bioneat AG

THE FUTURE OF CLEAN

Natural non-ionic adjuvent

BIOBASED ADJUVANT

The best Adjuvant on the market!

Biobased Adjuvant is a natural non-ionic adjuvant designed to improve the performance of fertilizers by increasing their ability to be carried into plant tissue effectively.

Less Chemicals with better results.

Growth Chamber Study
Final Report

Introduction

Bioneat Technologies approached the University of Saskatchewan to conduct a preliminary growth chamber study regarding potential positive impacts of the application of Bioneat AG-1 to soil and/or plants.

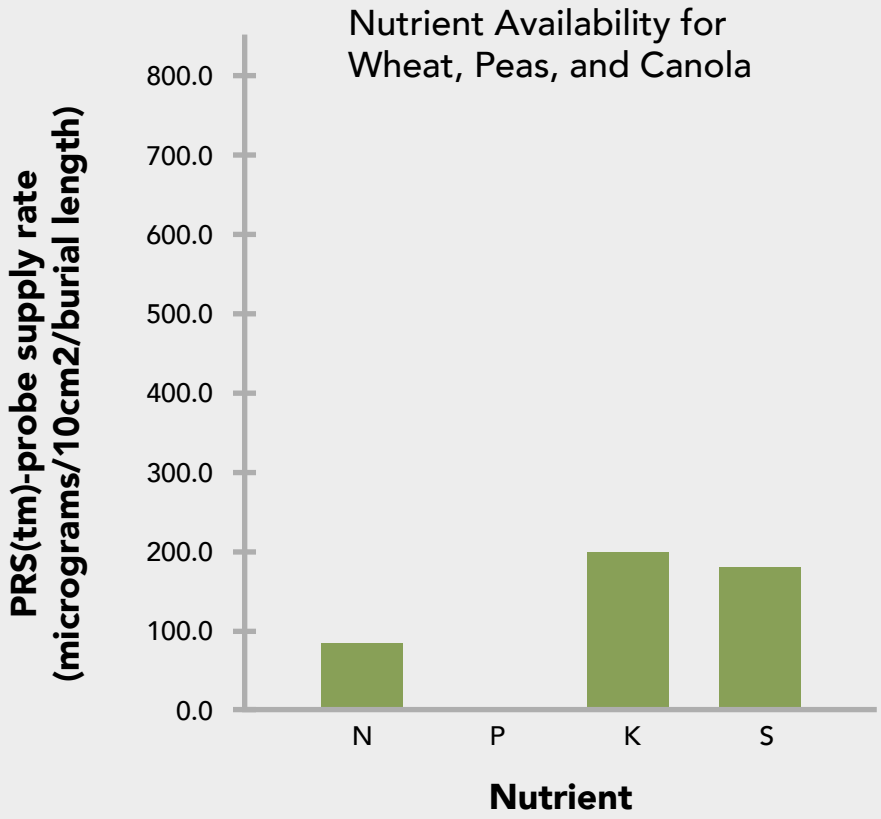
Methods and Materials

This study was conducted in a growth chamber at the University of Saskatchewan. The growth chamber was programmed for 17 hours of light and 7 hours of dark with temperatures of 22°C during the daylight hours and 18°C during the dark hours.

2018 19 May

PRS Soil Probe Results

PRS Soil Probe analysis for nutrient availability was conducted 7 days after initial application of the Bioneat AG-1 to the soil surface.



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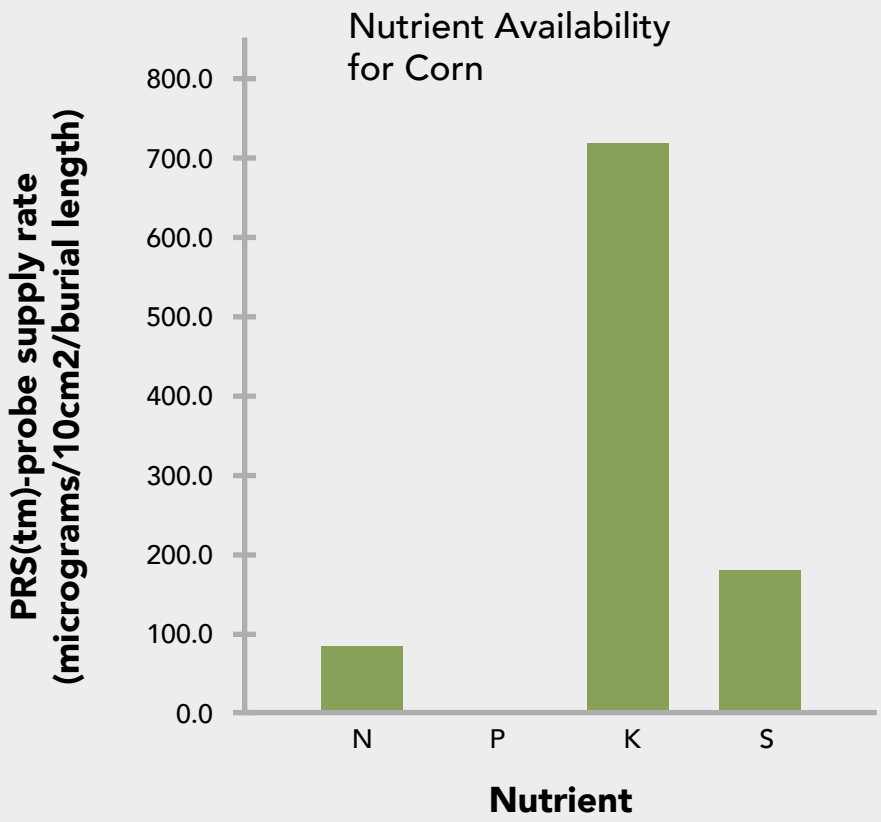
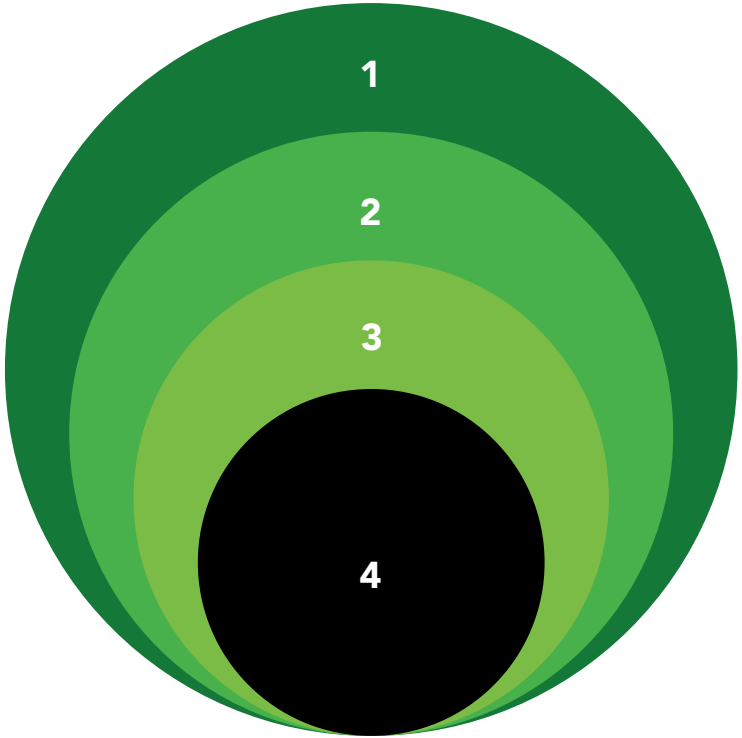


