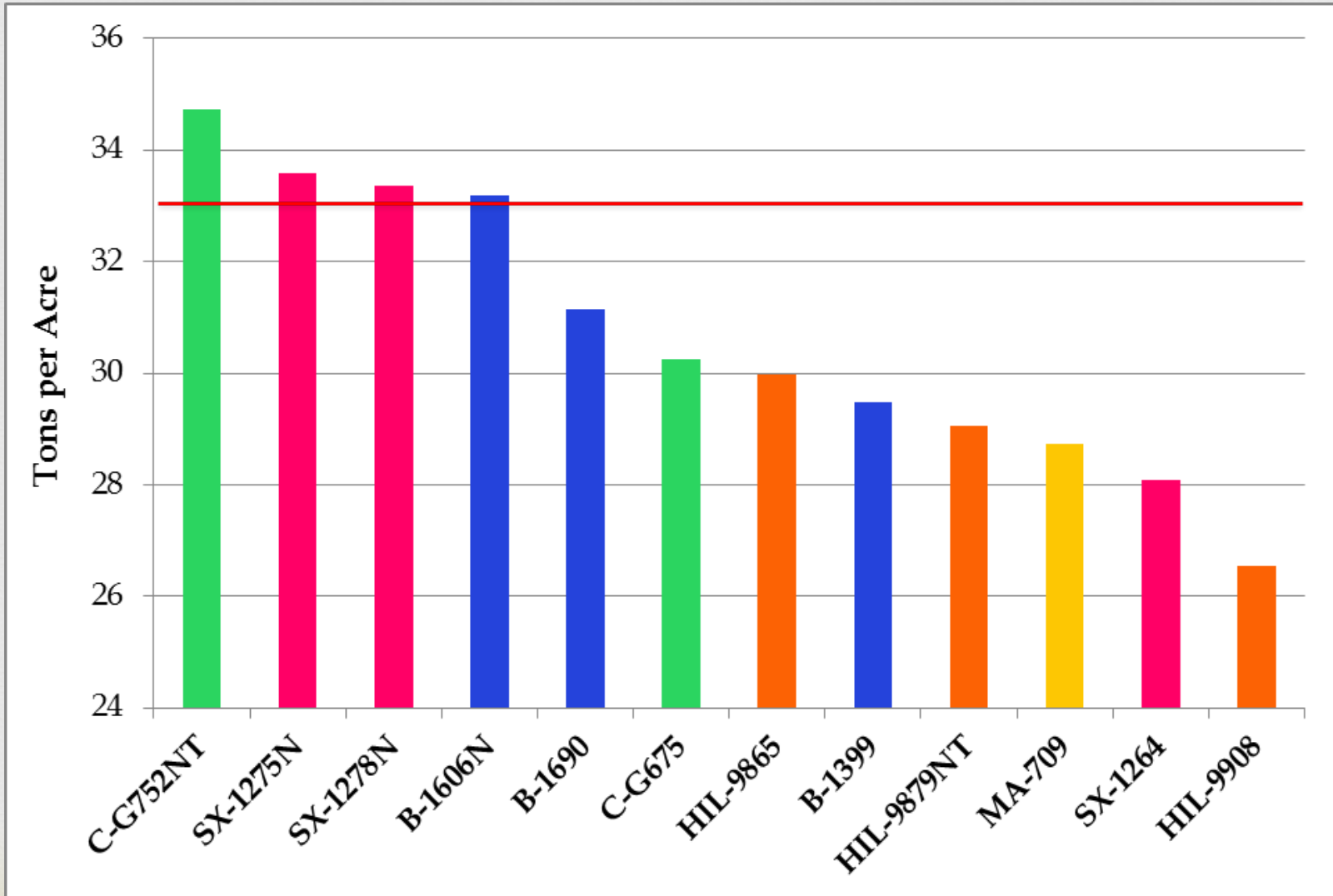
CV=2.4



# Average Tons/Acre Nematode



CV=5.5

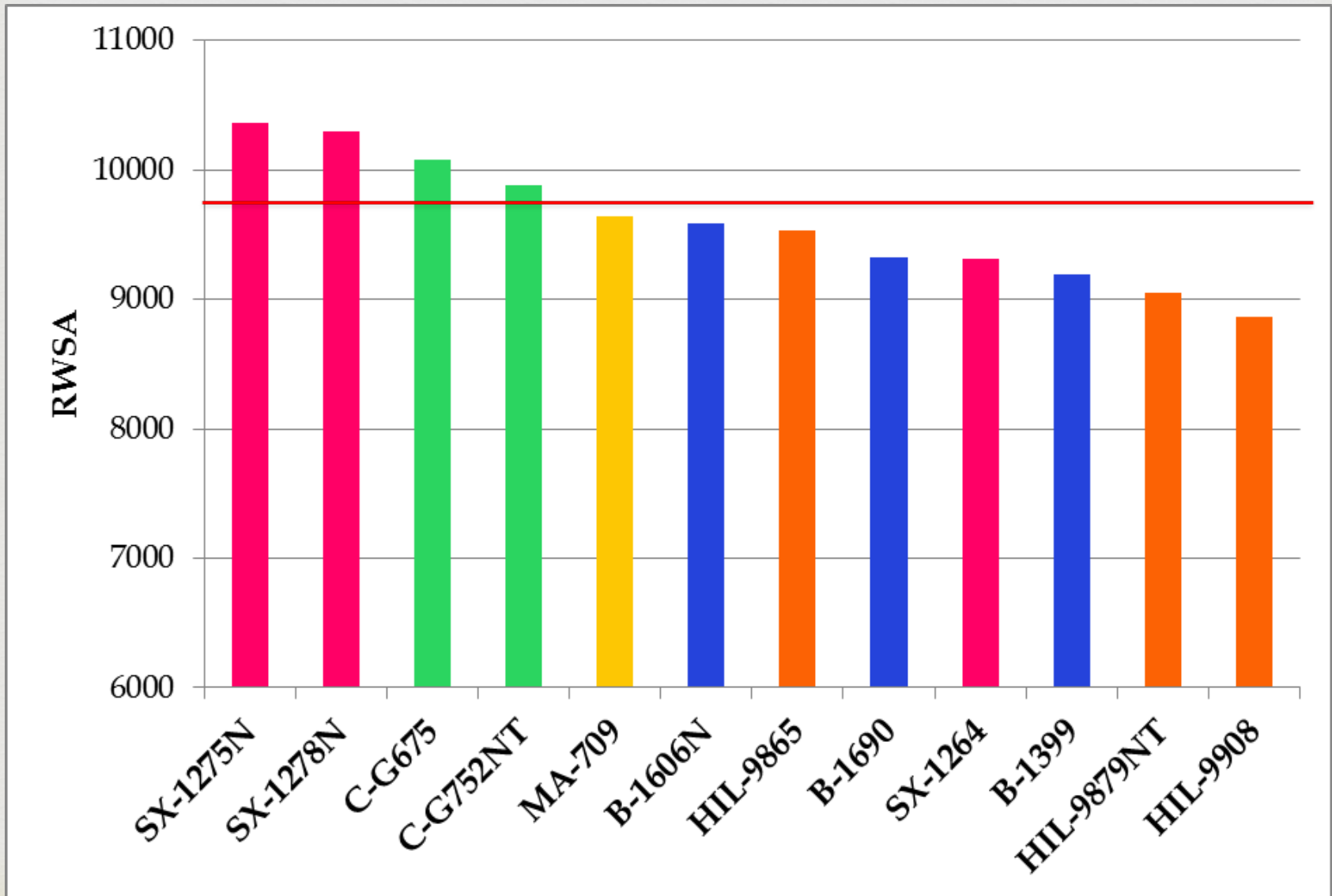


# Herford Trial - Elkton



# Herford Trial

## RWSA



# Sylvester Trial - Quanicassee

- œ Planted April 9<sup>th</sup>
- œ Harvested October 15<sup>th</sup>
- œ Trial quality: Good

