2006

Research Update Meeting 2006 - OSC Nitrogen Rate and Pruning Intensity 2006

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Nitrogen Rate and Pruning Intensity

Research sponsored and supported by Ocean Spray Cranberries, Inc.

Grower Cooperators:
Decas Cranberry Company
Gilmore Cranberry Company

Objectives

- Evaluate interaction of N rate and pruning intensity on vine biomass and cranberry productivity
- Develop recommendations for weed control in plantings of new varieties

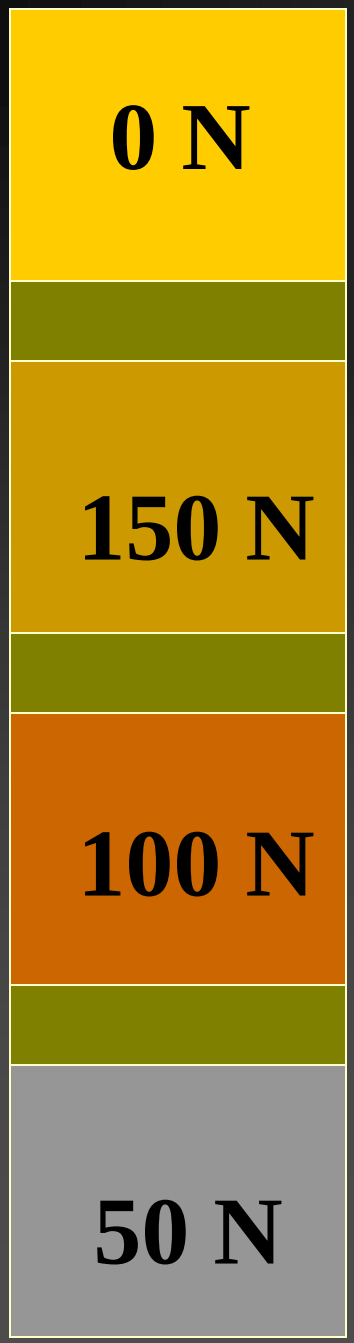
Treatments

- 4 N levels
  - 0, 50, 100, and 150 lb/A
- 4 Pruning intensities
  - None, low, medium, and high
- 2 sites ‘Stevens’


966F
CAT

Treatments

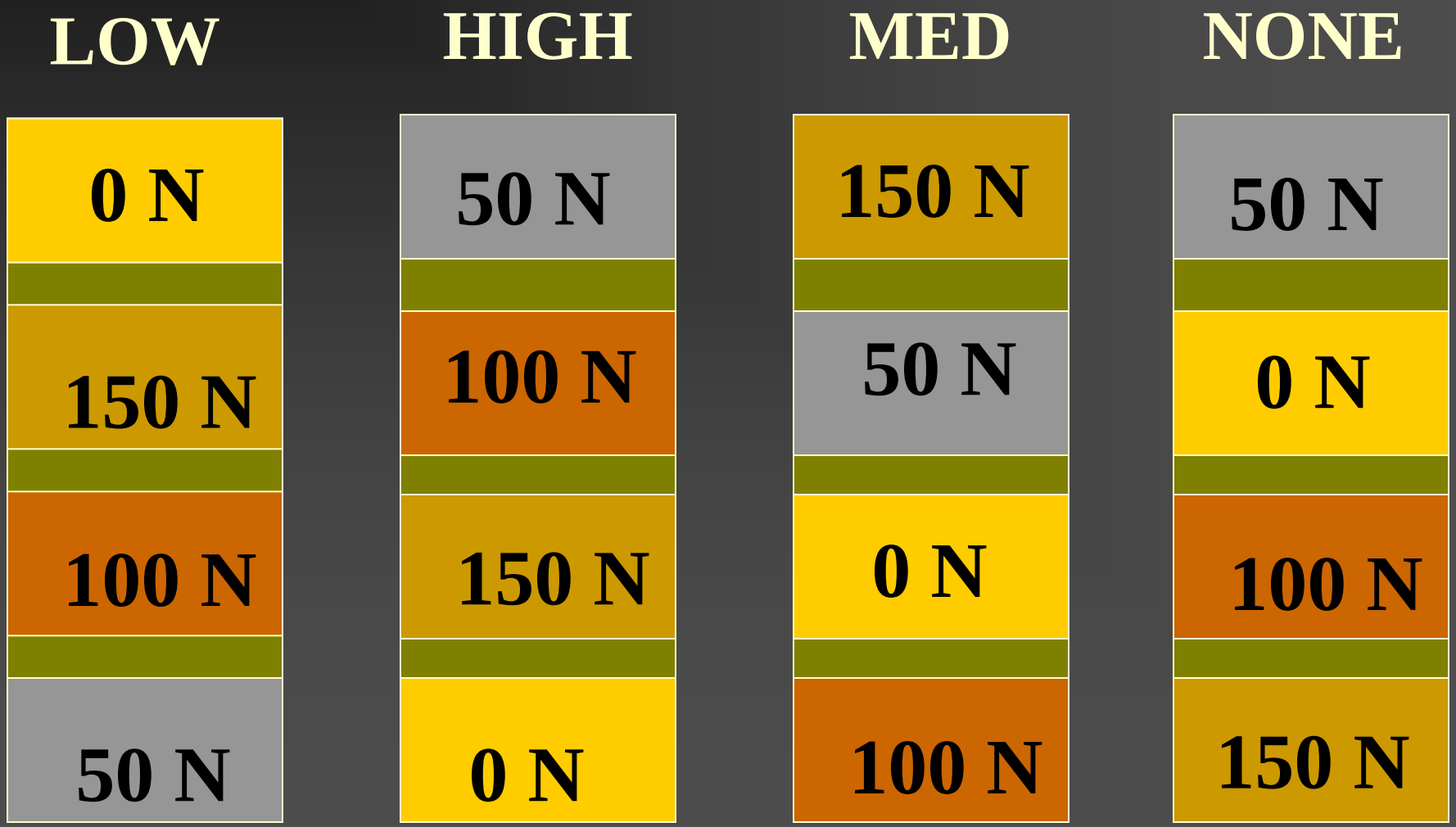
- Spring pruning
- Nitrogen: 4 equal doses
- Each combination replicated 3x
- Plots are 270 ft^2 or 300 ft^2
- Study initiated in 2003



