ABSTRACT:

Parasitic plants are extremely damaging pests of agricultural and natural communities, yet little is known about how environmental factors can influence the most critical stages in their life cycle, host location and attachment. Here I propose to examine the effects of light spectral quality on host foraging and attachment by the dodder parasite *Cuscuta campestris*. My preliminary data suggest dodder seedlings most effectively parasitize hosts in light environments exhibiting a low ratio of red to far-red light (R:FR). Building on this work, I plan to conduct manipulative experiments to investigate (*i*) whether the ratio of R:FR light does indeed influence dodder foraging and its ability to parasitize a host, and (*ii*) how the ratio of R:FR light influences the growth habit of foraging dodder seedlings. This research will enhance our general knowledge of how environmental factors like light spectral quality can directly influence parasitic plant foraging and attachment to hosts, and the results may inform the development of new strategies for managing these destructive pests.