

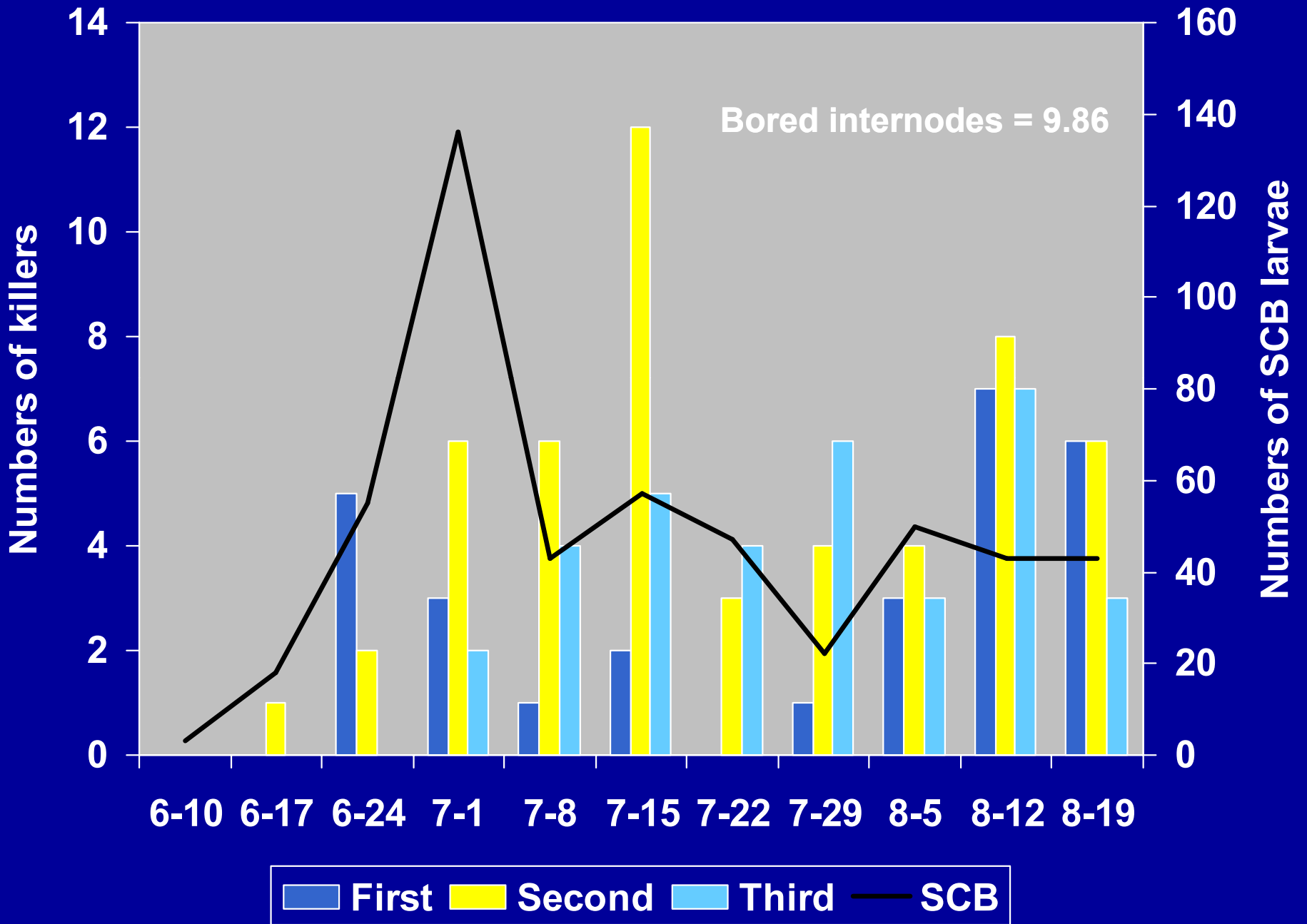
# **Natural Predators and Aphid Thresholds**

**Bill White and Rich Johnson**

**USDA, ARS Sugarcane Research Laboratory  
Houma, LA**

# *L. dorsalis*, why the interest?

- **Academic**
  - Arboreal ground beetle
  - Multivoltine
  - Immature stages not described
- **Practical**
  - Benefits of green chemistry
  - Well adapted to sugarcane
  - Effective predator



