



Cytokinin, a Plant Hormone, Plays an Important Role During the Formation of Tumors in the Corn Smut Disease

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Abstract

Ustilago maydis infects corn to cause the corn smut disease which is characterized by the formation of tumors within the corn leaves, kernels and other parts of the plant. Recent studies from our lab have shown that the levels of cytokinins; plant hormones that induce cell growth and cell division, are elevated within these tumors. The overarching goal of my research is to understand how cytokinins are produced as well as to understand how they contribute towards the formation of tumors. Due to the high quality of life in Canada, many people do not appreciate the importance of agriculture as well as the devastating effects in which pathogens such as *Ustilago maydis* can have on crop production. In developing countries such as the one I grew up in, a severe infection could significantly impair crop production resulting in starvation and poverty. This is why I love my research here at Trent University because not only does it allow me to investigate the mechanisms which pathogens such as *Ustilago maydis* use to cause the corn smut disease, the results from my research could be also used in developing a molecular approach to inhibit tumor formation and mitigate the negative impacts of fungal diseases on crop production.

Keywords: 3MT, Cell Biology, Genetics, *Ustilago maydis*, Corn Smut Disease, Tumors, Cytokinins
