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# INVASIVE PLANT BIOMASS AS SOURCE OF POLYPHENOLS

**Oskars PURMALIS[1*], Linards KLAVINS[2], Evelina NIEDRITE[3], Maris KLAVINS[4]**

[1–4] *University of Latvia, Raina bulvāris 19, Riga, LV-1586, Latvia*

[*] ***Corresponding author.*** *E-mail address: oskars.purmalis@lu.lv*

***Abstract*** – Invasive plant species contribute to problems related to the functioning of ecosystems, causing economic damage, damage to human health and reducing quality of recreational resources. They are characterized by rapid and aggressive spread, suppressing endemic species. For the full use of invasive plant biomass, it is necessary to find sustainable, bio-based control solutions, based on the knowledge of their composition. To increase awareness of possible usage of invasive plant biomass, the authors have chosen such plants as *Lupinus polyphyllus*, *Impatiens glandulifera*, *Heracleum sosnowskyi* and *Echinocystis lobata*, which make stands, and therefore mechanical harvesting can be used to collect plant biomass. In various parts of these plants, total polyphenols using the Folin-Ciocalteu method and antiradical activity using DPPH method are studied. The obtained amount of polyphenols in the analysed samples of plants and their parts are different with highest concentration in *Impatiens glandulifera* leafs reaching concentration 9.78–16.75 g GAE / 100g DW. Although in the case of *Lupinus polyphyllus*, the highest concentrations of polyphenols are identified in the methanol extracts of roots (24.85 g GAE / 100 g DW) and flowers (17.77 g GAE / 100g DW) of the plant as richest parts of polyphenols in the studied plants are leaves and flowers. The obtained results confirm the potential use of invasive plants biomass as a source of biologically active substances – polyphenols, after plants eradication.

***Keywords – Biomass; invasive plants; polyphenols***

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