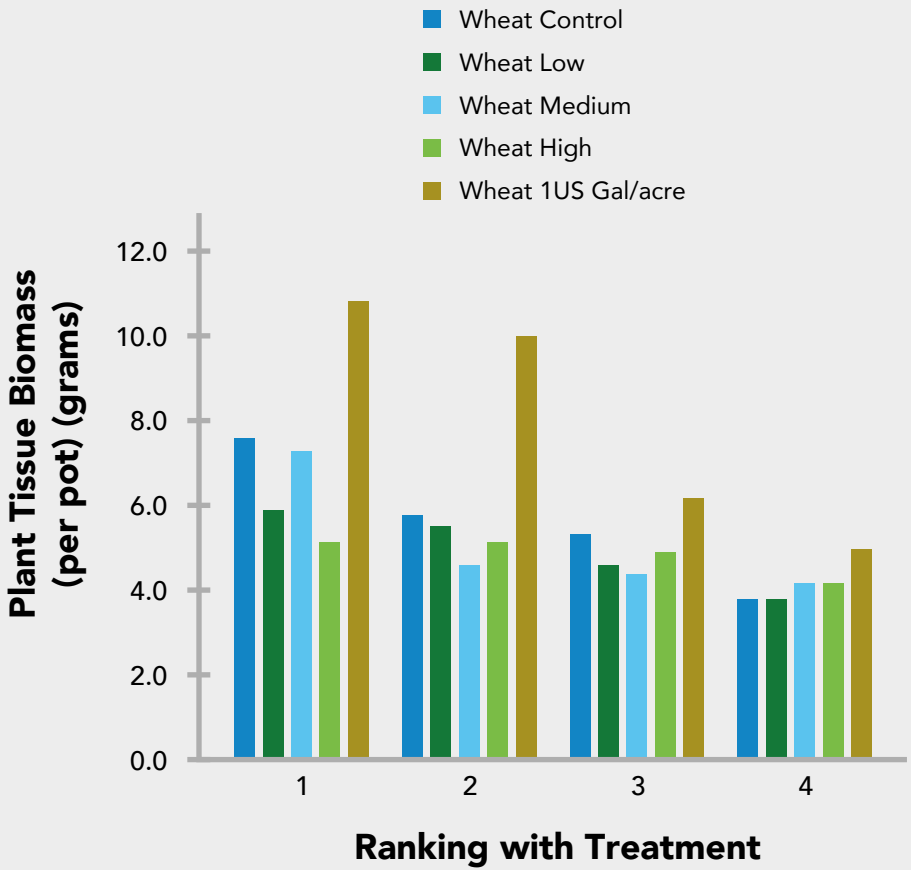
Biomass tests

The first step upon completion of the study was to measure the height of each plant and count the number of rows on each wheat head, the number of pods on each pea plant, and the number of pods on each canola plant.
Within each treatment (control, low, medium, etc.), there were 4 repetitions (pots) labelled 1, 2, 3, and 4. For the purposes of easier comparison, the pots in each treatment were ranked from 1-4, with 1 being the pot with the highest biomass reading and 4 being the pot with the lowest biomass reading.



