**The effects of germination segregation on plant height between two native Californian grasses**

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Germination is influenced by many factors, one of which is the presence of neighbouring seeds. Previous studies have observed species can alter their germination rate in the presence of interspecific seeds. Shifts in germination timing may increase temporal niche segregation between species which should increase fitness of both species and promote coexistence. However, other research has shown that early germinants tend to have a competitive advantage. This study tested the effects of germination segregation on plant height between two co-occurring California grasses: *Vulpia microstachys* and *Vulpia octoflora* (family: Poaceae). Pilot studies show these species germinate at different rates, with *Vulpia microstachys* (*V. microstachys*) germinating earlier than *Vulpia octoflora* (*V. octoflora*). A significant effect of temporal segregation on height was observed for both *V. microstachys* and *V. octoflora*. However, magnitude of temporal overlap did not predict height in either species. Germinating *V. octoflora* before *V. microstachys* occasionally led to greater height in *V. octoflora*, suggesting that early germination may increase fitness more than segregated germination for this species. Height of *V. microstachys* was constant across all treatments except one. *V. microstachys* height was not reduced when germinating after *V. octoflora*, suggesting that early germination in *V. microstachys* is not a strategy to avoid early life competition with *V. octoflora*. This experiment shows segregated germination and early germination does not necessarily lead to greater fitness. Future work should investigate germination segregation using metrics of fitness other than height and how germination segregation acts on coexistence at a community level.