DETECTION OF MICROORGANISM PRESENT IN *Solanum lycopersicum* and *Capsicum annuum* TISSUE CULTURE BY SEED EXPLANT

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JULY 2016

ACKNOWLEDGEMENTS

Alhamdulillah and gratitude to the Almighty for giving me the strength and patience to complete this final year project. I would like to express my thanks you to my supervisor, Miss Nur Suria binti Md Setamam because without her guide my research study cannot be done properly. She always gives support and guide to complete of this final year project.

In addition I would like to take this opportunity to thanks those of friends who helped me and giving some guide to complete this project. Their views and tips are useful indeed. Last but not least, I am grateful for having such as supportive to all my family members and UiTM staffs especially staffs laboratory in order to accomplish my project. My Allah blesses each and every one of you.

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ABSTRACT

DETECTION OF MICROORGANISM PRESENT IN *Solanum lycopersicum* and *Capsicum annuum* TISSUE CULTURE BY SEED EXPLANT

Solanum lycopersicum and *Capsicum annuum* provides unique variety of vitamin and highly economic value for industry. In recent study, microbial contamination in tissue culture is one of the main problems for growth and development of explants. Cultures can be infected with a wide range of microorganism such as fungi, yeast, bacteria and virus. Therefore, in this research study, the microorganism that contaminate were been observed by using seed explants. The objective was to investigate the effect of fresh tomato and chili seed explants on number of colony present in contamination plate. This study also to identify the gram negative and positive bacteria was present in tomato and chili seed culture by using gram staining technique. In this research study had showed that bacterial contamination associated with two treatment; distilled water (without sterilization protocol) and ethanol and Clorox (with sterilization protocol). After 2 to 3 weeks bacteria appear in small colony. In this research study, they was seven type of bacteria found that contaminate plant tissue culture. Different number of colony represent in different type of treatment. Treatments that contain distilled water are highest contamination rather than treatment Clorox with ethanol. By using gram staining, gram negative and positive bacteria able to distinguish based on color and morphology. Based on the result, the highest frequency of colony that contaminate was gram negative. Colony gram negative bacteria was showed slimy and irregular colony. The highest varieties type of colony present was gram positive bacteria. In this research study, the highest contamination of plant tissue culture *S. lycopersicum* and *C. annuum* is gram negative rather than gram positive bacteria. In a conclusion, this study showed that treatment Clorox and ethanol reduce number of contaminates. However, this study required sterilization protocol that suitable to kill gram negative bacteria and reduce number of contamination.