

Biological control

The goal of a biological control program is not to eradicate the target weed, but to exert sufficient environmental stress to reduce its dominance in the plant community (Wilson and McCaffrey 1999). Insect agents can achieve this by boring into roots, shoots, and stems, defoliation, seed predation, or extracting plant fluids. All these effects can reduce the competitive ability of the plant relative to the surrounding vegetation. Over the past 100 years, more than 200 control agents have been released against 114 weed species worldwide (Blossey *et al.* 1994).

Despite the many attempts to control rangeland weeds through biological control, most attempts have been unsuccessful. Of the 23 weed species where biological control has been attempted, only 29% have demonstrated complete or significant levels of control in large areas (DeLoach 1991). Where it is successful, however, biological control can be a cost-effective, long-term, and self-sustaining management option (Blossey *et al.* 1994).