



# Using Tankage, A Local Organic Fertilizer, for Crop Production in Hawaii

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# The problem



Photo credit: Matson Navigation Company, Inc.



# Tankage: a good source of nitrogen



- Average analysis contains 9-10% N
- Industry by-product made of fish, meat and some bone meal
- Available locally from Baker Commodities
- Cost less than other OMRI certified products at \$0.30/lb



Photo credit: [www.uaex.edu](http://www.uaex.edu)

Nitrogen deficiency in corn reduces yields, excess N is costly and harmful to the environment



How much is enough?  
What is the best timing?



# Fertilizer rates and timing

**Split-Plot Field Diagram**

|         |     |     |     |     |          |
|---------|-----|-----|-----|-----|----------|
| Block 1 | 0   | 200 | 300 | 400 | preplant |
|         | 400 | 100 | 300 | 200 | split    |
| Block 2 | 0   | 300 | 400 | 200 | preplant |
|         | 400 | 300 | 200 | 100 | split    |
| Block 3 | 200 | 0   | 400 | 300 | split    |
|         | 400 | 200 | 100 | 300 | preplant |
| Block 4 | 0   | 400 | 200 | 300 | split    |
|         | 100 | 400 | 300 | 200 | preplant |



# Field set-up





# Plants at 3 weeks



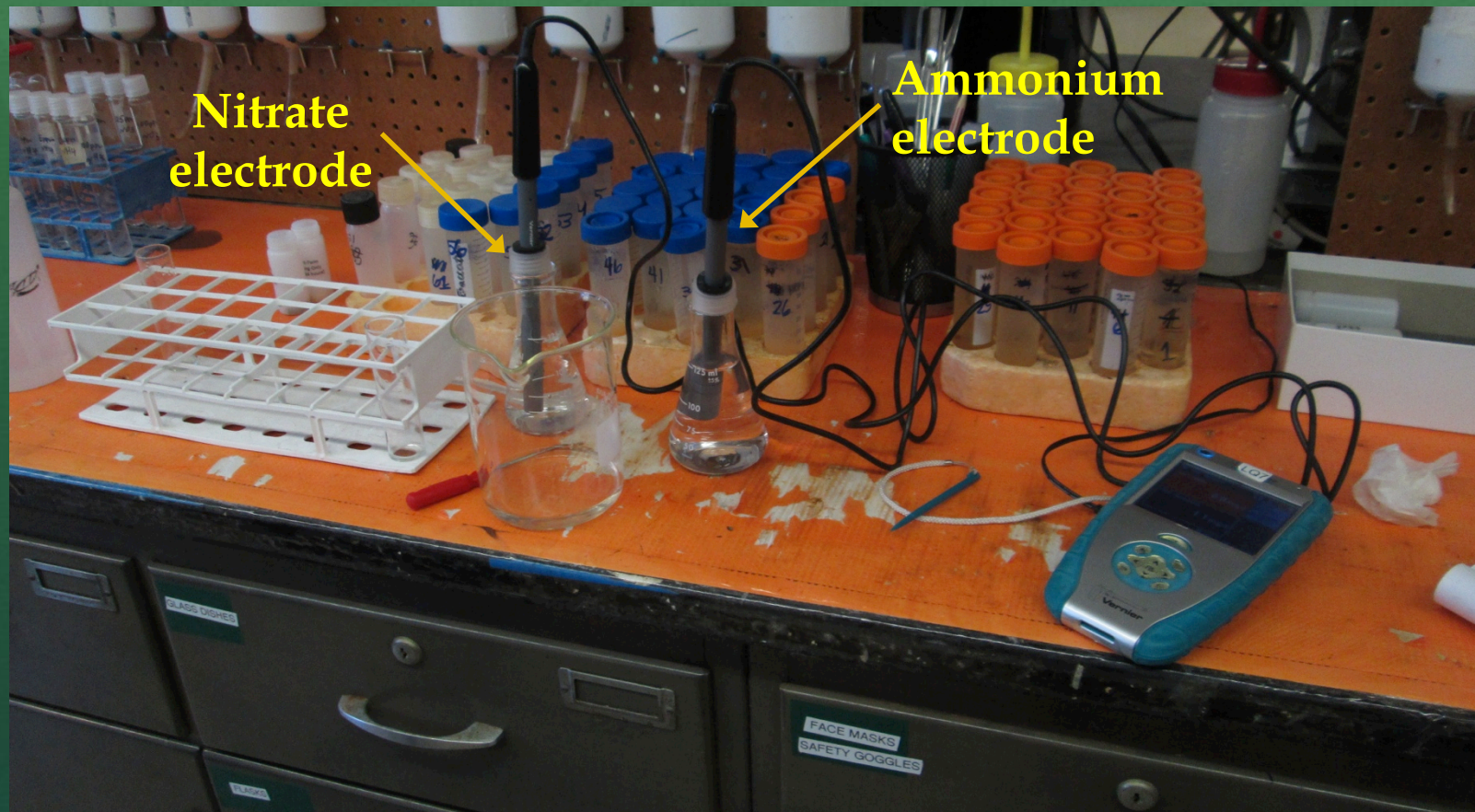


# Data collection using a SPAD meter





# Analysis of nitrates



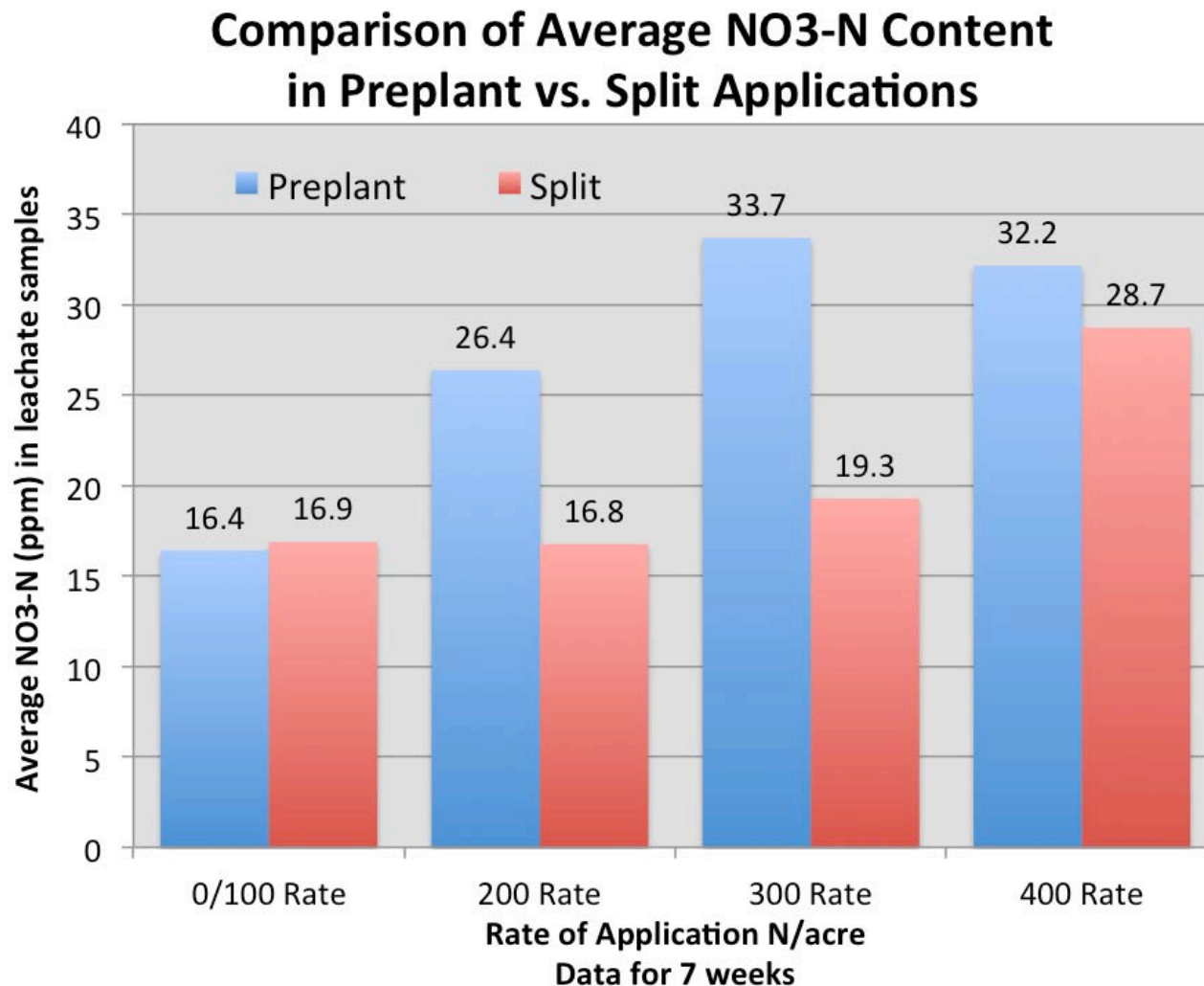


# Observations at 7 weeks





# Less Nitrate Leaching in Split Application Plots





# Questions?

