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Physiological responses of a hyper-phototropic mutant to various light stimuli

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Phototropic responses are the directional curvature of organs in response to differences in light intensity and/or quality. The experimental plant is the *hyper-phototropic hypocotyl* (*hph*) mutant that is associated specifically with phototropism and is hyper-responsive to blue light stimulation. In wild-type seedlings the response is dependent upon the fluence of blue light (number of incident of photons) used to stimulate seedlings. In this analysis, *hph* seedlings were exposed to several fluence rates of blue light. Results from these experiments suggest that the *hph* phenotypes are specific to lower fluence rates. Additionally, red light which has been shown to enhance the phototropic response to blue light was used as a pretreatment to assess whether *hph* is altered in its response to red light as well as blue. Results from this latter analysis show that *hph* mutant seedlings still exhibit a higher degree of curvature than control samples, suggesting the red light enhances the phototropic response of *hph* as well. Together these experiments suggest *hph* affects a repressor of phototropin 1-dependent phototropism in low blue light conditions.