

Experiment Description

Goal:

The purpose of this experiment is to examine whether using a combination of three organic fertilizers, kelp meal, blood meal, and crab meal is more effective than only using single dose of Biomass.

Methods:

The plant we chose for this particular experiment is kale. Kale has a relatively short growth period, which usually takes from 30 to 40 days. The growth of Kale could be significantly affected by the amount of nutrients that is available in the soil. The kale plants will be transplanted from soil blocks to the experiment site once the bed is prepared. Each plant will be spaced approximately 8 inches apart. Each experiment group will include 35 kale plants, which are randomly picked. Only two rows will be planted to ensure maximum distance. Data will be taken during the first harvest. Results will be compared to see if kales being treated with the combination of different organic fertilizers are healthier and produce a significantly higher yield.

Group A:

Group A consists kales that are planted with the addition of Bio-Bloom with a N-P-K ratio of 1-2-2.

Group B:

Group B consists Kale plants that are treated with a mixture of organic fertilizers consisting Kelp meal (1-0-4), Blood meal (13-0-0), and Crab meal (4-3-0).

Site:

The experiment will take place at CUH. An empty bed without any history of diseases will be selected and prepared for optimal growing condition. The bed will be tilted and compost will be added. The bed is 40-50 feet-long and 3 feet wide.

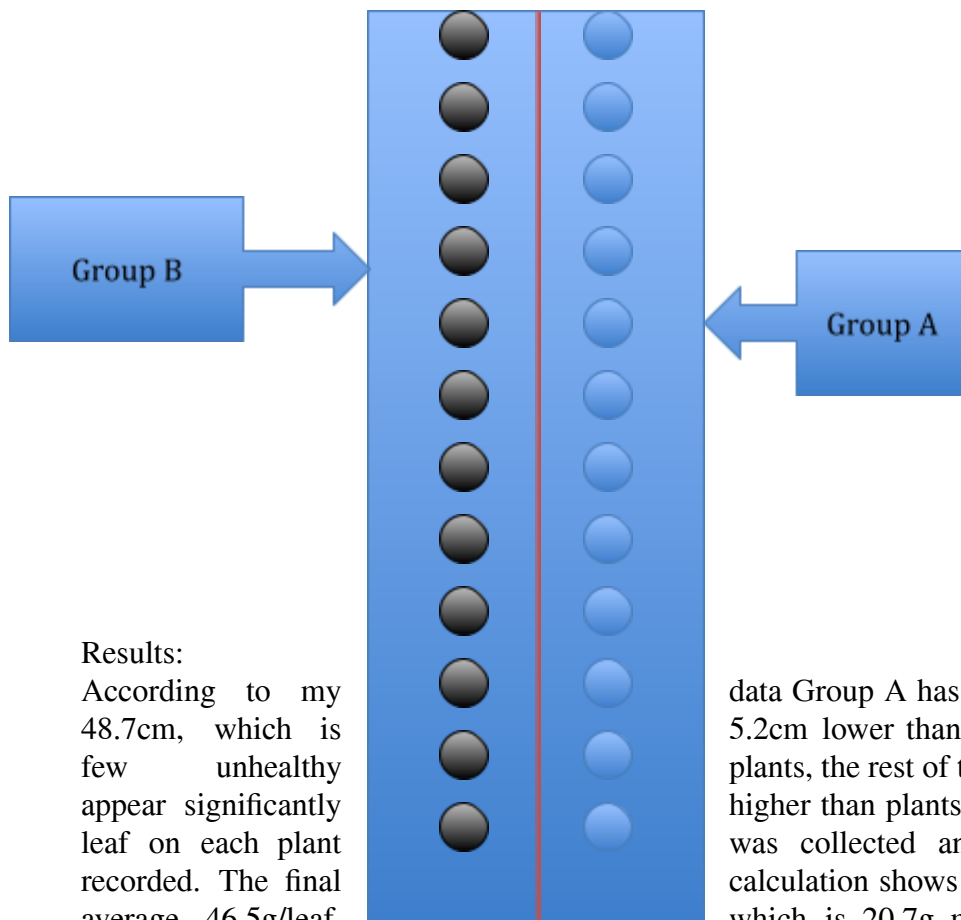
Data collection

Growth of the plants will be measured and compared every two days. A spreadsheet will be created to record all the data necessary.

Measurements will include:

- Height of the plants
- Mass of the largest leaf (including stalk) on each plant
- Level of pests (rated with a scale from 1-3)
- Symptoms for diseases and virus

Site map:



Results:

According to my 48.7cm, which is few unhealthy appear significantly leaf on each plant recorded. The final average 46.5g/leaf,

Aphids are common seen on kale plants. Both groups seem to have a fairly low amount of aphids. Some plants have a few aphids resting on the outer leaves, and only a few have “cluster” of aphids on its central stem. Overall, both groups have very minor aphid problems. Overall, Group B produced a much larger yield with marketable stalks. None

data Group A has an average height of 5.2cm lower than Group B. Despite a plants, the rest of the plants in Group B higher than plants in Group A. Largest was collected and their mass were calculation shows that Group B has an which is 20.7g more than Group A.

of the plants was affected by clubroot, which is unusual comparing to other kale sections at CUH.

Questions:

- Although Group B shows a significant stronger growth than Group A, it is still not clear which one of the three (blood meal, kelp meal, crab meal) contributed most to plant growth.
- Due to heavy rainfall, there could be potential nutrient transfer from one side of the bed to another. This might significantly affect the accuracy of the final data.
- Information suggests that chitin within the crab meal can effectively suppress clubroot. However, we need more trials to prove its effectiveness at our farm.