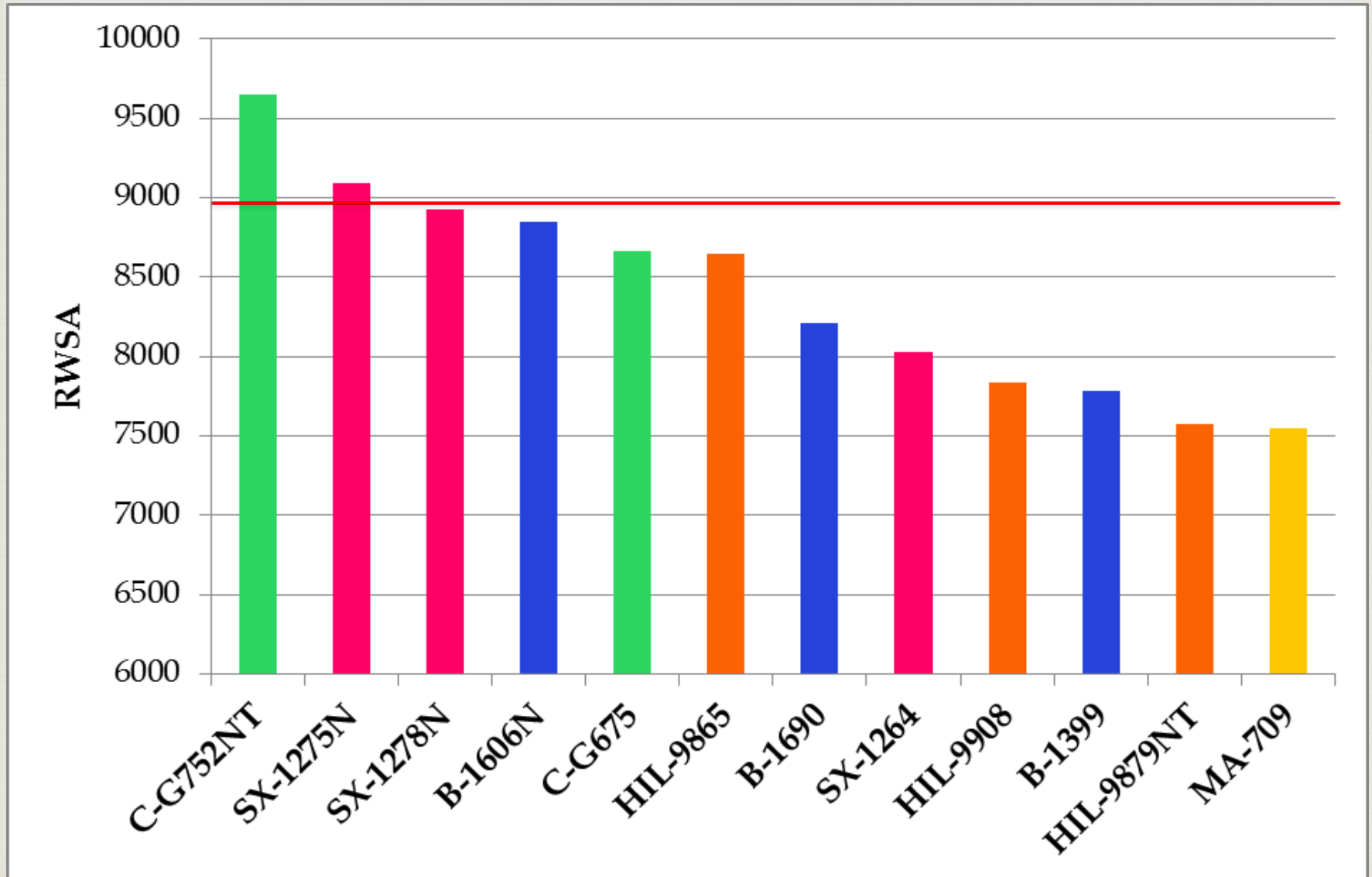
## œ Key characteristics:

- œ Sugarbeet cyst nematode pressure
- œ Planted early
- œ Population
  - œ Took a long time to emerge, final population lower
- œ Low leaf spot pressure
  - œ Observed both *Cercospora* and *Alternaria* very early, did not progress



# Sylvester Trial

## RWSA



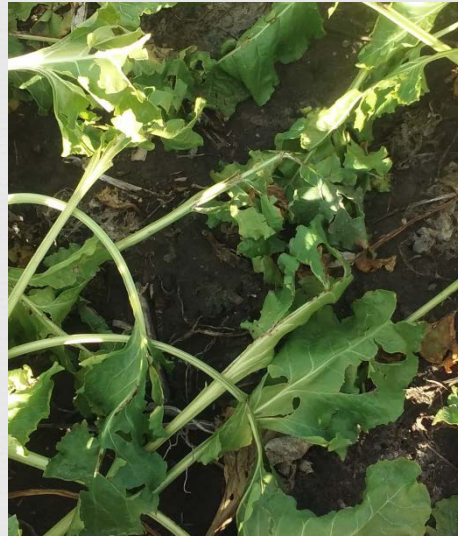


# Wadsworth Trial - Sandusky

- œ Planted April 9<sup>th</sup>
- œ Harvested November 9<sup>th</sup>
- œ Trial quality: Good

