

Management strategy of invasive plants: study cases with three species in the Walloon region: *Impatiens glandulifera*, *Fallopia* spp. and *Acer rufinerve*

Halford Mathieu, Delbart Emmanuel and Mahy Grégory

Laboratory of Ecology. Gembloux Agricultural University. 2, Passage des Déportés B-5030 Gembloux. Belgium.

At present, around 36 terrestrial plant taxa are included in the list of invasive species in Belgium, composed of a black list with high impact species and a watch list of species with a moderate or unknown impact. The invasion level varies from plants present in isolated populations to others with widespread distribution. The management strategy must be adapted to the invasion extent. It is generally admitted that eradication is only possible for species in the beginning of the invasion process, while containment or attenuation measures will be selected to control the spread of widely distributed species. Similar techniques are commonly proposed in the literature: manual, mechanical or chemical methods, used separately or combined. But these methods often lack scientific assessment and follow up. Since 2006, the Laboratory of Ecology lead applied research projects in the Walloon Region, aiming at identifying most appropriate techniques concerning 6 invasive plants (*Impatiens glandulifera*, *Heracleum mantegazzianum*, *Fallopia* spp., *Acer rufinerve*, *Cotoneaster horizontalis* and *Spiraea* spp.), representative of contrasted invasion situations in different types of ecosystems. Experimental designs are conducted in situ to test efficient techniques adapted to local situations. The choice of a method strongly depends on the plant physiology, the reproduction mode and the habitat type invaded. The approach will be presented through three cases study: two black list plants (*Impatiens glandulifera*, annual herbaceous species and *Fallopia* spp., rhizomateous species) and one watch list plant (*Acer rufinerve*, ligneous species). The overall objective aims at providing scientific and technical guidelines for managers.