# Sugarcane Aphid Studies

- **Double threat or incidental vector?**
- **Are aphids spatially correlated in our fields?**
- **Are there novel ways that we can scout for the aphid?**
- **Can we determine the impact of aphid feeding remotely?**

# Initial Foray – 2008

- **Avoyelles Parish**
  - **Grady Bubenzer**
    - **HoCp 95-988**
    - **First stubble**
    - **11 Acres**
- **Lafourche Parish**
  - **Philip Richard**
    - **L 97-128**
    - **First stubble**
    - **6 Acres**

# Data Collection – Grid Sampling

- **Insect and host**

- **Aphid counts**
  - **4<sup>th</sup> from whorl (7-25)**
  - **6<sup>th</sup> from whorl (8-13)**
- **Height (3 plants)**
- **Combine yields**
  - **TRS**
  - **Tonnage**
  - **S/A**

- **Soil**

- **Soil pH**
- **Buff pH**
- **P**
- **K**
- **Ca**
- **Mg**
- **Sulf**
- **OM**
- **ENR**
- **CEC**
- **Lime**

# Significant Correlations

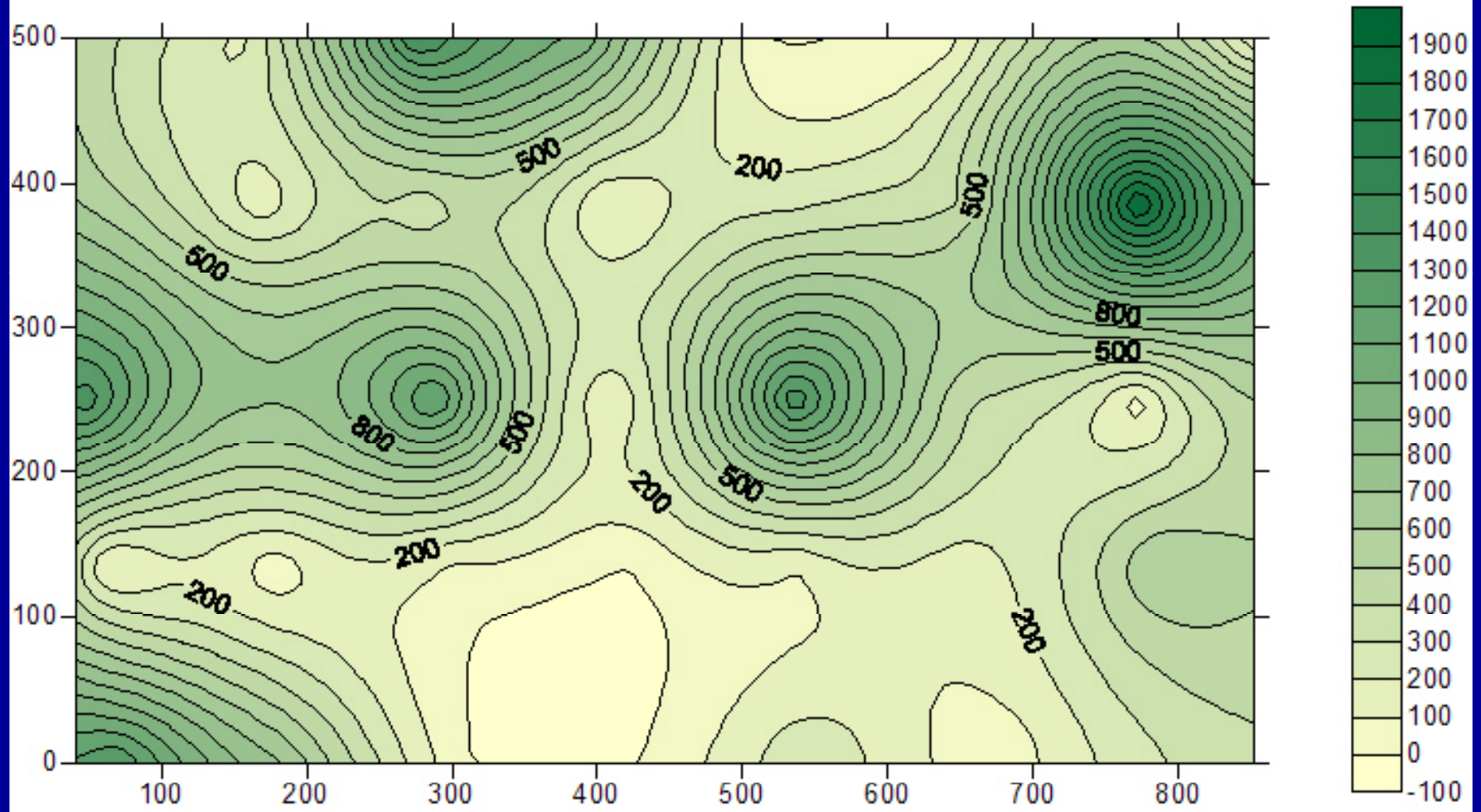
- **Positive**

- Soil pH = 0.37\*
- K = 0.77\*\*
- Ca = 0.49\*\*
- Mg = 0.83\*\*
- OM = 0.80\*\*

