

MATCHING NEEDS WITH PRODUCTS: ROLE OF HERBICIDES IN INVASIVE PLANT MANAGEMENT. Robert A. Masters, Rangeland Scientist, and Byron B. Sleugh, Forage Agronomist, Dow AgroSciences, Indianapolis, IN 46268

Invasive plants impede grassland restoration by disrupting ecosystem processes. Managing invasive plants requires manipulating disturbance regimes that favor desirable species and wanted changes in successional trajectories. Reasons for the arrival, establishment, and spread of invasive plants should be understood before effective grassland restoration strategies are developed. Removing an invasive plant species without attention to plant community dynamics often only opens niches for other undesirable species to occupy. Restoration of desirable plant communities that resist invasion is an appropriate goal for grassland restoration programs. The integrated weed management paradigm provides a context for managing invasive plants that focuses on ecosystem processes and not on particular plant species or control practices. Prevention, detection, and control are key components of integrated management strategies. The suitability of weed control tools (biological, chemical, mechanical, and cultural) will vary according to the invasive plant and invaded site characteristics. The merits of each control measure and the potential for complementary or synergistic interactions when applying measures in appropriate sequences and combinations should be considered when developing grassland restoration programs. Herbicides can serve as catalysts to expedite vegetation change, which leads to development of desired plant communities. The variety of herbicides currently available, with different modes of action and selectivity, and readily available precise and accurate application technologies provide land managers with many options to selectively alter plant composition, manage plant community succession, and accelerate grassland restoration.