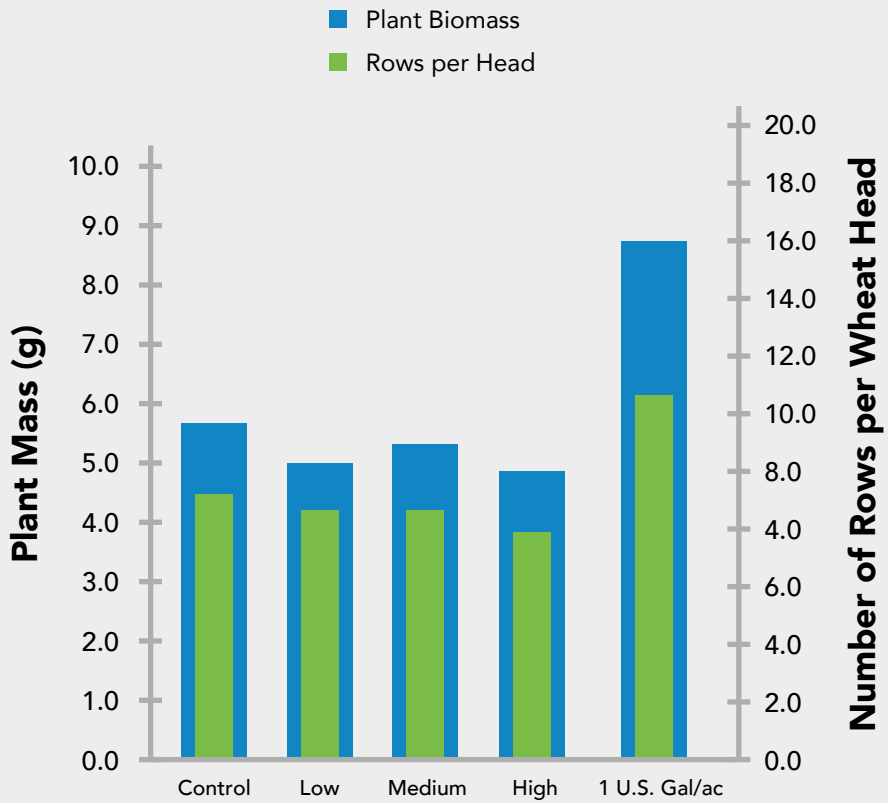
Wheat Biomass Results

Dry wheat plant tissue biomass harvested from each pot. The pots were grouped according to their mass ranking within their treatment.



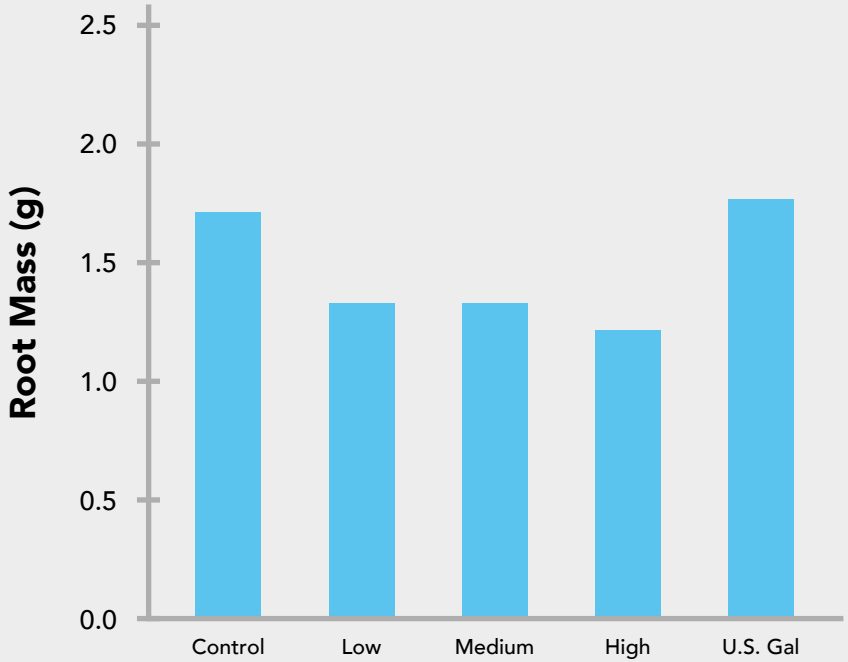
Wheat Plant Biomass Results

Wheat plant biomass and number of rows per wheat head averaged over 4 replicates.