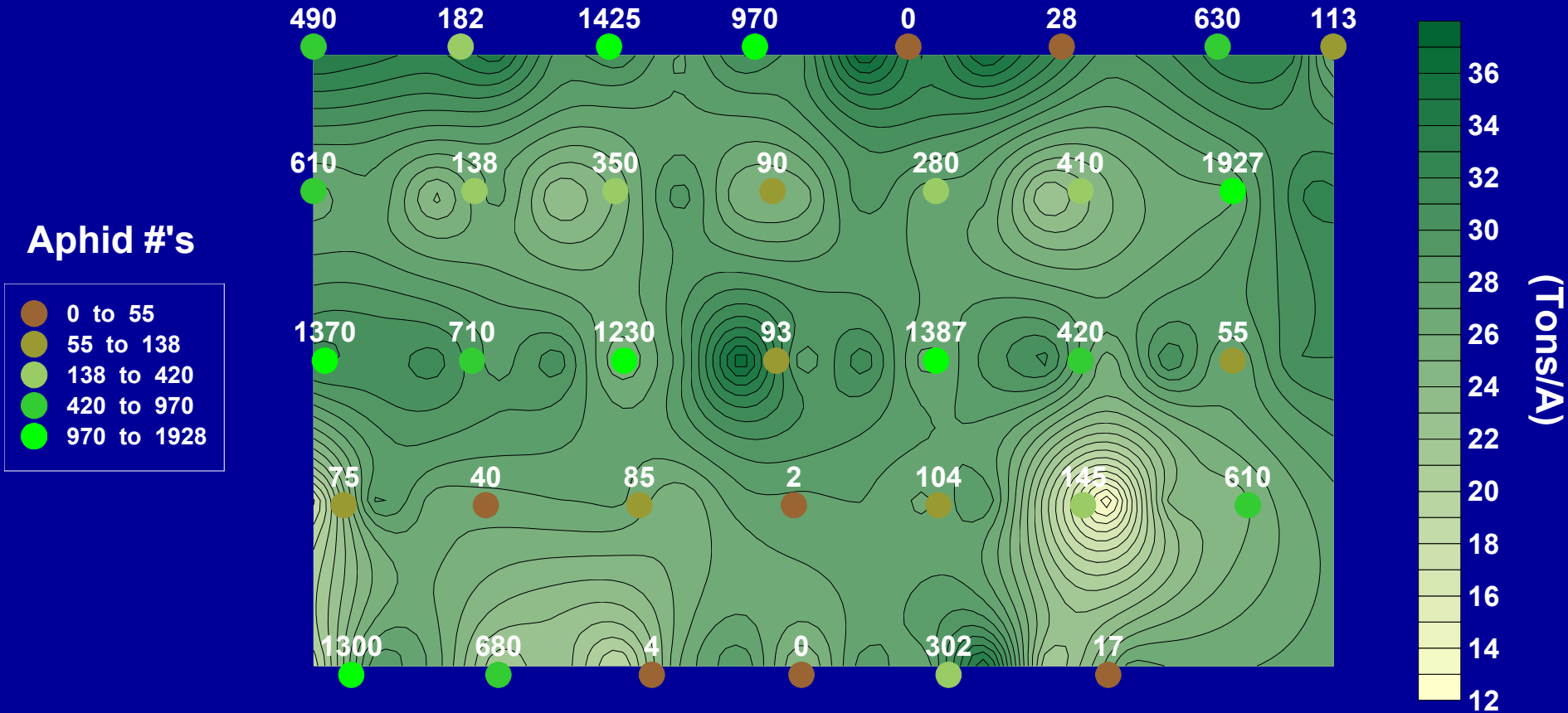
- **Negative**

- Buf pH = -0.70\*\*
- P = -0.81\*\*