Low Pruning

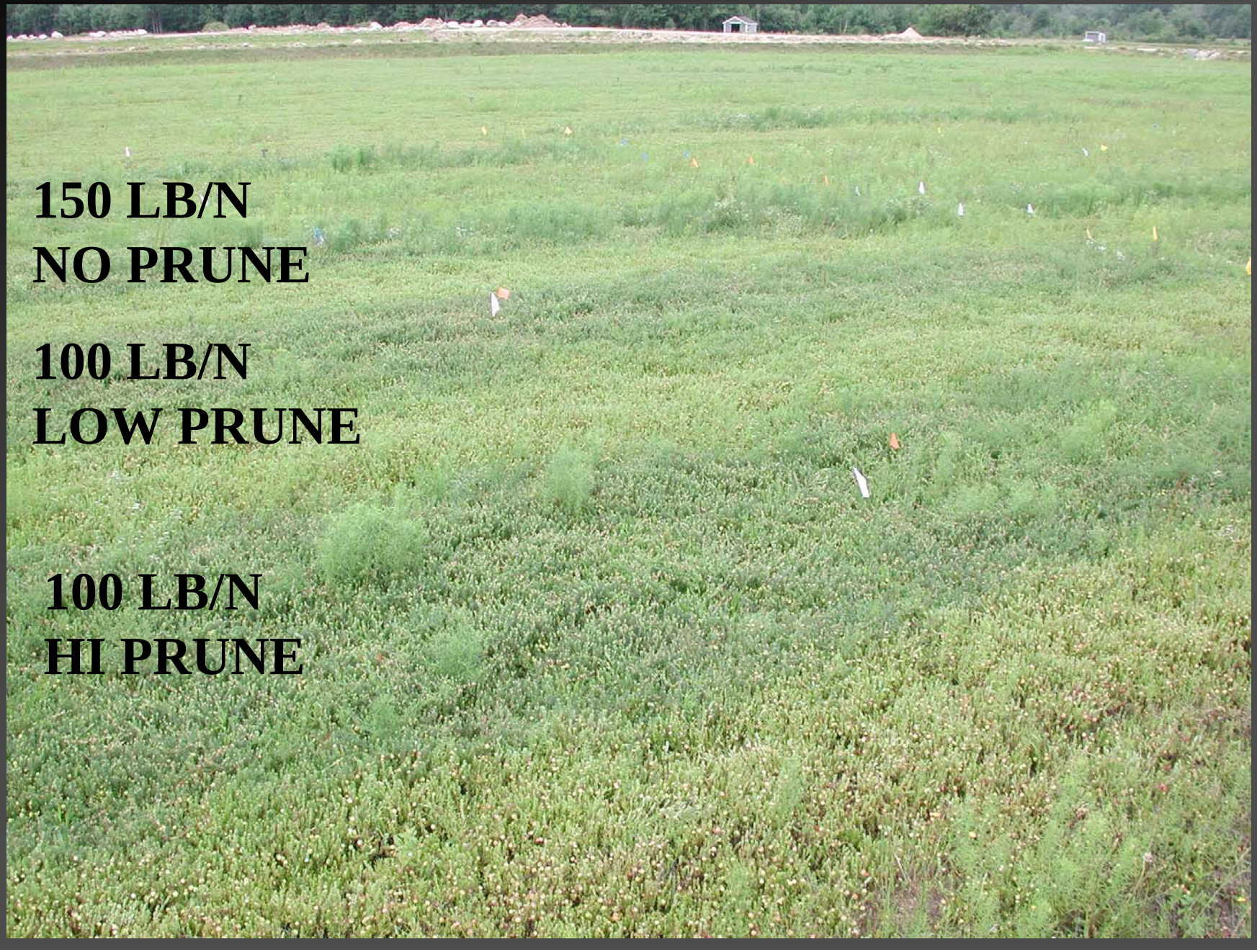
ONE REPLICATE

Pruning Intensity



CARVER SITE 2004

CARVER SITE 2004



