

PLANTS AND THEIR INTERACTION TO ENVIRONMENTAL POLLUTION

.....
DAMAGE DETECTION, ADAPTATION, TOLERANCE,
PHYSIOLOGICAL AND MOLECULAR RESPONSES



Edited by
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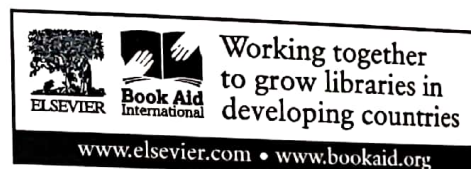
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Phytoremediation strategies of plants: Challenges and opportunities

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Abbreviations

EU	European Union
HMs	heavy metals
SRC	short rotation coppice
RES	renewable energy sources
GHG	greenhouse gas

1. Introduction

Phytoremediation had emerged as “green remediation” technique in 1991, it comprises of two words “phyto” a Greek word that means “plants” and “remedium” is a Latin word meaning “remove an evil”, the word phytoremediation combined refers to plants-mediated-reclamation of contaminated areas (Tangahu et al., 2011). Phytoremediation is also known as “bioremediation,” “botanical remediation”, “green remediation”, “agroremediation” or “vegetative remediation” (Ali et al., 2020). It is a highly effective, natural process for contaminating soil and water bodies remediation. Soil contamination is a massive challenge among plenty of developed countries. In European Union (EU) approximately 3.5 million potentially contaminated sites and 0.5 million highly contaminated sites were identified which need immediate remediation. Similarly, in European countries like England, Italy, Germany, Netherlands, Denmark, Spain, and Finland around 400,000 polluted sites were identified while in France, Sweden, Slovakia, Hungary, and Austria about 200,000 contaminated sites