- ENR = -0.37\*

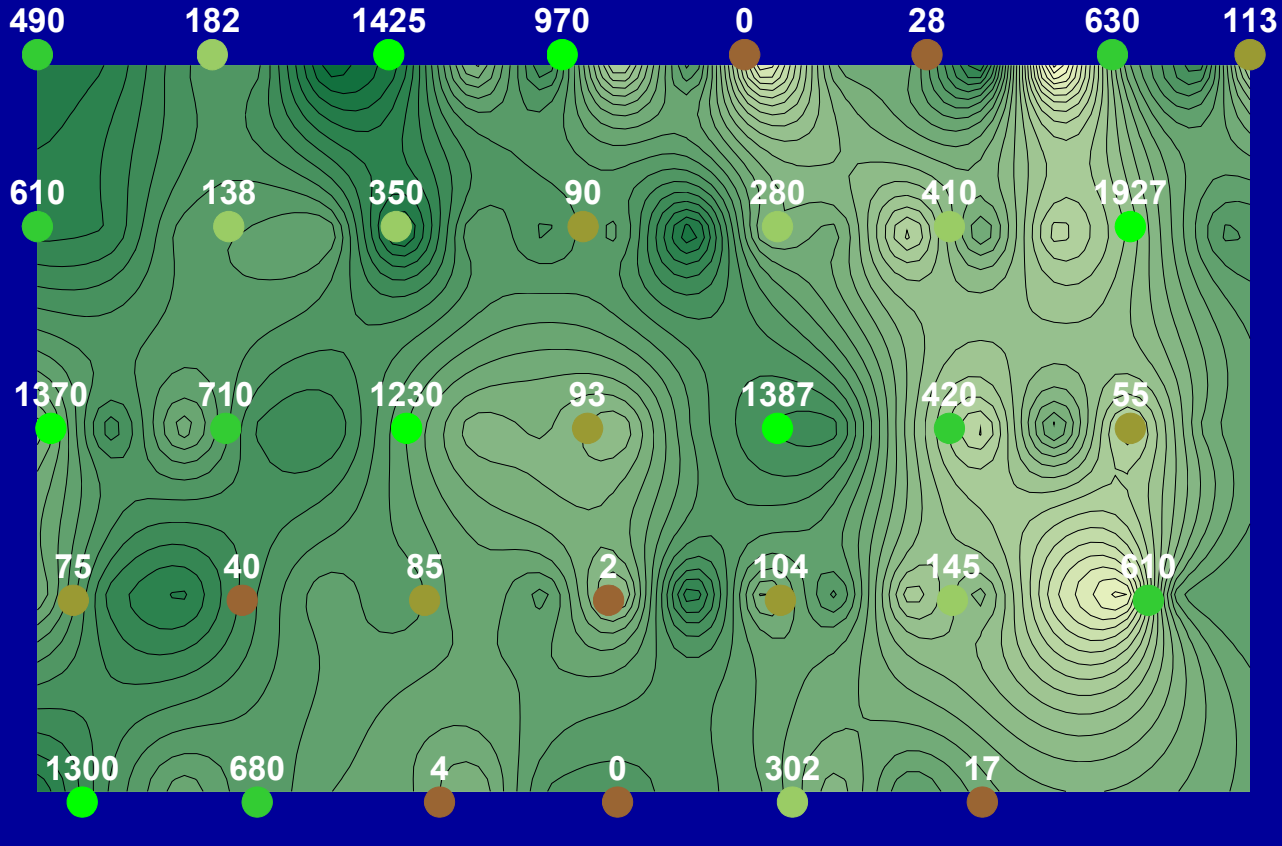
# Cheneyville Aphids (#'s)