ROCHESTER SITE 2005

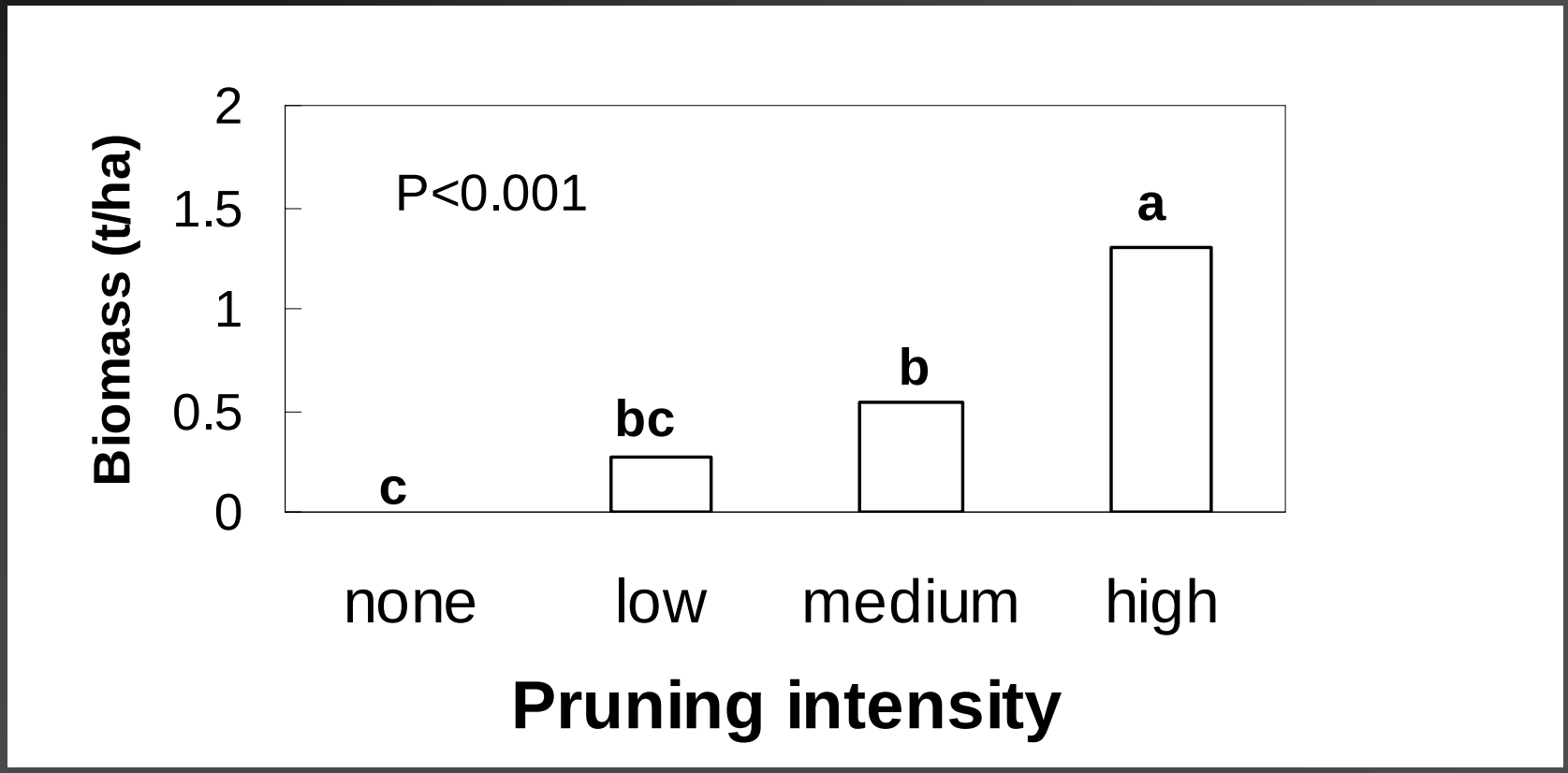

0 lb/N
No Pruning
4 inches
2004


150 lb/N
No Pruning
7 inches
2004

