

# IMPACT OF DIFFERENT LIGHT INTENSITIES ON SPINACH UNDER DROUGHT CONDITIONS

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Spinach (*Spinacia oleracea* L.) was grown under controlled environmental conditions and exposed to drought (2.5% polyethylene glycol) along with different LED lighting treatments to determine the impacts of normal white light provided with 35% blue light, 48% green light, 15% red light, and 1% far-red light compared to a red+blue LEDs provided 12% blue light, 4% green light, 75% red light, and 10% far red along with the flashes of UVC radiation once a week for five minutes based on the unit of  $\mu\text{mol/s}$ . The third treatment was blue+red with 20% blue, 4% green, 66% red, and 10% far-red. Plants subjected to drought and red+blue light with short-UVC radiation could not survive and died within a few days of treatment. An increase in root length was recorded in blue+red light as compared to normal light, however significant decrease in shoot length (39.5%) was observed in blue+red light compared to normal white light along with a significant decrease in SPAD values. A decrease in MDA, fresh root weight, fresh shoot weight, dry root weight, and dry shoot weight was recorded in blue+red treatment compared to normal white light (control). A significant increase in root volume was recorded in blue+red light.

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