Group number: 5 Person leading this discussion: ???

Journal Paper: Plant factory, Light (Chapter 7)

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| **Aims & Motivation**: *What problem or issue does this paper address? Is there sufficient background/context given?*  It addresses how Light can effect plant growth and what type of light are currently effective and is being used. Also addresses how LEDs differ and how it operates, advantages and advantages. It doesn’t say in this chapter but Light is linked a lot to environment (from physical environment factors n properties – chapter 8) and the types of plants we are cultivating (from other chapters). Lots of Context and background info from other chapters, addresses all different types of Lights but eventually prefers LEDs. |
| **Knowledge:** *What have you learned from this paper? What other information do you require to help you with your work?*  That different factors of LED can affect plants through wavelength, intensity, area, temperature and combination of colours. Pulsed light (from this paper: is not effective) from continuous light. I also learned how the LED operates, in an electrical perspective, and how the input current can be used to control the lighting and light intensity (hard stuff). What I require is how Light relates to environment and plants factor to determine exactly what type of light is needed for a plant inside a building/ underground, and whether it has been tested and is efficient. The only disadvantage to LED is the high initial cost (mount, operate and protect) |
| **Impact:** *Consider how you can incorporate elements of the papers’ knowledge and contribution into your design*  Light overlaps a lot with environment such as temperature, heat, energy, radiation and energy balance inside the building. Different combination of lights position at different places (mounted) affects plants differently. This of course is dependent on the crops and plants we need. LEDs would also need protection, so this also depends on the humidity and other factors inside room/ building. |
| **Actions:**   1. Read how Light works with environment 2. Find more specific and successful experiments and combinations and applications 3. Perfect temperature inside a building/ underground for plants   …. |

Include this completed worksheet in your Assignment 1 report appendix.