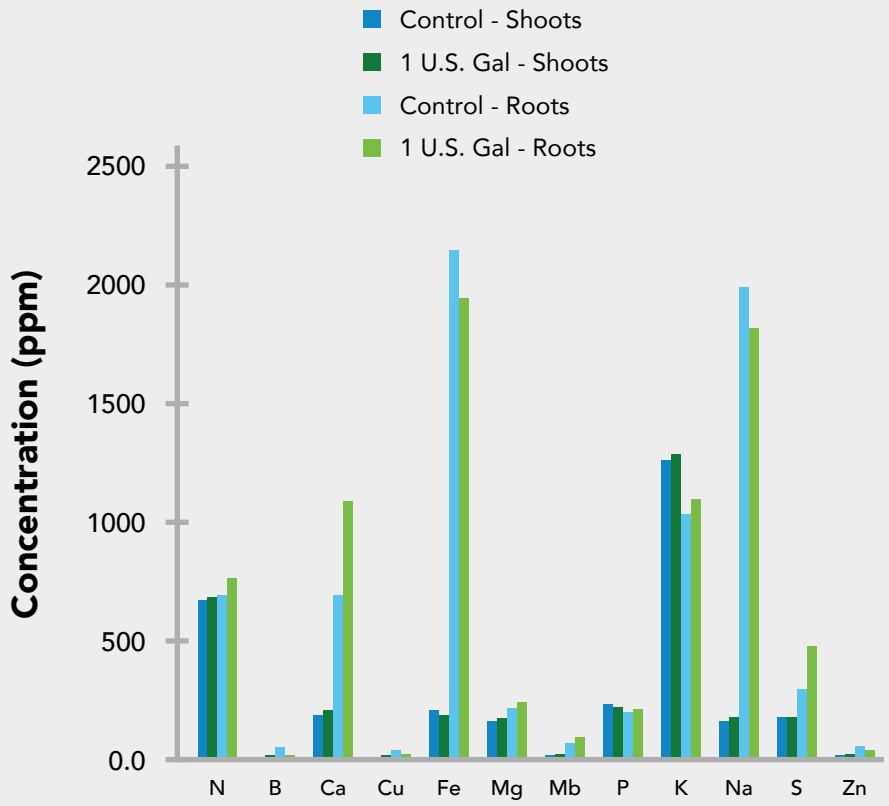


Wheat Root Biomass Results

Wheat root biomass weight averaged over 4 replicates.

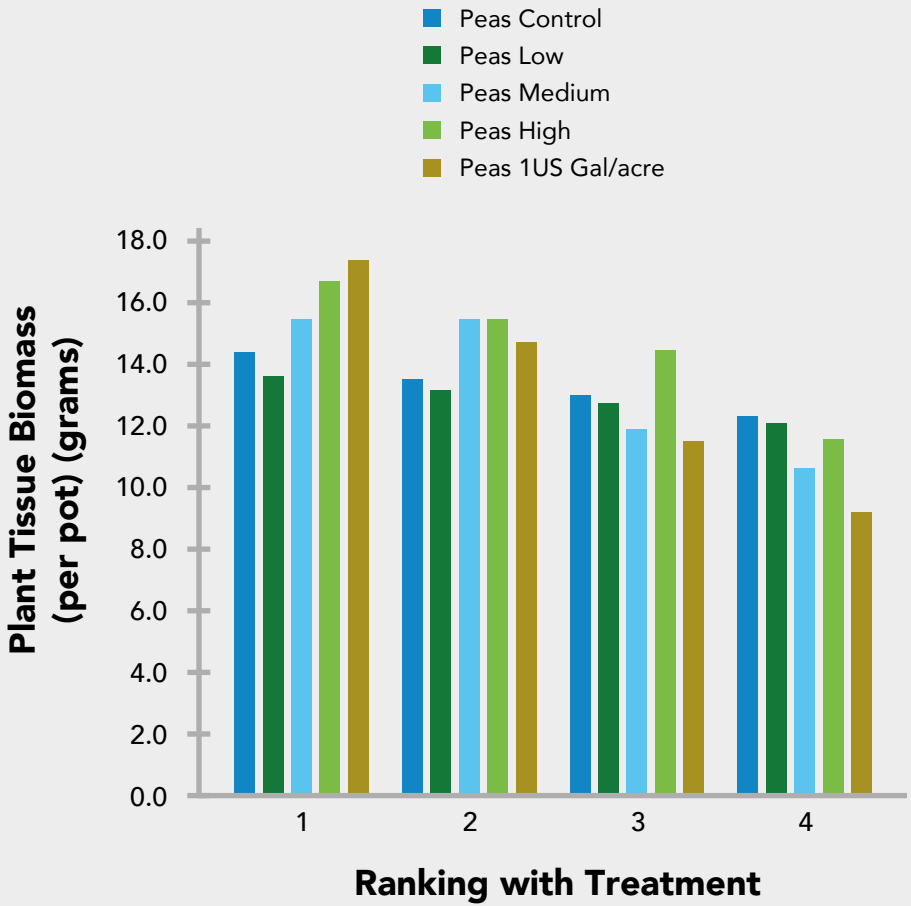


Mineral for Wheat Plant and Root Material



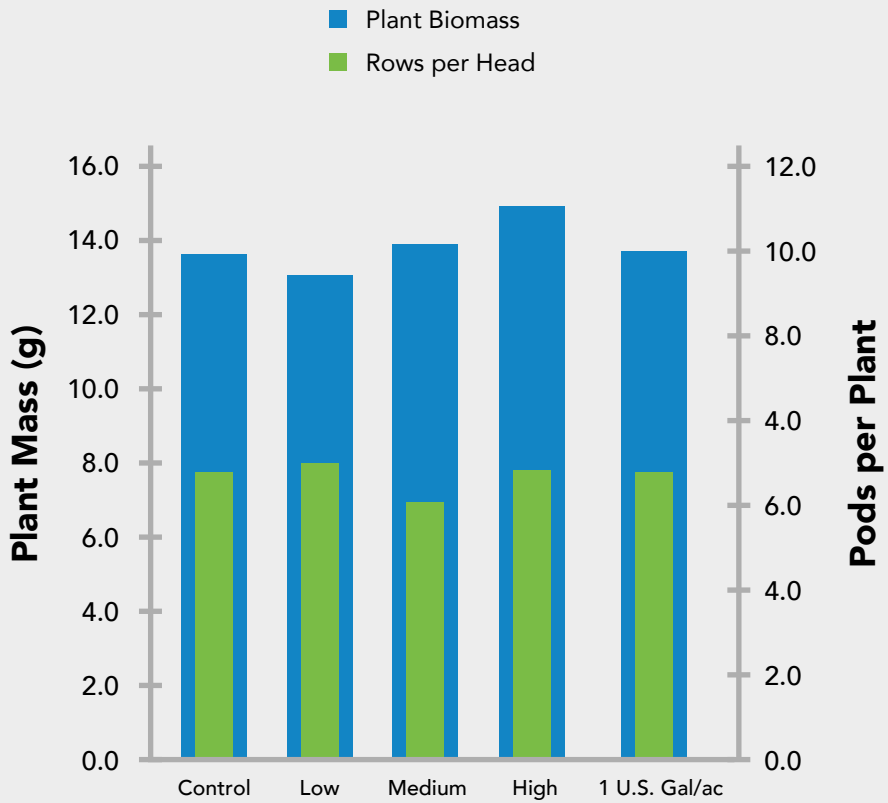
Peas Biomass Results

Dry pea plant tissue biomass harvested from each pot. The pots were grouped according to their mass ranking within their treatment.



