# Data Analysis Project

## Data Analyst: Inga Maholwana

## Client/Sponsor: GreenGrow Labs – Agricultural Research Department

## Purpose:

*Write a brief description of why this project is happening below. Why is this project happening? What are the goals?*

The goal of this project is to analyze the impact of environmental factors (temperature, humidity, light exposure, and dissolved solids) on the growth cycle of lettuce. The analysis will help optimize greenhouse conditions for improved growth rates and shorter time to maturity.

## Scope / Major Project Activities:

*What are the major parts of this project? List out the high-level steps, activities, or stages of the project, and give a brief description for each.*

| Activity | Description |
| --- | --- |
| Data review & Cleaning | Inspect the dataset for errors, duplicates, and missing values. |
| Convert Data Units | Convert Celsius to Fahrenheit and days to weeks to improve readability. |
| Exploratory Data Analysis (EDA) | Analyze variable distributions, identify trends, and outliers. |
| Correlation Analysis | Investigate relationships between environmental variables and growth days. |
| Insights & Recommendations | Summarize findings and recommend ideal growth conditions. |

## This project does not include:

*Specify the things that this project isn’t responsible for doing (out of scope). For instance, “this project does not involve a summation of 2019 data analysis”*

* Lab testing or new experimental data collection.
* Analysis of lettuce varieties not present in the dataset.
* Predictive modeling beyond exploratory insights.

## Deliverables:

*A specific list of things that your project will deliver.*

| Deliverable | Description/ Details |
| --- | --- |
| Cleaned Dataset | Includes new columns for temperature in °F and weeks to maturity. |
| EDA Report | Visuals and summaries of key metrics and trends in the data. |
|  |  |

## Schedule Overview / Major Milestones:

*The expected schedule for the project. This can be defined by milestones (e.g. “all data is cleaned and processed”), periods of time (“Week 1 / Week 2”), or other ways based on the needs of the project.*

| Milestone | Expected Completion Date | Description/Details |
| --- | --- | --- |
| *Complete Data Cleaning* | *week 1* | *Dataset prepared with all necessary conversions and formatting* |
| *Exploratory Data Analysis Complete* | *week 2* | *Trends, summary statistics, and graphs created.* |
| *Answer SMART Questions* | *week 3* | *Direct responses generated with evidence from the dataset.* |
| *Deliver Final Report & Presentation* | *week 4* | *Stakeholders receive all final documentation and recommendations.* |

## \*Estimated date for completion:

*This is my “if all goes well and I have everything I need, this is when I’ll be done” date.*

**Estimated Date for Completion:** End of Week 4 , Friday, June 28, 2025