

KUDZU BIOCONTROL

Safe, effective, cost-efficient biological control of kudzu has been a goal for weed scientists for years. The traditional approach of biological control efforts has been to visit the geographical origin of the weed, identify pathogens or parasites, and introduce these agents where the weed has become problematic. This 'classical biocontrol' strategy relies on natural processes to increase the population of the control agents while suppressing the host population. Classical biological control is attractive because it can be highly cost-effective, is natural, has minimal non-target effects and, in some instances, has been very successful. Part of the appeal of this approach is that it is a means of restoring a balance that occurs in nature. In the case of kudzu, natural processes keep it from becoming a nuisance in Asia. Ideally, those same processes could be recreated in the Southeastern United States.

There has been a long search for a suitable classical biological control agent for kudzu. Some of this work is reviewed in Britton et al 2002 and Sun et al 2006. The work has been challenging, in part because it is difficult to find control agents that will reproduce and spread in kudzu-infested regions without endangering economically important plants, such as soybeans.

Scientists at the USDA Agricultural Research Service in Stoneville, MS are evaluating an alternative biological control program for kudzu. They have identified a fungal pathogen, *Myrothecium verrucaria*, which quickly kills the foliage of kudzu. Work is underway to determine how well kudzu recovers from application of this fungus and how many applications will be necessary to kill mature kudzu stands. This fungus does not appear to reproduce or spread beyond the initial point of application, unlike classical biocontrol agents. Consequently, this fungus would have to be applied much like an herbicide, and is thus called a 'bioherbicide.' Bioherbicides do not achieve the self-regulating, natural balance that a classical agent could maintain, but may be safer because they don't reproduce and spread out of the application zone.

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