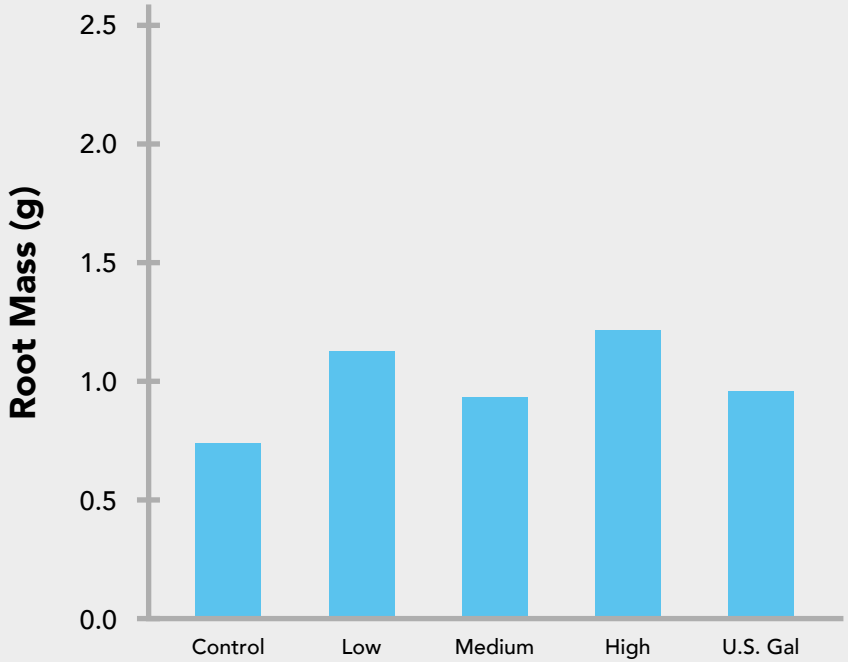
Pea Plant Biomass Results

Pea plant biomass and number of pods per plant averaged over 4 replicates.

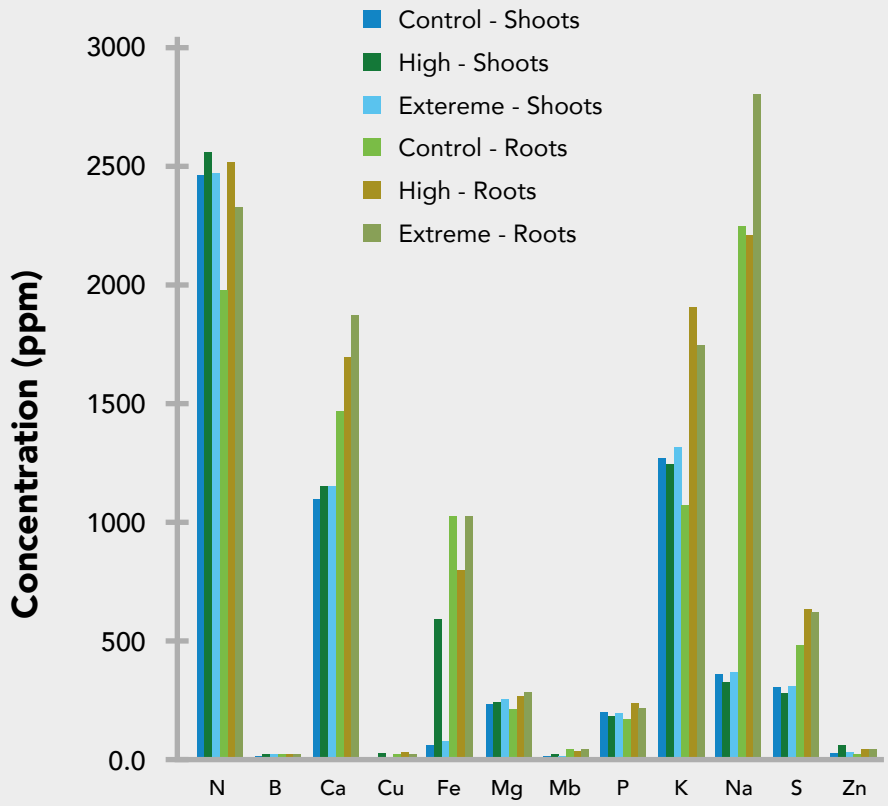


Pea Root Biomass Results

Pea root biomass weight averaged over 4 replicates.