## œ Key characteristics:

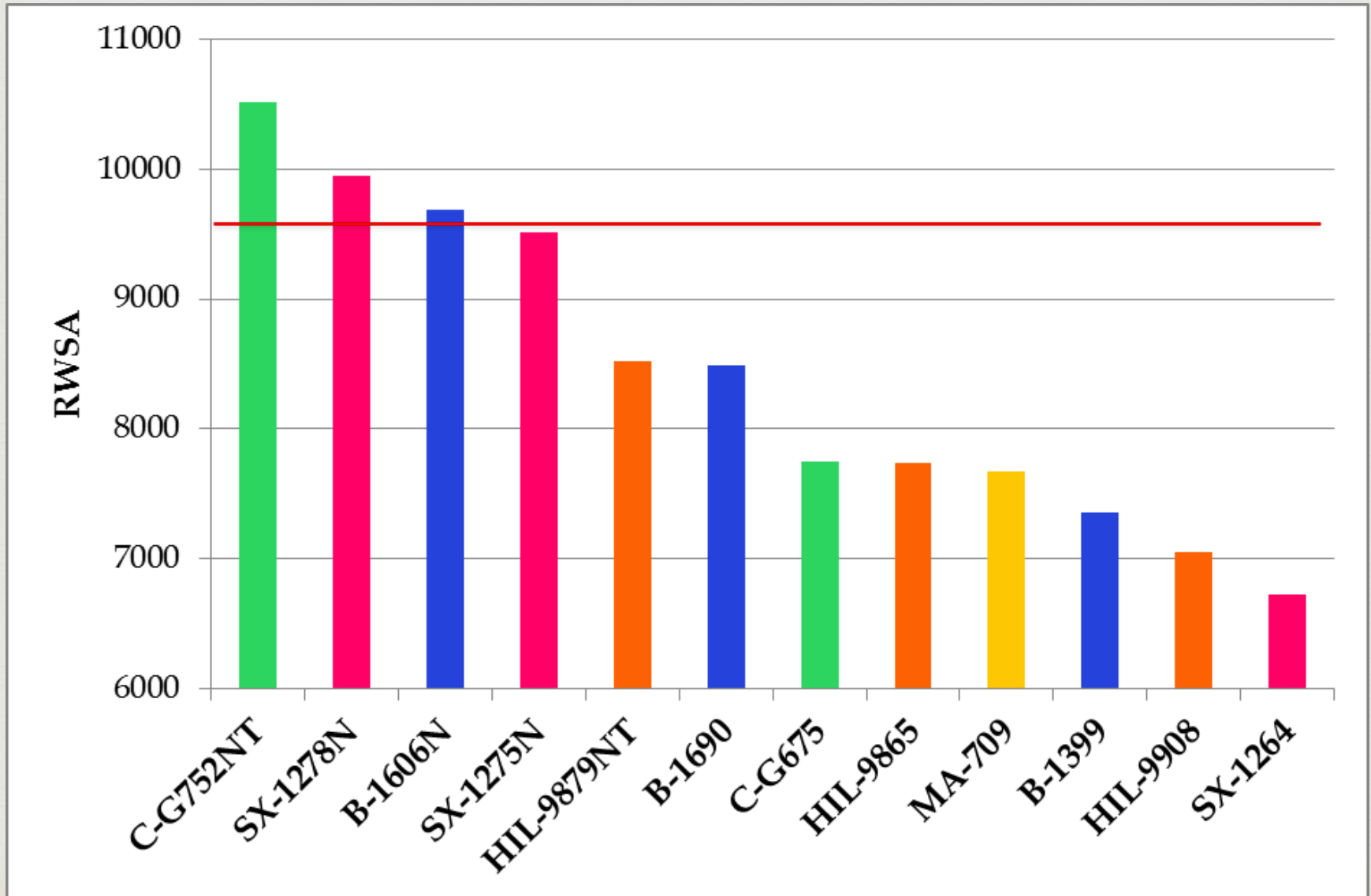
- œ Sugarbeet cyst nematode pressure
- œ Planted early
- œ Excellent population
- œ Low disease levels
- œ Hail storm, July 23<sup>rd</sup>
  - œ Impact visible on leaves until harvest



Hail damage, pictures taken October 17<sup>th</sup>

# Wadsworth Trial

## RWSA



# Summary



## Non-Nematode Trials

1. C-G752NT
2. B-1606N
3. C-G675
4. SX-1275N
5. **HIL-9865**
6. SX-1278N

## Nematode Trials

1. C-G752NT
2. SX-1278N
3. SX-1275N
4. B-1606N
5. C-G675
6. **B-1690**

# Closing Remarks



- ❧ This year was... different...
  - ❧ Planting and harvesting were both a struggle
  - ❧ Weather influenced diseases
- ❧ Do not allow one unusual year to change your fundamental management practices
  - ❧ Select varieties with traits needed on your farm
  - ❧ Continue to practice good leaf spot management
    - ❧ Resistant varieties