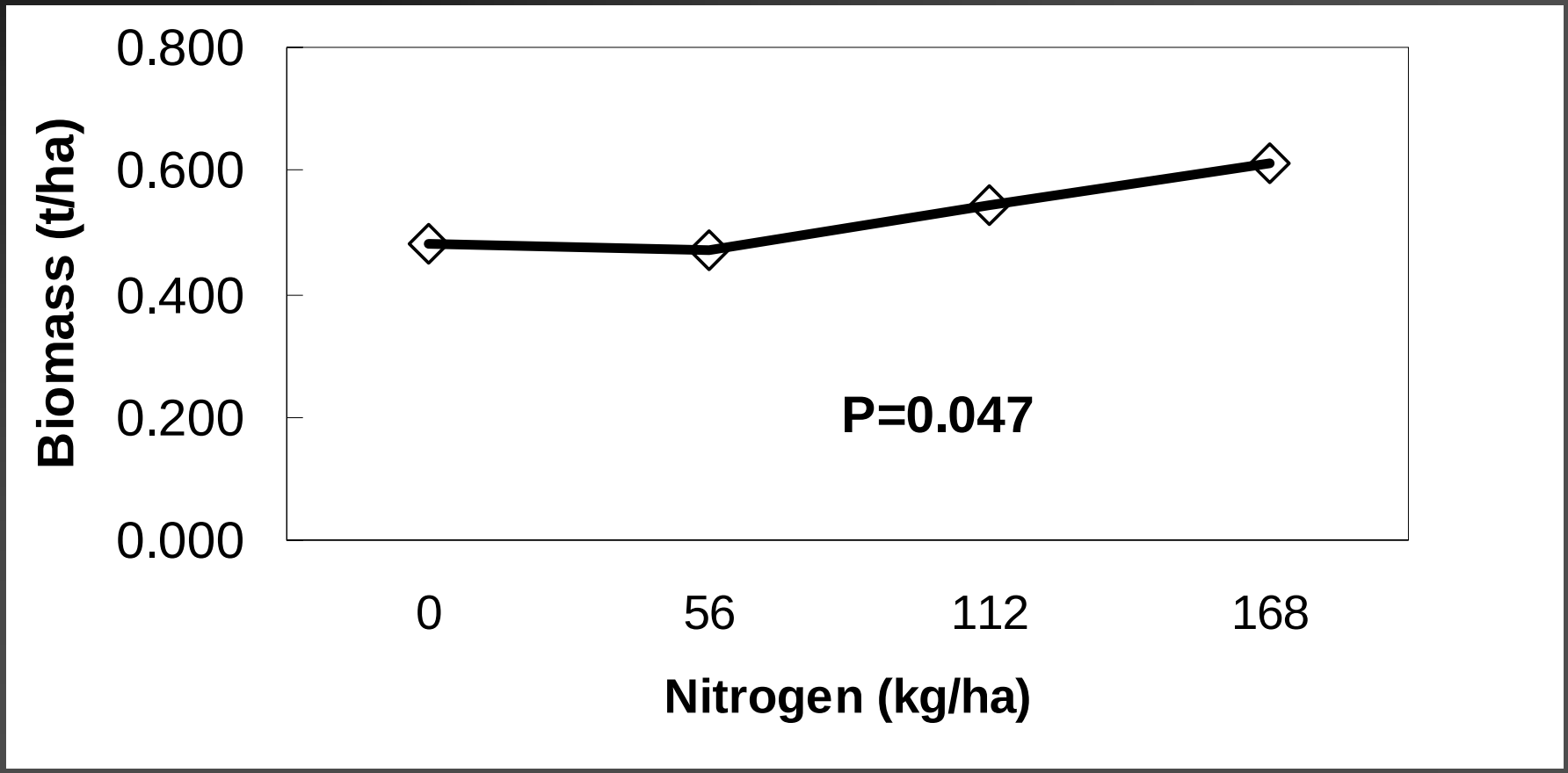
Data Collected

- Spring pruning weights
- Vine samples
  - Upright density evaluation
- Harvest samples