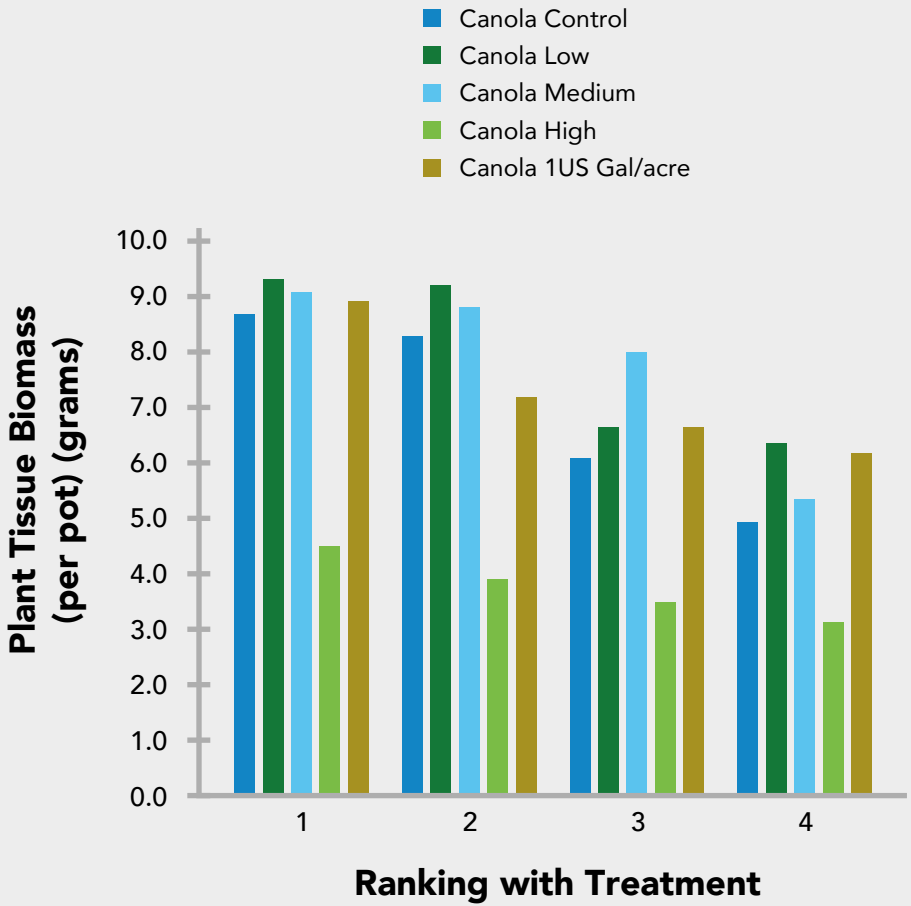


Mineral for Pea Plant and Root Material



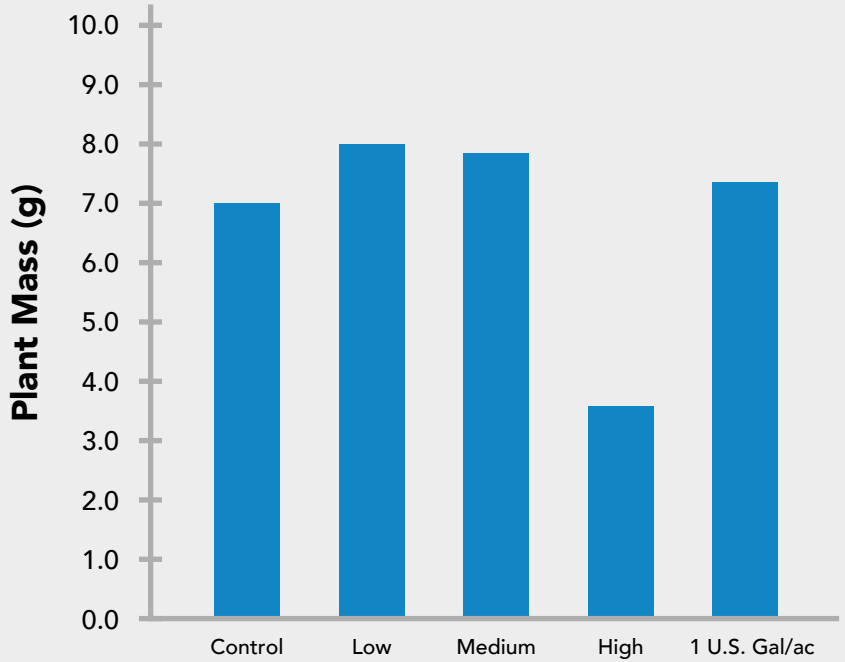
Canola Biomass Results

Dry canola plant tissue biomass harvested from each pot. The pots were grouped according to their mass ranking within their treatment.



