Why don’t species that produce the most propagules in a community outcompete those species that are less fecund? The ecological factors and functional traits that enable species varying in propagule size and fecundity to coexist remain unclear. We have been addressing this issue by examining how flowering plant species that differ in seed size, number and other traits coexist in perennial grasslands in western Montana. In particular, we have been experimentally evaluating two coexistence mechanisms—competitive tolerance to the community dominant bunchgrass and vulnerability to post-dispersal seed predation by mice—and how the strength of these differ among species depending on their seed size, fecundity, or other functional traits. Our research suggests that coexistence among subordinate forb species varying in seed size and fecundity is in-part due to a novel trade-off involving competitive tolerance and fecundity, mediated by seed size and associated functional traits.

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