



Which species traits allow plant species to persist in sown grass-margin strips?

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NEPPSC

NORTHEASTERN PLANT, PEST AND SOILS CONFERENCE



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accurately predicted presence and size of cavities in 68 percent of the cookies. Tree ages, which varied from 68 to 192 years old, permitted estimation of lifetime rates of decay. We conclude from this work that SoT and ERT constitute a powerful tool in identifying and quantifying internal decay in living trees.

WHICH SPECIES TRAITS ALLOW PLANT SPECIES TO PERSIST IN SOWN GRASS-MARGIN STRIPS. S. Cordeau*, M.R. Ryan, D.A. Bohan, X. Rebound, and B. Chauvel, Cornell University, Ithaca, NY (219)

ABSTRACT

Sown grass-margin strips, which have typically been established to limit pesticide drift and soil erosion, are now also promoted for their positive, ecological impact on floral diversity. We ask: i) whether there are traits or combinations of traits that allow weed species to persist in sown grass strips; and, ii) how does duration of sown grass strips affect weed community composition? We hypothesized that therophyte annual and small weed species will dominate the community in newly sown grass strips (<2 years old) and that competitive and perennial weed species dominate the community in older strips (>5 years old). Floral surveys were performed in 75 sown grass-margin strips in France and each strip was surveyed twice. Weed species were summarized with trait databases into functional groups using Multiple Correspondence Analysis and Hierarchical Ascendant Classification. Functional group trajectories were investigated in sown grass-margin strips that differed in age using a space-for-time substitution. We found that geophyte, competitor and monocotyledon species were more frequent and abundant than therophyte, ruderal and dicotyledon species. Trait combinations found in most functional groups appeared to be tolerant of strip management; however, one functional group consisting of therophyte, ruderals with a continuous reproduction period declined in importance with age of sown grass-margin strips. Our findings have implications for non-crop vegetation management for optimizing diversity and ecosystem services in land enrolled in conservation programs. Specifically, we propose that management should change towards regimes with mowing later in the season and soil scarification by tine harrows if floral diversity is a goal.

PRIORITY RATINGS, BASED ON WEED BIOLOGY, AID IN THE MANAGEMENT OF ANNUAL AND PERENNIAL WEEDS IN CRANBERRY. H. Sandler*, K.M. Ghantous, R. Neron, and J. Deland, UMass Cranberry Station, East Wareham, MA (220)

ABSTRACT

Managing weeds in perennial crops systems present challenges not encountered in annual cropping systems. Perennial weeds are usually well-adapted (e.g., having rhizomes, stolons, tubers), making control very difficult. Managing weeds in cranberries has another level of difficulty since the cranberry vines grow to form a continuous mat across the ground. Weeds are often intermingled with the vines making postemergence herbicide applications problematic due to either crop safety concerns and/or getting