RESISTANCE OF RESTORED CENTRAL VALLEY GRASSLAND COMMUNITIES TO YELLOW STARTHISTLE (CENTAUREA SOLSTITIALIS) ESTABLISHMENT

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Yellow starthistle is commonly found throughout California in rights-of-way, non-crop areas and rangelands. Eradication is only possible with strict adherence to several management techniques, including mechanical, chemical and biological methods. The establishment of native plant communities can also be used to control yellow starthistle. Field studies were conducted near Davis, California to determine resistance to the establishment of yellow starthistle by native plant communities with different life histories. Mixed communities were used that consisted of early (aboveground biomass accumulation in spring), late (some aboveground biomass in early summer and high growth investment in roots), early-late season native plant species. In addition, *Elymus glaucus* (blue wildrye), a native perennial grass, and *Grindelia camporum* (gumplant), a native perennial forb, were established as monoculture communities. Following the establishment of native plant communities in the first year, yellow starthistle was seeded into selected plots the second year. In late season and early-late season communities, yellow starthistle cover was less than 5% three years after seeding. Three years after the addition of yellow starthistle in *E. glaucus* and *G. camporum* communities, yellow starthistle cover was 2% and 8%, respectively. The early season community was ineffective in resisting yellow starthistle invasion and establishment. Late season species, especially *E. glaucus*, were resistant to the establishment of yellow starthistle, which maybe a result of increased shading and uniform use of soil water by late season species.