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Introduction

Plants take up N in large quantity compared to other elements, and they also have different response to different forms of N, like ammonium and nitrate. Dr. Kirkby and Dr. Mengel found tomato plants will absorb NH_4^+ almost 7 times than NO_3^- . And the other experiment on wheat showed too much NH_4 in medium will decrease the uptake of other elements by plants.

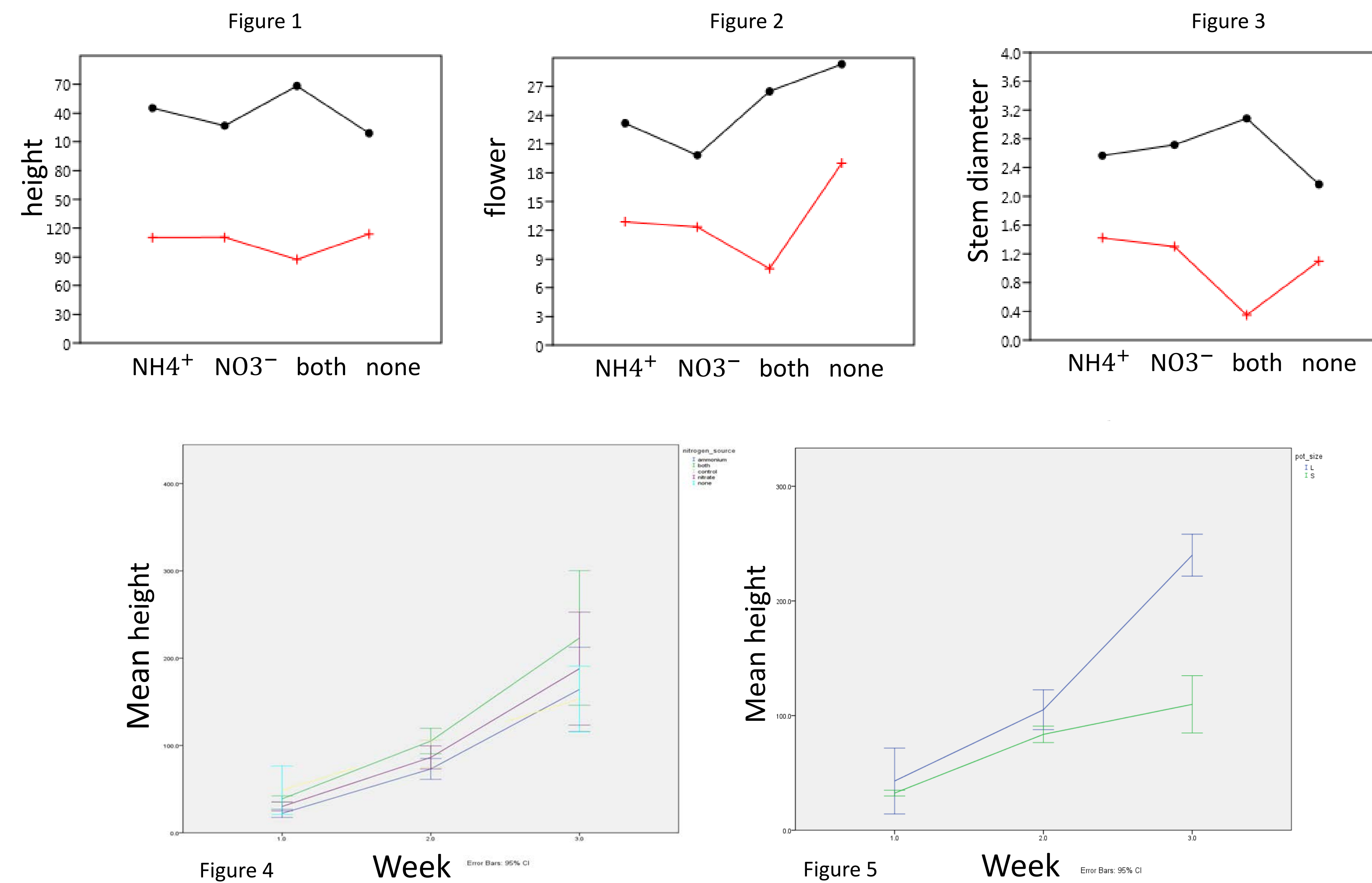
Treatments

T1 Control: N deficiency fertilizer
T2 ammonium& nitrate: ammonium& nitrate fertilizer
T3 ammonium: ammonium fertilizer
T4 nitrate: nitrate fertilizer
All treatments have half number of small pots & large pots. Fertilizer used only once per week

Key features

Shoot biomass, number of flowers, plant height, stem diameter

Blue : Large pot Red: Small pot



Results

Height:

- Both Pots: Ammonium, Nitrate, and None showed significance (Figure 1)

Flower:

- In both sized pots every fertilizer decreases the flower count. The control had the highest flower count.(Figure 2)

Stem Diameter:

- Small Pots: Each fertilizer had around the same diameter except the Ammonium/Nitrate mixture
- Large Pots: The exact opposite happened with the Ammonium/Nitrate mixture in the large pots, it showed to have a larger stem diameter (Figure 3)

Discussion

- Different fertilizers provided different data in the Wisconsin Fast Plants
- The adding of fertilizer once a week showed the gradual differences in the plants
- Water could've been watched more carefully to get more consistent results. We had most of the flowers in the small pots die in Week 3 because of watering issues.

Literature Cited

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