From residues to resources

Unlocking biobased resources and biochar for circular agriculture and resilient soils

Presented by
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MONITORING

UNDERSTANDING

IMPROVING

From residues to resources:
A shared responsibility

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ILVO
Flanders research institute for
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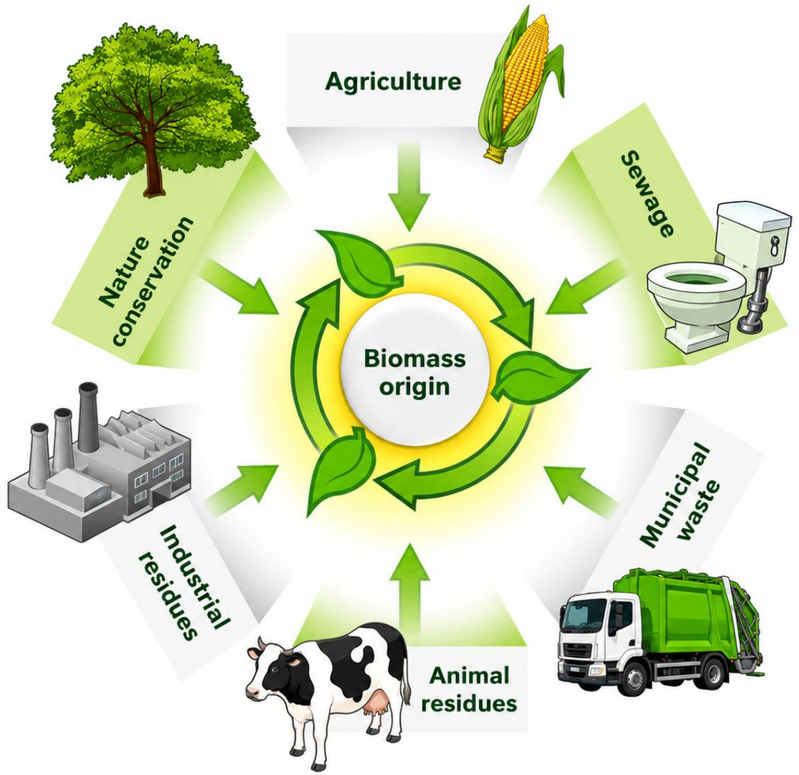

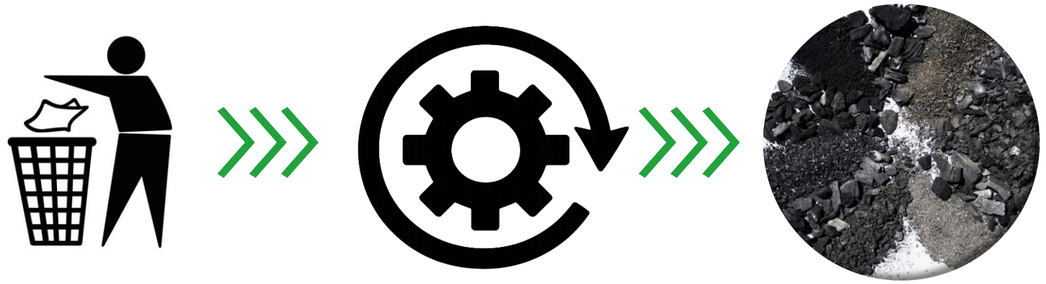

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From residues to resources:
A shared responsibility

Targeted applications

Processes

Growing media

Open-field

Academic Collaboration

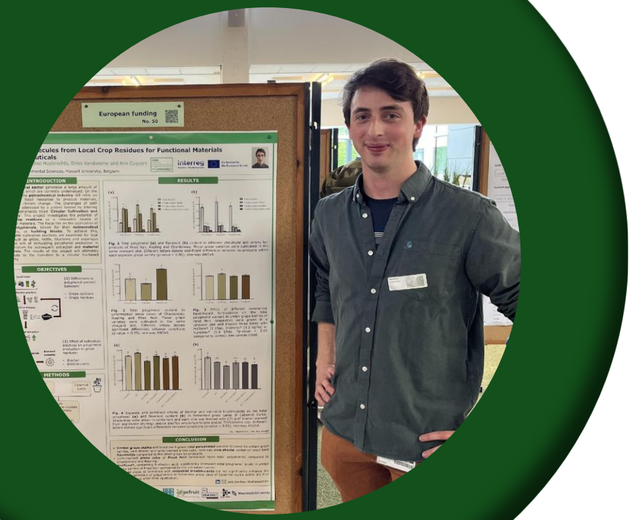
Environmental Economics

Environmental Law

Unlocking hidden value in agricultural leftovers

From crop residues to high-value polyphenols for functional materials and nutraceuticals

“Could the crop residues we discard today become tomorrow’s bioactive materials?”