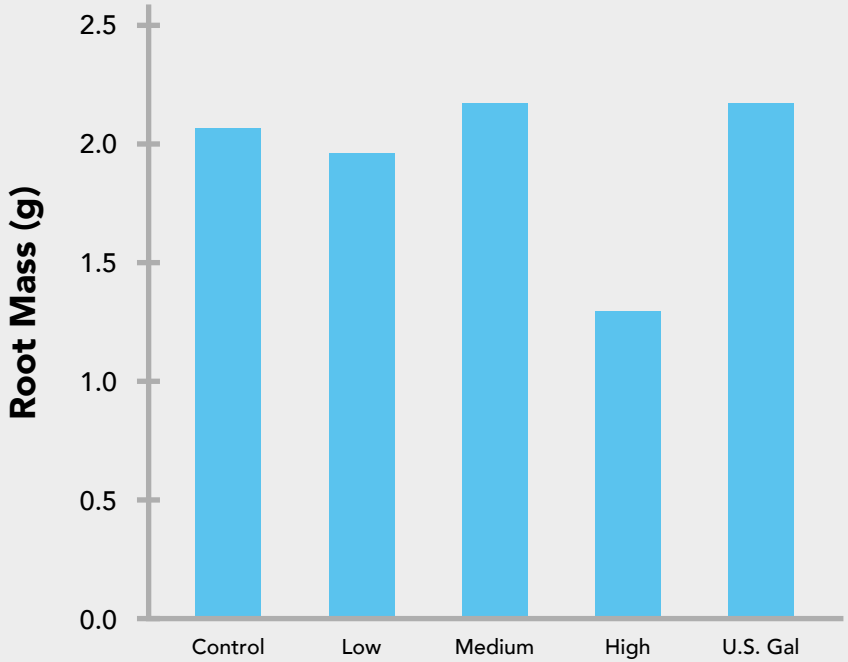
Canola Plant Biomass Results

Canola plant biomass weight averaged over 4 replicates.



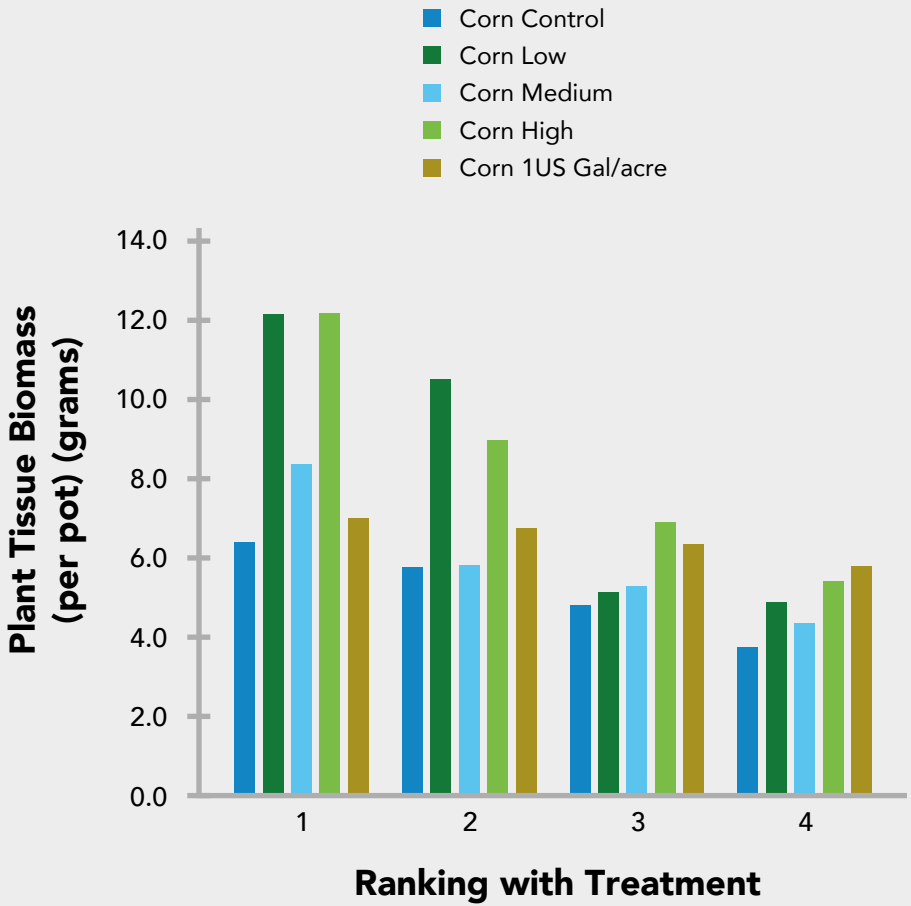
Canola Root Biomass Results

Canola root biomass weight averaged over 4 replicates.



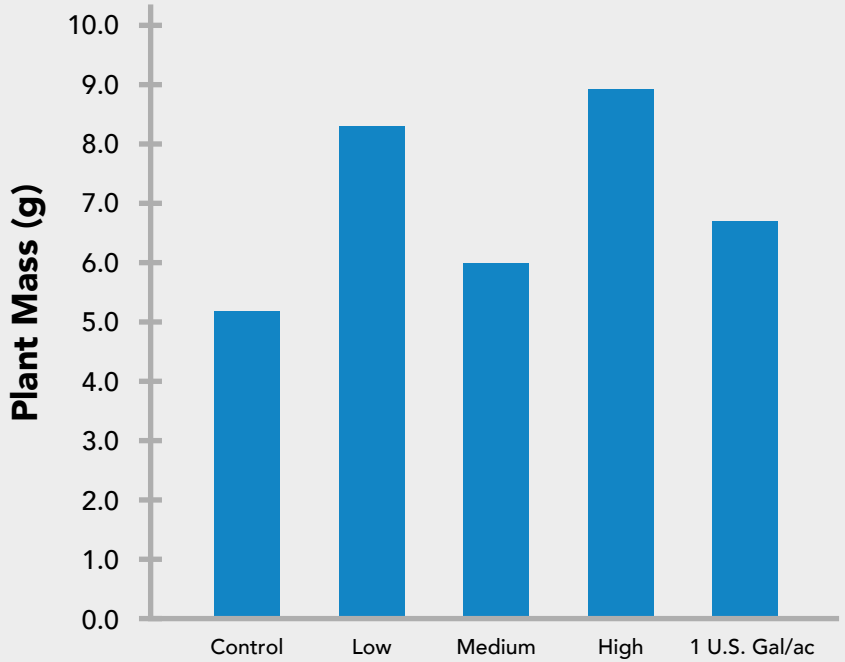
Corn Biomass Results

Dry corn plant tissue biomass harvested from each pot. The pots were grouped according to their mass ranking within their treatment.



