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Master's Thesis

Melatonin as a Seed Priming Compound: Investigation about its effects on germination and root length when applied on *Arabidopsis thaliana* seeds

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ABSTRACT

With the global population on the rise, the demand of the agriculture products rice with it. One of the main problems that the producers of the agriculture products faces today is that of salinity. Which today already have a negative impact on 20% of the cultivate land. Scientist are trying to develop a method by which it will minimize crop loss or even raise crop production in salinity affected soils. A promising method is that of seed priming. In the current work, Arabidopsis seeds were primed with the employment of 2 different Melatonin concentrations. Melatonin is a compound that exhibits significant potential when applied for priming. The seeds were grown in vitro condition in 4 different Murashige & Skoog media (3 different concentrations and 1 control). The experiment‘s results indicate that different Melatonin concentrations exhibit different effects on Arabidopsis seeds. Results provide strong evidence that can be used for a more in depth experiments that could investigate in detail the different responses of the different concentrations.

Keywords: Salinity, Seeds, Root, Arabidopsis , Melatonin , Priming