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**EFFECTS OF SEAWEED EXTRACT ON ANTIOXIDANT PROPERTIES OF TWO DIFFERENTIALLY CHILLING SENSITIVE MAIZE CULTIVARS**

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Applications of seaweed extracts can improve plant performance and productivity although the components of seaweed extracts which elicit these effects have yet to be reliably identified. In previous work we have shown that application of Acadian Seaplant Ltd.'s Soluble Seaweed Extract Powder (SSEP) can enhance the chilling tolerance of 3-week-old maize as measured by chlorophyll fluorescence. Disrupted chlorophyll fluorescence ( $F_v/F_m$ ) has been associated with increased production of active oxygen species through the process of photo-oxidation. In order to determine if SSEP application affects antioxidant levels of chilled maize, SSEP was applied to two commercial cultivars of maize differing in their sensitivity to chilling. The results of SSEP application on activities of antioxidant enzymes (ascorbate peroxidase, catalase, and superoxide dismutase), compounds (ascorbate and glutathione), and an index of oxidative damage (malondialdehyde) will be presented.