Invasive Exotic Plant Species in Tennessee, USA: Potential Targets for Biological Control

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Abstract

Numerous invasive exotic plant species are well established in Tennessee, located in the southeastern United States, where many of these plant species pose serious economical and environmental threats to agriculture, forestry, natural areas, and urban areas. The threat of some invasive plant species, such as musk thistle (Carduus nutans L.), multiflora rose (Rosa multiflora L.), and kudzu (Pueraria montana var. lobata (Willd.) Maesen and S. Almeida), is well documented, and these species are well recognized by growers and landowners. Management programs, primarily focused on chemical, mechanical and cultural controls, have been developed to limit the spread of these exotic plant species, and biological control is a major component of integrated pest management of musk thistle. However, the threat of other species, such as purple loosestrife (Lythrum salicaria L.), spotted knapweed (Centaurea stoebe L. subsp. micranthos), and Canada thistle (Cirsium arvense (L.) Scop.), in Tennessee is not as well known, and growers and landowners are not as familiar with these exotic species. In most cases, the state-wide distribution of many of these invasive plant species has not been clearly defined. In addition, the diversity of native and exotic insect herbivores that utilize many of these introduced plant species has not been investigated. Biological control will be explored as a management tactic against selected exotic weeds based upon the ‘best fit’ for the climate and geography of Tennessee. This poster details invasive exotic plant species established in Tennessee and examines the potential for the integration of biological control into pest management programs directed against selected weed species.