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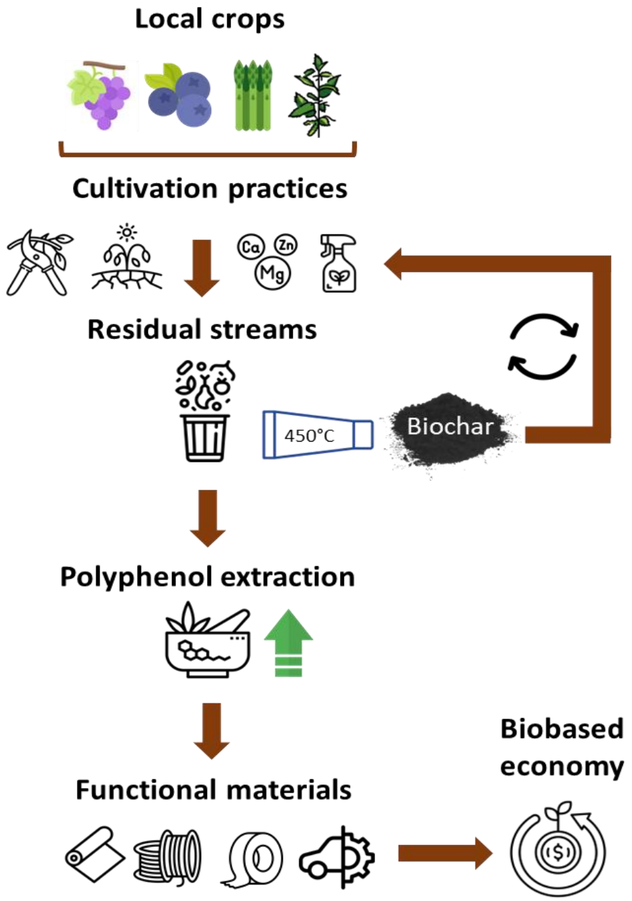

Stakeholders

COMPAS AGRO

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KNOWLEDGE IN ACTION

Maastricht University

CENTEXBEL

Interreg Vlaanderen-Nederland

Gefinancierd door de Europese Unie

Circulaire Teelt en Chemie

Unlocking hidden value in agricultural leftovers

From residues to Fertilizers:
Biochar–Phosphogypsum for Sustainable Soils

Diogo Almeida

“What if the wastes we overlook today could become the fertilizers that restore our soil tomorrow?”

Phosphogypsum

By product from the fertilizer industry

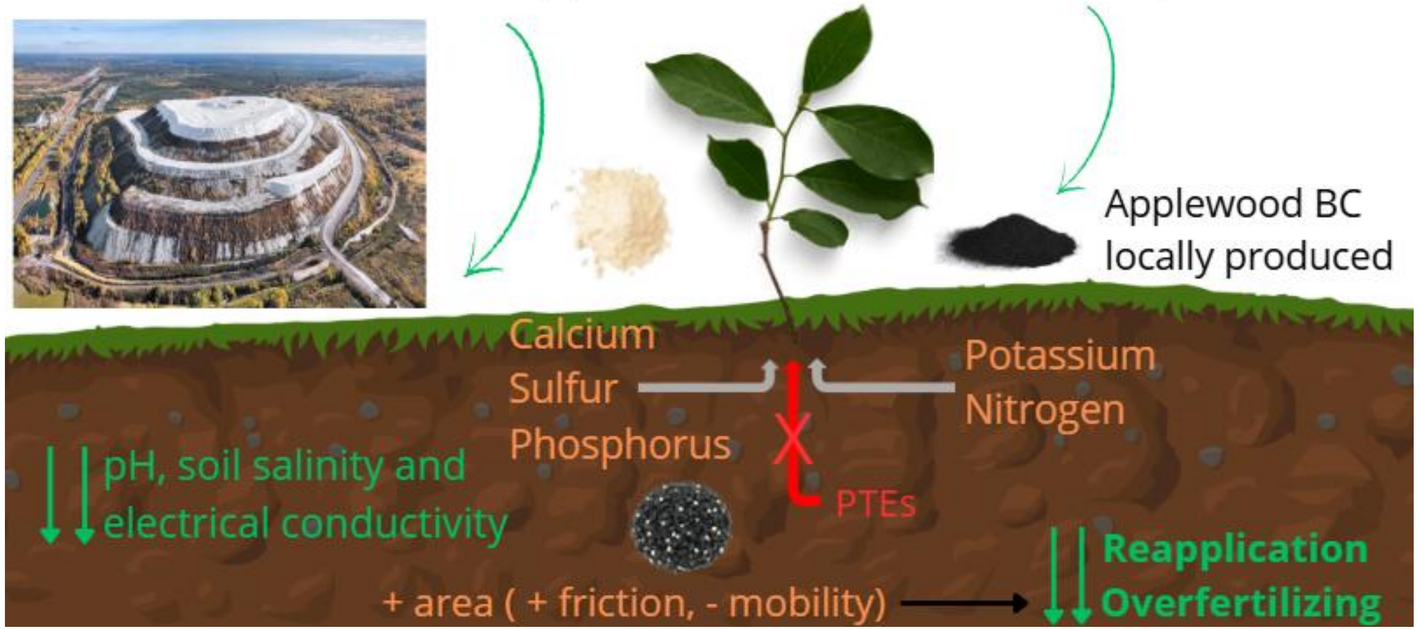
Stockpiled: Radon exhalation
Leaching of contaminants

