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Full Length Research Paper

Light-induced transient dormancy in *Cleome gynandra* L. seeds

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Abstract

Events associated with dormancy release during seed germination still require explanation. The objective of this study was to examine seed responses during germination of *Cleome gynandra* in the presence or absence of light and at constant or alternating temperatures. Germination of *C. gynandra* seeds at 20^{o}C was inhibited by light, but it was improved at 20^{o}C in darkness. There was no photoinhibition when seeds were germinated at alternating temperature 20/30^{o}C (16 h night and 8 h day). Photoinhibition was expressed more in seeds that were harvested late, after the pods had turned brown than in mature seeds at physiological maturity. It was more pronounced in seeds grown in extreme temperatures of 21/17 and 33/28^{o}C, compared to those grown at 27/22^{o}C. More than 5d photoinhibition reduced the germination of late harvested seeds such that the seeds did not completely recover their germination capacity. Photoinhibition is negative sensitivity to white light during seed germination in *C. gynandra*, likely controlled by the phytochrome system.

Keywords: Seed germination, photoinhibition, phytochromes, *Cleome gynandra.*