Short Briefing & Light Intensity Comparison Test

I introduced myself to my supervisor, Miss Jessica about what I want to achieve during my internship and my skills. She gave me a short briefing about the company and brought me to the research and development room where the vertical farming is research and developed.

I was given the report on light intensity comparison test which contains 6 experiments that observed the effect of light intensity with certain like the distance of the lux meter with the LED light. I studied the comparison of the light intensity on many conditions and explained what I understood about the experiments to my supervisor.

Later, my supervisor taught me how to use lux meter to measure the light intensity and also taught me about other tool like Plant Lighting Analyser which is a more advance tool to measure the light intensity. The instructions were cleared and I understood how to use the tool and conduct the light intensity experiment.

Briefing from Supervisor

Introduced myself to my supervisor, Miss Jessica about what I want to achieve during internship and my skills.

My supervisor explained about the company and their culture.

Visited the research and development laboratory where the vertical farming is developed.

Introduction to light intensity

Studied the report on light intensity experiment that was tested with many factors to study its characteristics.

Explained what I understand about the experiment and discuss its characteristics with my supervisor.

Learned how to measure light intensity using lux meter and Plant Lighting Analyser (PLA).

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LED Light Instalment:

Study the circuit of the LED light and how to connect the LED light with another LED light in series and parallel.

Light Intensity Experiment Setup:

Change the LED light from 400mA to 200mA and we use 3 LED light for this experiment

Set the distance of the PLA with the LED light by rising the platform in the chamber.

Close the chamber by covering it with wall.

Conduct the Experiment:

Measure the light intensity using Plant Lighting Analyser to get the lux and PPFD.

Record the measurement in excel for data collection and data analysis.

The results are not reached requirement which need higher light intensity.

Another experiment with different specifications will be conducted next day.

Conducting Light Intensity Experiment:

The two LED light use 400mA driver while centre LED light use 200mA driver which is placed between the two LED light to increase the light intensity to make sure the PPFD measurement reach 200 mol.

The PPFD and lux are taken using Plant Lighting Analyser (PLA). The measurement is taken by adjusting the integrating time on PLA to get IP reading 31k above to ensure a good reading is taken.

The light intensity on every 10cm x 10cm grid on the platform is taken and recorded in the excel for data collection and data analysis.

The data taken shows the light intensity is saturated on the centre of the platform which is good result.