COMPARISON BETWEEN (OCIMUM BASILICUM L.) AND (CUCURBITA PEPO L.) GERMINATING PARAMETERS UNDER DROUGHT STRESS

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Drought stress is becoming an intimidating obstacle to global agriculture in the 21st century, creating major food security challenges. Drought-sensitive crops, in particular, to which pumpkin and basils belong, reduce yield potentials. Lack of water can inhibit germination of sown seeds and manipulate germination parameters. An experiment was conducted to investigate the effect of drought stress, induced by (polyethylene glycol) (PEG), on some germination parameters (germination percentage, germination energy, germination rate index, mean germination time and root elongation) of pumpkin *(Cucurbita pepo L.)* and Basil *(Ocimum basilicum L.)* from Lamiaceae. The PEG concentration was (2.5%) in this experiment, along with a control (nutrient solution), on both species in three replicates of every treatment. Germinated seeds were counted every day at the same time, and the daily associated root elongation was measured by using a regular ruler. Each stage was considered finished when the average hypocotyl of the control treatment reached 3 cm long. Pumpkin took nearly 7 days to reach maximum root elongation, whereas basils took 8 days but failed to reach average root length and died. The results showed that basil seeds extremely sensitive for water deprivation, could not germinate in PEG 2.5 percent, but pumpkin seeds germinated well in PEG. It illustrates that the PEG treatment reduced germination by 25% in the case of pumpkin, but basils could not germinate and the PEG treatment reduced germination by 75%. It demonstrates that pumpkins can withstand drought stress better than basils. There are also germination parameters that vary between them.

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