| Log book | Action | Notes | Observations | Benchmark | Unfiltered | Filtered |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Date: |  |  |  |  |  |  |
| Oct 28, 2023 | Planted grass, watered, fertalized | Watered 1 cup each because the soil was dry - will water $1 / 2$ cup from now on |  | Some water drained into the collection tray | similar amount of water drained | no water has drained |
| Oct 29, 2023 | Watered grass - $1 / 2$ cup |  |  | water has evaportated | evaporated, left a residue |  |
| Nov 4 | still alot of excess fertalizer | will be doing bi-weekly fertalizations from now on |  |  |  |  |
| Oct $30-n o v 9$ | watered daily - $1 / 2$ cup |  |  | n/a | n/a | n/a |
| Nov 10 | fertalized and watered |  |  |  |  |  |
| Nov 11 | watered daily - $1 / 2$ cup |  |  | grass sprouted | grass sprouted - less than other tr | grass sprouted - most grass |
| Nov 12 | Tested water for nitrate levels, watered | Unfiltered |  |  |  |  |
|  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |
| Log book pt. 2 | Due to issues with collecting enough runoff to test, | we decided to restart the project. |  |  |  |  |
| Nov 8 | Replanted grass, made new carbon soil mix | Grass will be grown in the same conditions as before |  |  |  |  |
| Nov 9 | Watered daily |  |  |  |  |  |
| Nov 10 | Watered daily, fertalized | Fridays will be watering and testing day |  |  |  |  |
| Nov 11 | Watered |  |  |  |  |  |
| Nov 12 | Watered |  |  |  |  |  |
| Nov 13 | Watered |  |  |  |  |  |
| Nov 14 | Watered |  |  |  |  |  |
| Nov 15 | Watered |  |  | Grass sprouted | Grass sprouted | grass sprouted |
| Nov 16 | Watered |  |  | grass turned green | grass turned green | grass turned green |
| Nov 17 | Watered tested for nitrate levels |  |  |  |  |  |
| Nov 18 | watered |  |  |  |  |  |
| Nov 19 | Watered |  |  |  |  |  |
| Nov 20 | Watered |  |  |  |  |  |
| Nov 21 | Watered |  |  |  |  |  |
| Nov 22 | Watered |  |  |  |  |  |
| Nov 23 | Watered |  |  |  |  |  |
| Nov 24 | Watered, tested for nitrate levels |  |  |  |  |  |
| Nov 25 | Watered |  |  |  |  |  |
| Nov 26 | Watered |  |  |  |  |  |
| Nov 27 | Watered |  |  |  |  |  |
| Nov 28 | Watered |  |  |  |  |  |
| Nov 29 | Watered |  |  |  |  |  |
| Nov 30 | Watered |  |  |  |  |  |
| Dec 1 | Watered, tested for nitrate levels, fertalized, repairt | Discovered leak after inspection - no evidence that there was a leak before this testing, but if there is a dramatic change in numbers this could indicate contamination. Repaired leak and tested to ensure quality. |  |  |  |  |
| Dec 2 | Watered |  |  |  |  |  |
| Dec 3 | Watered |  |  |  |  |  |
| Dec 4 | Watered |  |  |  |  |  |
| Dec 5 | Watered, tested for nitrate levels, installed new col | I descovered that the collection bins were beginning to leak again. seperate containers are now placed beneath each section of grass |  |  |  |  |
| Dec 6 | Watered |  |  | Trimmed grass |  |  |
| Dec 7 | Watered |  |  |  |  |  |
| Dec 8 | Watered, tested |  |  |  |  |  |
| Dec 9 | Watered |  |  |  |  |  |
| Dec 10 | Watered |  |  |  |  |  |
| Dec 11 | Watered |  |  |  |  |  |
| Dec 12 | Watered, tested for nitrate levels |  |  |  |  |  |
| Dec 13 | Watered |  |  |  |  |  |
| Dec 14 | Watered |  |  |  |  |  |
| Dec 15 | Watered, tested for nitrate levels |  |  |  |  |  |
| Dec 16 | Watered |  |  |  |  |  |
| Dec 17 | Watered |  |  |  |  |  |

Dec 19 Watered, tested for nitrate levels - Last day!

## Experiment 2

Descovered a leak between our carbon and control samples which lead to the extreme outlier we had with the control sample in testing today. However, as the carbon sample was tested first and the data

## Observations

Dec 22 Plant new experiment Talla Yahiya house, fertilize, Carbon delayed, experiment started on 24 . Watered + fertilized. testing as scheduled, fertilizing days adjusted
Dec 25 Watered - Merry Christmas
Dec 26 Watered
Dec 29 watered and tested.
Dec 30 Not watered - 118.3 mL of water seems to be too much for small samples, so water is now every Tuesday, Friday and Sunday
Dec 31 Watered
Jan 2 watered, remaining tests put on hold.
Jan 5 watered.
Jan 7 Watered
Jan 9 Watered.
Jan 12 Watered.
Jan 14 Fertilize, add carbon
Jan 16 tested, watered
Jan 19 watered, tested
Jan 21 Watered
Jan 23 not tested, new theory being tested.
Jan 26 tested, watered
Jan 28 Watered
Feb 2 tested, watered
Feb 4 Watered
Feb 6 tested, watered, fertilized
Feb 9 tested, watered.
Feb 11 Watered
Feb 13 watered.
Feb 16 tested, watered.
Feb 18 Watered
Feb 20 tested, watered.
Feb 27 fertilized, carbon added, watered, tested.
Mar 1 tested, watered
not tested as tubes have not arrived.
not tested as tubes have not arrived. not tested as tubes have not arrived. looking for alternative solutions. Fertilized, carbon added, watered. Tubes set to arrive tomorrow.

1:32 and 1:8 seem to be doing well, but they are too close to the control. Not working control is still less concentrated than rest of the samples. Still not working. 32:1 is increasing.
better results but marginal.
carbon has worn off, data has high concentrations of $\mathrm{NO}_{3}$
8 and 16 have unusual data
Final day!