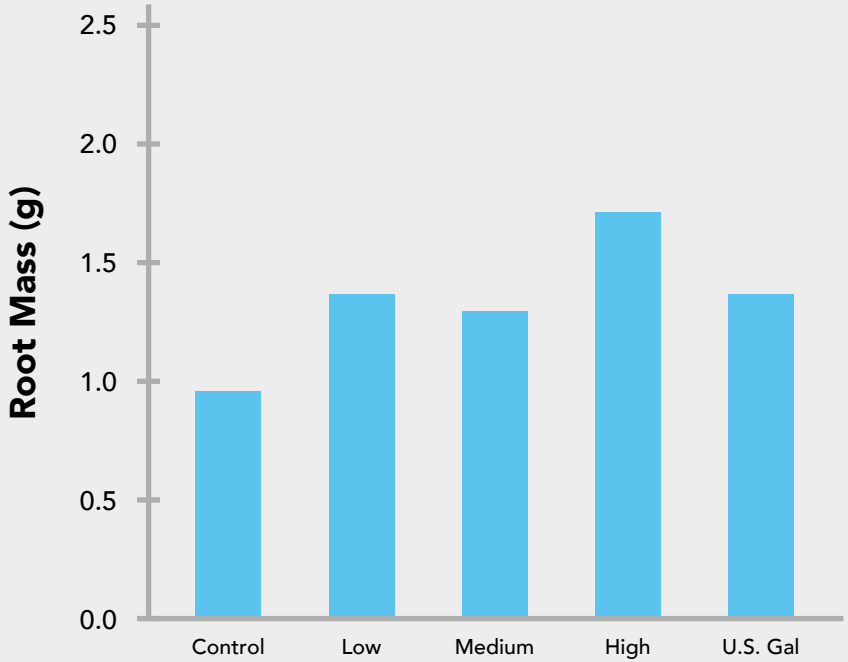
Corn Plant Biomass Results

Canola plant biomass weight averaged over 4 replicates.

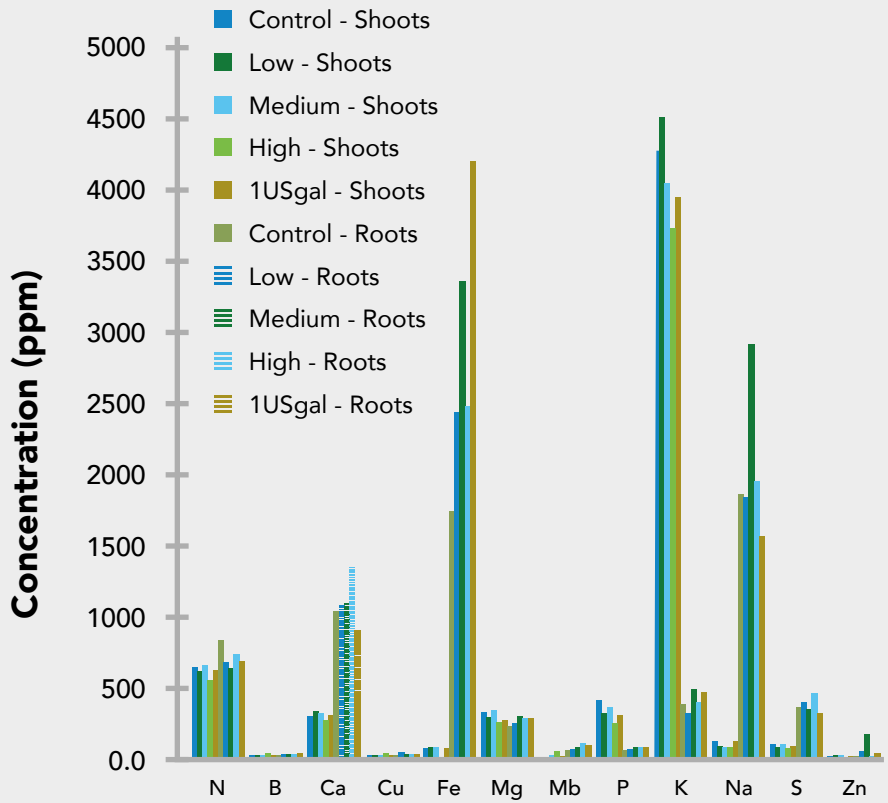


Corn Root Biomass Results

Canola root biomass weight averaged over 4 replicates.



Mineral for Corn Plant and Root Material



Conclusion

Wheat, peas, canola and corn were grown for eight weeks in a phytotron facility. Crops were planted in commercial potting soil and applied with Bioneat AG-1 at various intervals during the study. Results indicated no discernible difference in canola for all application rates as compared to the control.

Wheat

responded with 41% more plant biomass and 18% more rows per head but no difference in root biomass at the highest application rate.

Peas

demonstrated some response in plant biomass, some increased root biomass in all application rates and 13% more pods per plant for the highest application rates.

Corn

responded to all application rates in both plant biomass (8% to 46%) and root biomass (36% to 81%). Nutrient analysis of plant and root biomass indicated typically higher calcium, iron, sodium, and sulfur in the roots as compared to the control plants.

Resources
(click to view)

Executive Summary

EPA Partnership

Safety Data Sheet

USDA Certificate

Efficacy Testing

Trifold Brochure

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