

BELOW-GROUND EFFECT OF INVASIVE PLANT SPECIES: ENHANCED LITTER
DECOMPOSITION OF INVASIVE PLANTS IN INVADED HABITATS

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Abstract

Invasion by alien plant species is a major driver of change in ecosystems, affecting patterns and functions. Decomposition of organic materials in the soil is a major function, contributing to soil fertility, thus to the operating of the whole below and above ground systems. Two contrasting hypotheses predict the effect of invasive plant litter on decomposition: one predicts a higher decomposition rate in invaded sites, and the other claims the advantage of the decomposition of native plants in their own habitats. We tested these hypotheses on three invasive plant species in 21 locations in Hungary with bait lamina and litterbag methods. We found that invaded plots had a higher decomposition rate for two of the three plant species, but there was no difference for the third species and the control organic material. Therefore, we conclude that the decomposition of invaded plants litter was higher on invaded sites for temperate zone systems.

Keywords: *Asclepias syriaca*, bait lamina, Hungary, litterbag, *Solidago gigantea*, *Symphyotrichum lanceolatum*