# Cheneyville Aphid Study (T/A)



# Cheneyville Aphid Study (TRS)



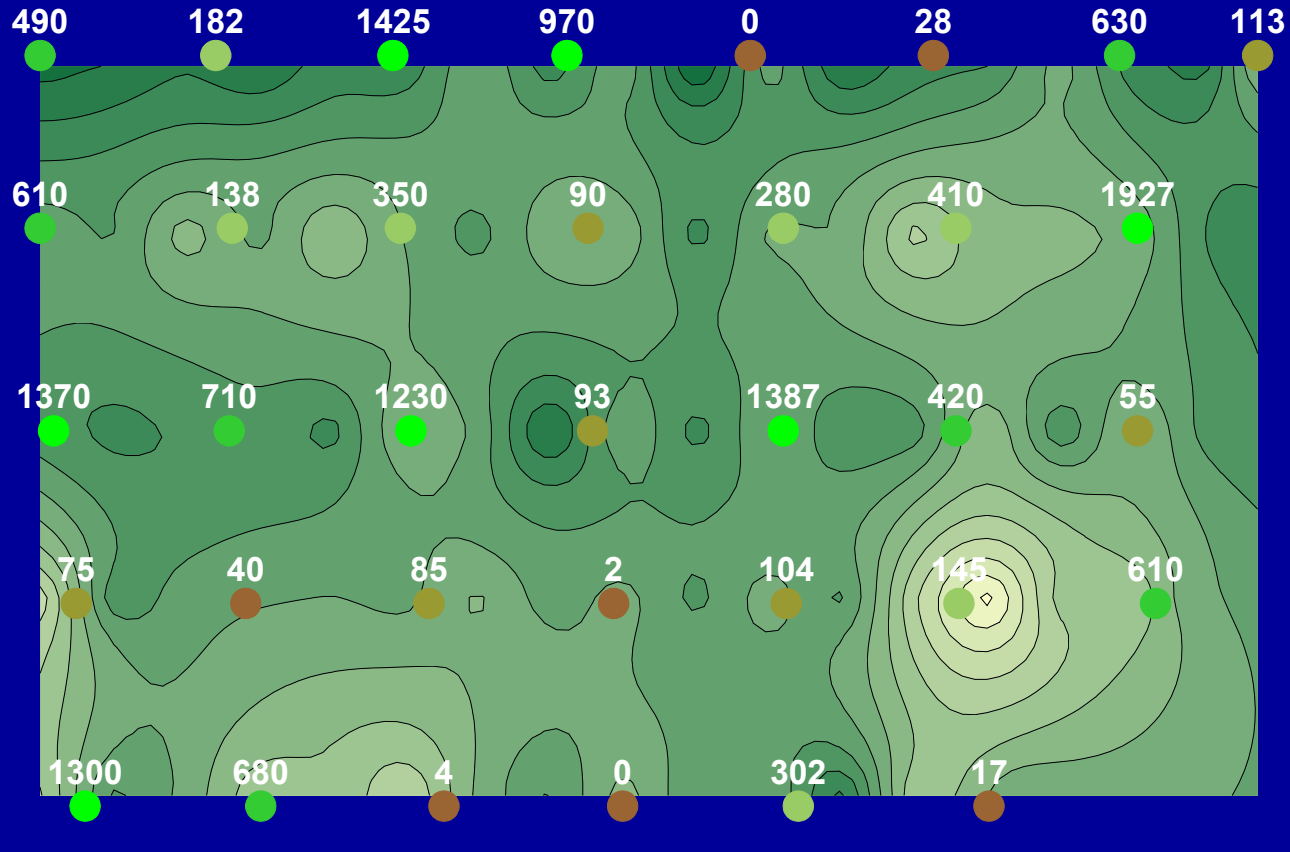
## Aphid #'s

- 0 to 55
- 55 to 138
- 138 to 420
- 420 to 970
- 970 to 1928

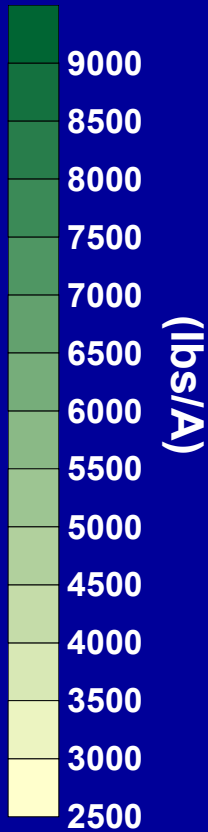
(lbs/Tons)

260  
256  
252  
248  
244  
240  
236  
232  
228  
224  
220  
216  
212  
208  
204

# Cheneyville Aphid Study (Sugar/A)



## Aphid #'s



# 2008 Yield Reduction Study

