

Plant-A-Plant Summarize and Analyze Data

Compare Experimental Treatments (summary of all replicates)

For evaluation of experimental treatments and making general conclusions about the limiting factors of maize growth, calculate average values of plant parameters (dependent variables) from all the replicates. Use the data recorded on your *Laboratory Data Sheet* and Share your replicated data with other lab groups.

TABLE 6: Average Across Experimental Replicates

| | Dry Weight of Whole Plant (g) | | | | Increase of Biomass (dry matter in g) | | | | Root: Shoot Ratio | | | |
|---------------------------------|-------------------------------|--|--|--|---------------------------------------|--|--|--|-------------------|--|--|--|
| Treatment Name | | | | | | | | | | | | |
| Replicate 1 | | | | | | | | | | | | |
| Replicate 2 | | | | | | | | | | | | |
| Replicate 3 | | | | | | | | | | | | |
| Replicate 4 | | | | | | | | | | | | |
| Replicate 5 | | | | | | | | | | | | |
| Sum | | | | | | | | | | | | |
| Total # Replicates (3-5) | | | | | | | | | | | | |
| Average | | | | | | | | | | | | |

TABLE 6: Average Across Experimental Replicates Con't

| Treatment Name | Carbon in the Dry Biomass (g) | | | | Carbon Fixed During the Experiment (g) | | | |
|--------------------------|-------------------------------|--|--|--|--|--|--|--|
| | | | | | | | | |
| Replicate 1 | | | | | | | | |
| Replicate 2 | | | | | | | | |
| Replicate 3 | | | | | | | | |
| Replicate 4 | | | | | | | | |
| Replicate 5 | | | | | | | | |
| Sum | | | | | | | | |
| Total # Replicates (3-5) | | | | | | | | |
| Average | | | | | | | | |

Calculation:

Carbon is approximately 50% of dry plant biomass.

Carbon in Dry Biomass (gC):

Whole plant dry biomass x 0.50 = total carbon stored in plant materials

Carbon in dry biomass includes the carbon that was 'fixed' by photosynthesis AND carbon available from the original seed.

Carbon Fixed During the Experiment (gC):

Increase in biomass of whole plant (table 4) x 0.50 = carbon fixed during the experiment

'Fixed' carbon refers to the carbon that was converted from carbon dioxide to

Graph Results

One way to compare experimental treatments is to graph treatment results side by side. Below is a sample graph format that could be used to compare any of the variables listed in Table 6. Use a graphing program or graph paper and pencil to graph the results you find more interesting and relevant.