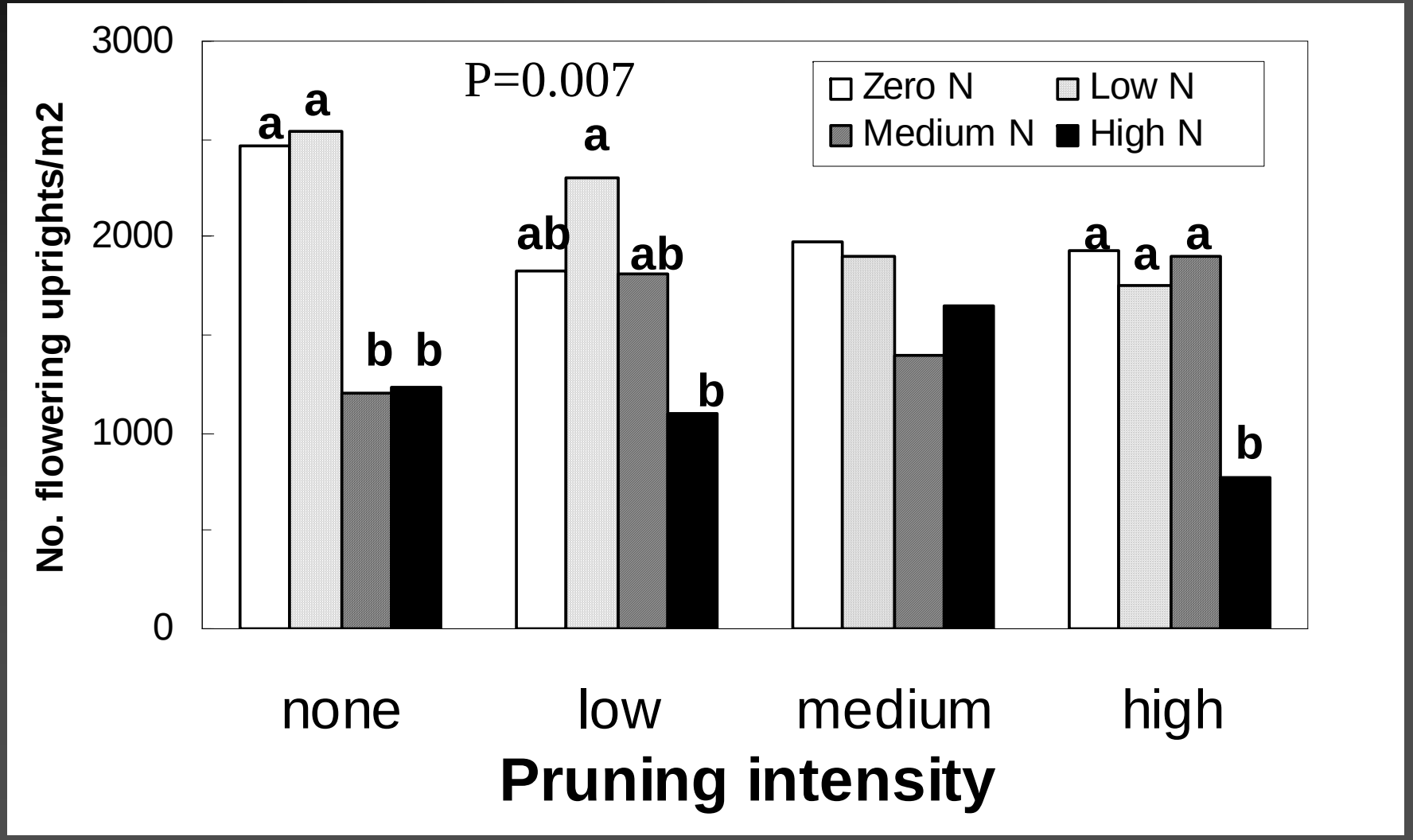
Spring Weights - Y2 across N



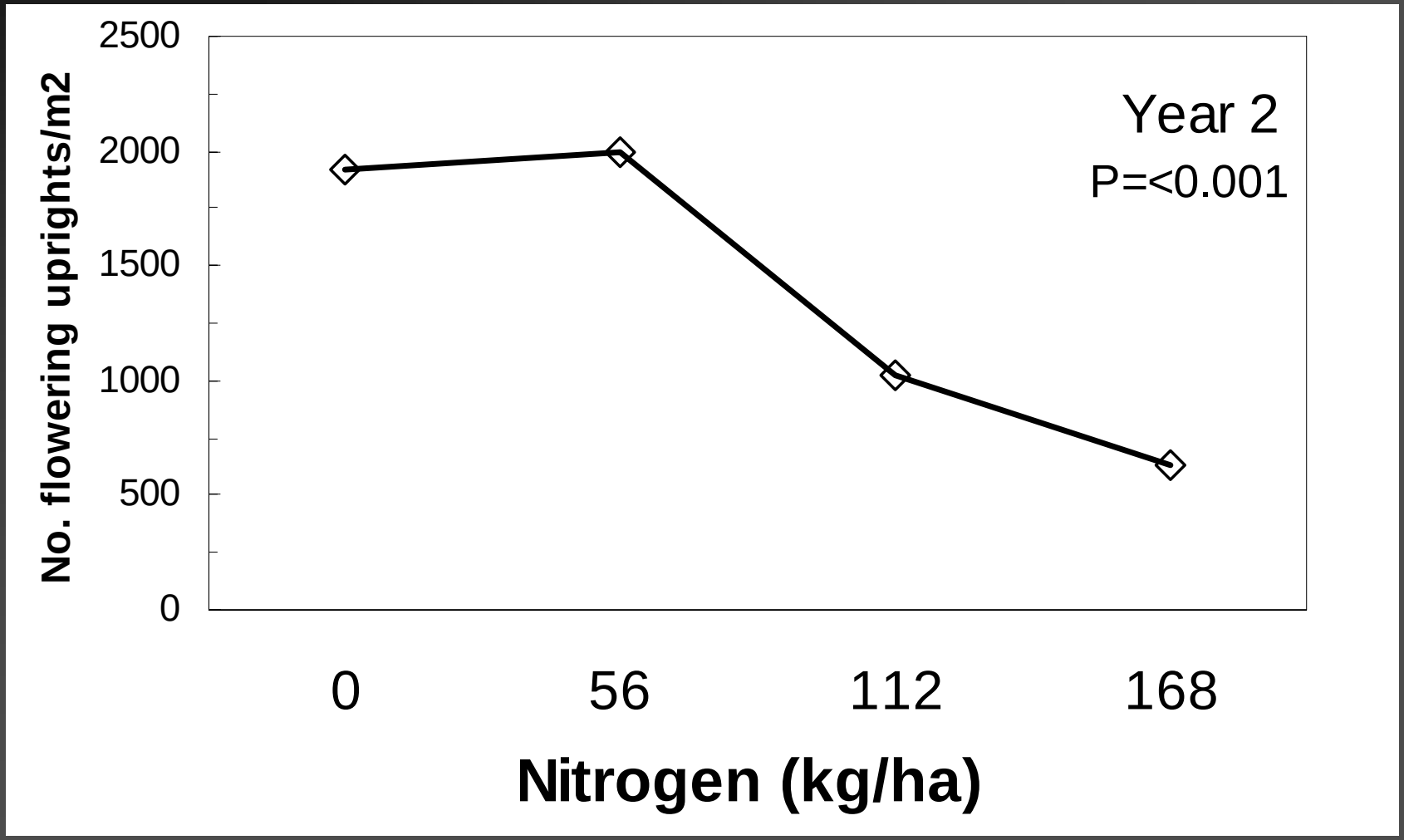
Spring Wt - Y2 across Pruning



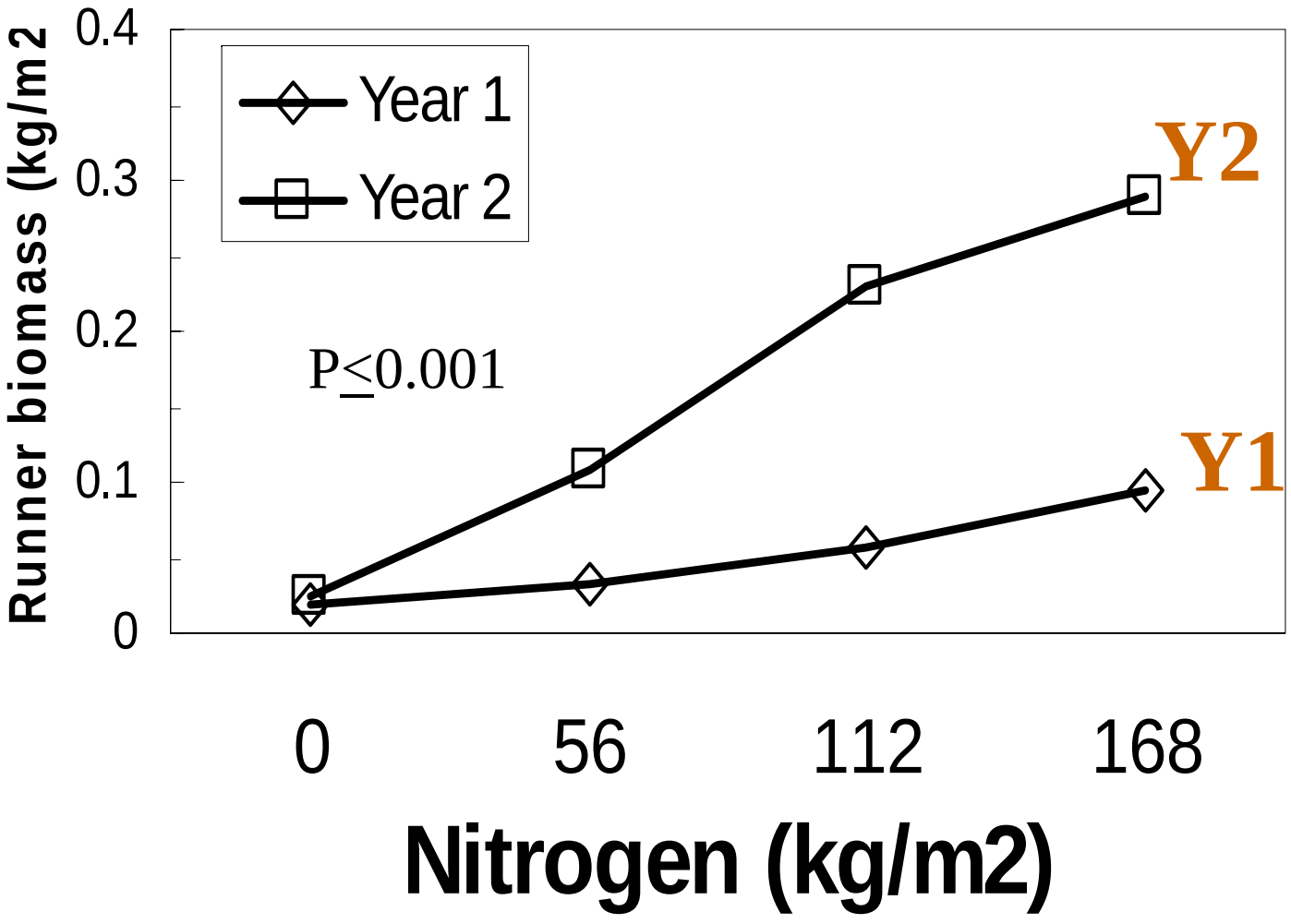
Flowering Upright Density – 2 yr



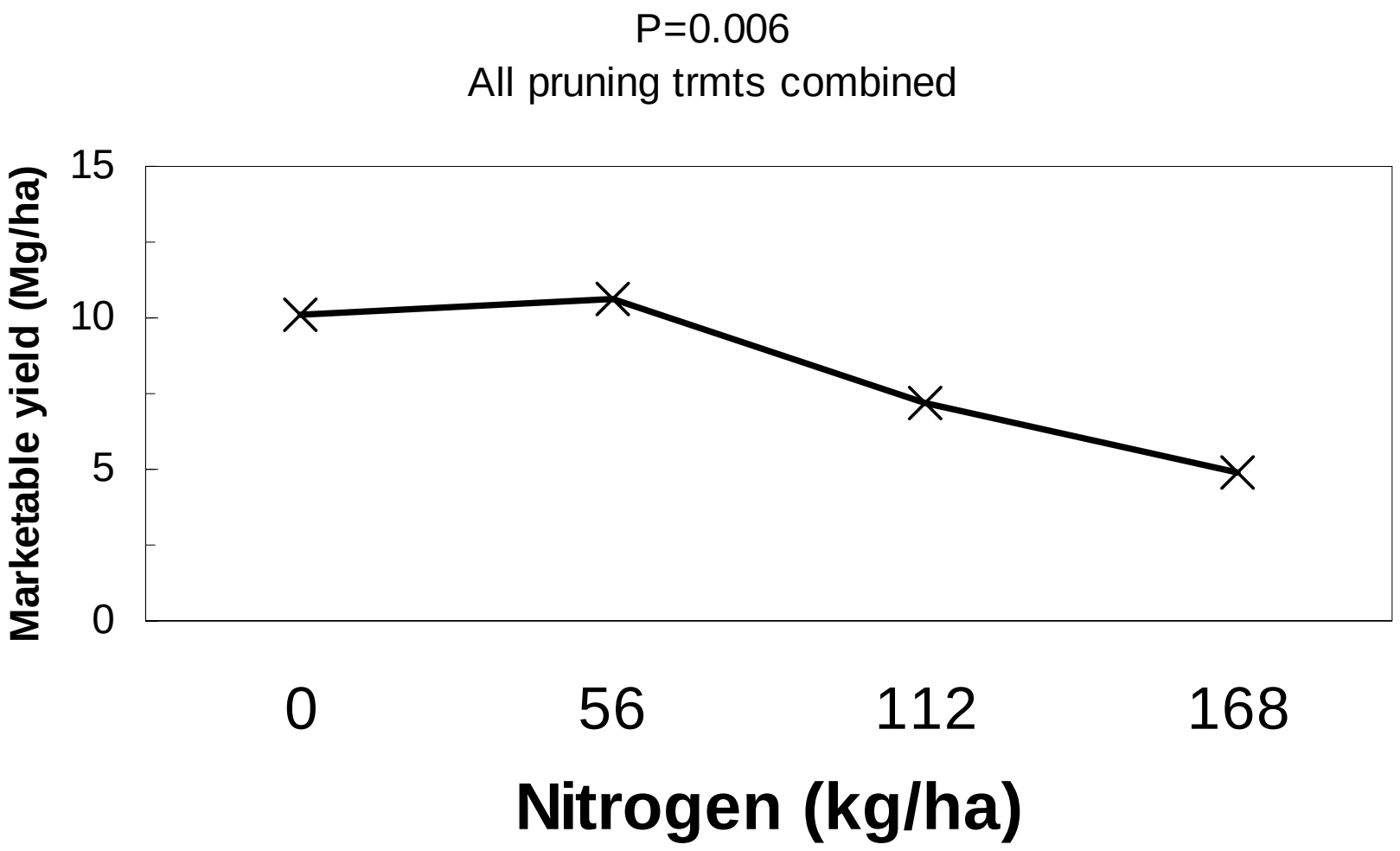
Flowering Upright Density – Y2



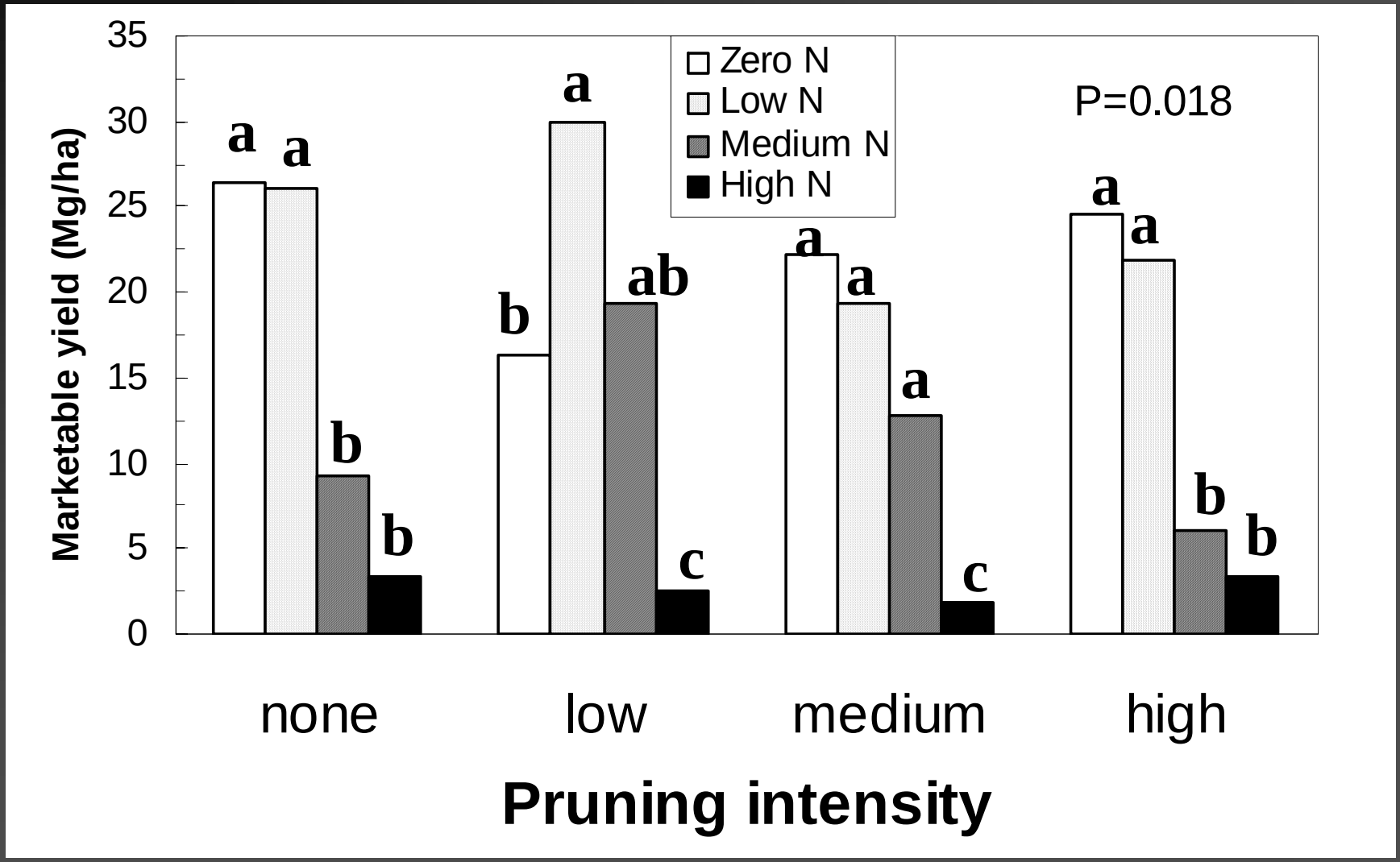
Runner Biomass / m2



Marketable Yield - Year 1



Marketable Yield - Year 2



Economic Analysis

- Cost of N fertilizer
- Fruit yield ($32 / bbl)
- Prunings harvested
  - Cost to buy ST vines ($1500 / ton)
- Net Income = Yield + Vine Savings - Fertilizer Costs
  - Y1, Y2 & both years combined

Preliminary Economics (2 yr data only)

- Low - N rate / pruning combinations had highest economic returns overall
- High - N rates consistently had lowest income, irrespective of pruning intensity

Other Highlights
(2 yr data only)

- Each 50 - N increment > 50 lb/A gave ~ 14% increase vine biomass (spring harvest)

- #, biomass, and % Uf decreased with increasing N rate
  - Unaffected by pruning intensity

Other Highlights (2 yr data)

- Marketable yield declined with increasing N rate, esp. > 50 lb
  - Unaffected by pruning intensity
- Runner # , biomass increased with increasing N rate
  - Unaffected by pruning intensity

Notes

- Mean vine biomass (spring)
  - Low = 0.12 ton / A
  - Medium = 0.26 ton / A
  - High = 0.51 ton / A
- 2005 data being processed
- Continue project in 2006

Questions ??