Green solution: Increase application

Biochar

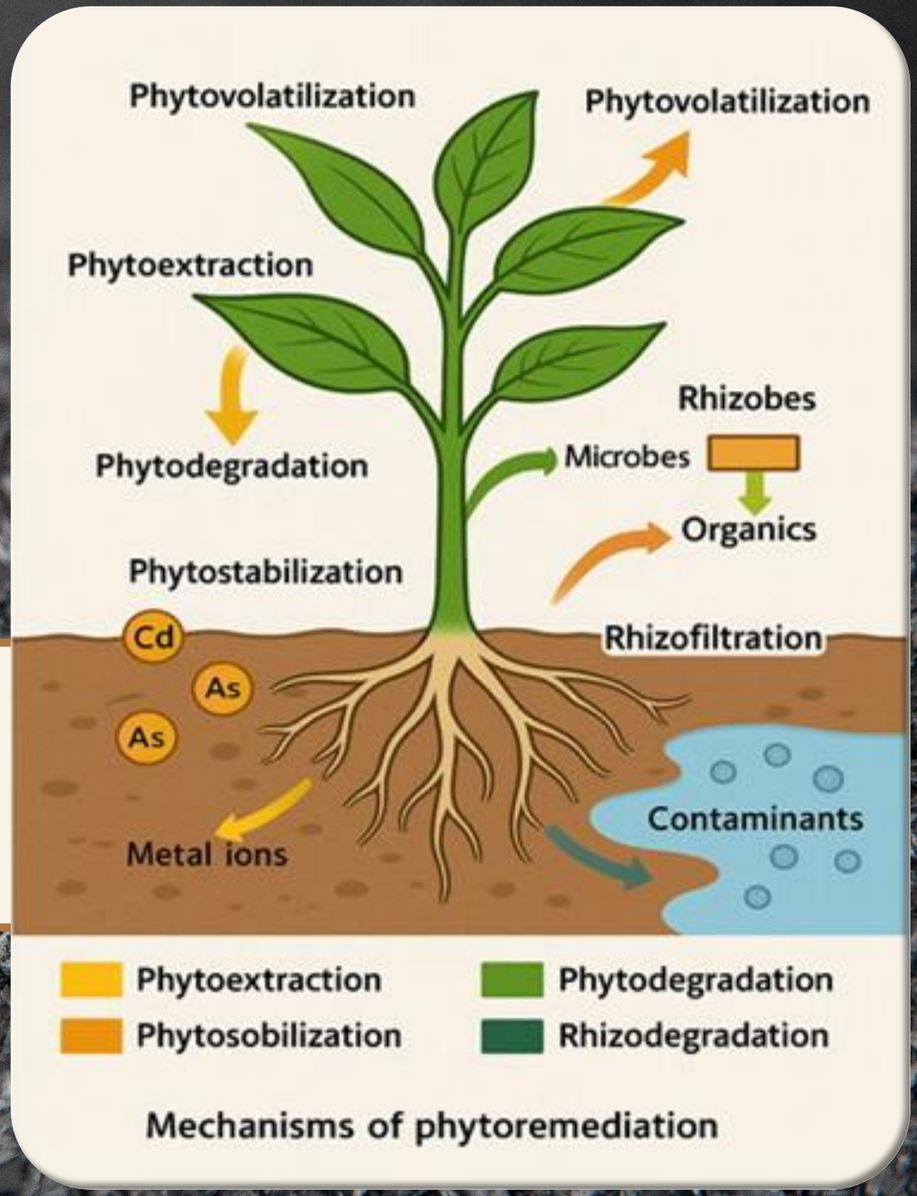
Functional properties:

