

Weed Control and Management

Project: 208 Mechanisms for invasion of YST in California

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Objective: Although the facilitative role of disturbance in exotic plant invasions has long-been recognized, little is known about the post-disturbance response of exotics and whether they are successional to natural resident vegetation or they persist for extended periods of time. Our previous work in the Sierra Foothill Research and Extension Center (SFREC) has identified disturbance as a key factor in the invasion success of yellow starthistle (*Centaurea solstitialis*). Here we propose to build on these findings and to document vegetation changes over time in sites having a high abundance of yellow starthistle. Proposed activities in the SFREC are part of a biogeographical comparison that includes another region in the introduced range of this species, central Argentina. In both regions, successional trends will be measured in sites where yellow starthistle naturally occurs as well as in experimental plots where different types of disturbances were created and then invaded with a known number of seeds of this plant. Long-term data can be useful for evaluating the impact of exotics in recipient communities and defining effective control programs. More generally, the complexity and temporal variation of ecological systems can only be grasped by the implementation of this type of research.

Project: 903 Control of Smutgrass in Irrigated Pasture

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Objective: Evaluate effectiveness of January and March application of Velpar in controlling smutgrass. Small Smutgrass (*Sporobolus indicus* var. *pyramidalis*) is invading irrigated pastures in Northern California at an alarming rate. Animals will not consume smutgrass and it quickly dominates the forage production in the pasture. It is a tropical grass that was introduced here eleven years ago. It has been present in the southern US for an extended period of time. Florida Extension Service recommends Velpar at the 1/2 pond AI rate for control. They have different climate and grasses and legumes than our irrigated pasture cool season grasses. Velpar is approved for use on pastures in California. This proposal is for demonstration plots at SFREC on smutgrass infected pasture to determine first if there is effective control.