- minerals (K, Na, Mg, P)
- increase pH and salinity
- carbon sequestration



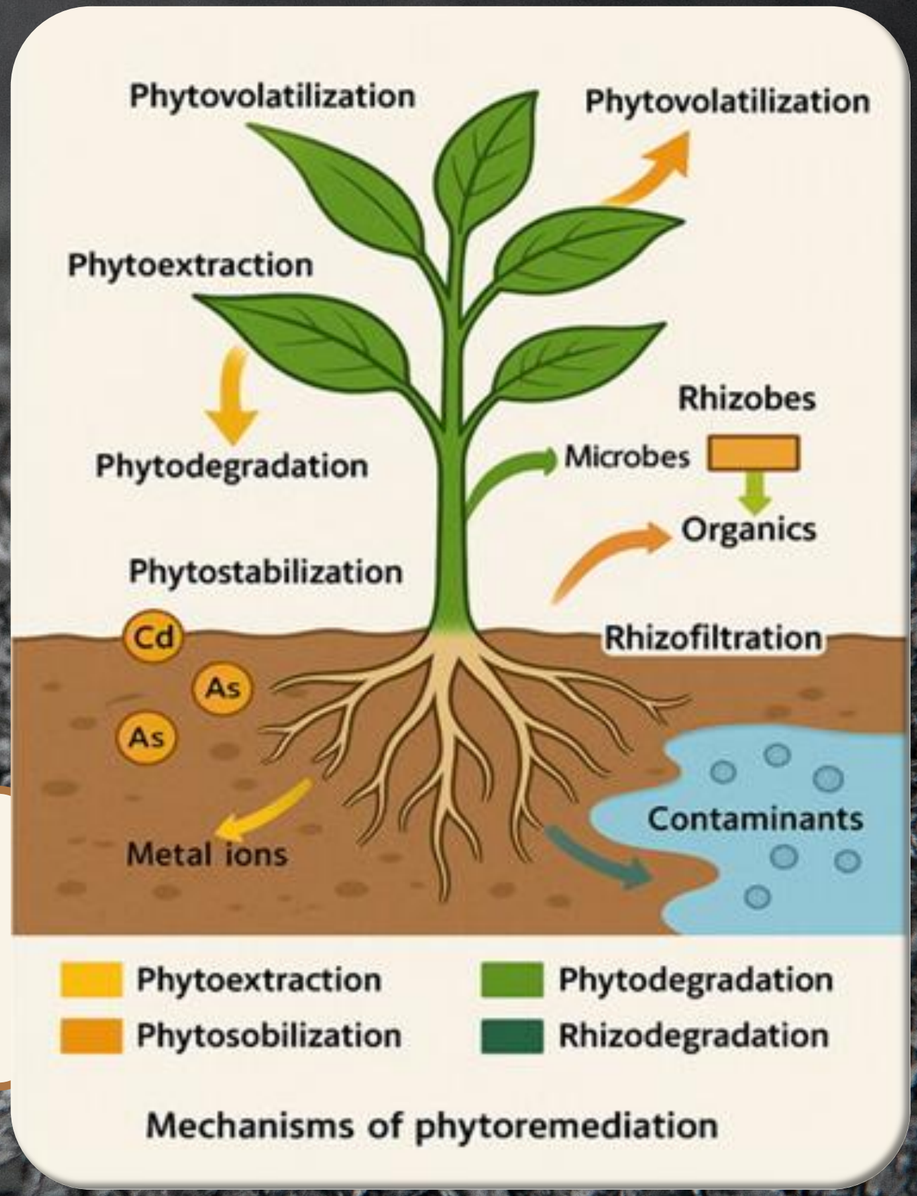
Unlocking hidden value in agricultural leftovers

Biochar for soil recovery



Unlocking hidden value in agricultural leftovers

What if biochar could transform polluted soils into resilient ecosystems?



From innovation to impact: solutions for planetary health

Reduced dependence on finite inputs

Biostimulants for crop resilience

Fertilizer Soil amendment

Restored soils

Soil carbon sequestration

New biobased building blocks

Transition to circular agricultural systems