

MultiHemp



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State of the art after the first reporting period

Stefano Amaducci



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Multipurpose hemp for industrial bioproducts and biomass

Start: September 2012

End: February 2017

Duration: 54 months

Total cost: 8 M€

EC Contribution: 6 M€

22 Partners (13 SME) from 11 EU countries + China

Keywords: Hemp; Biorefinery; Fibres; Non-food oils; Molecular plant breeding; Cultivation; Modelling; Process innovation; LCA; Economic evaluation



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Multipurpose hemp for industrial bioproducts and biomass

Overall objective

Advance the scientific and technical research needed to consolidate and expand the market of hemp renewable materials





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Specific objectives

- Develop target end use applications:
 - Flock insulation system
 - Fiber boards - hemp wall concept
 - Fiber reinforced composites
 - Cosmetic applications
 - Propose potential application for by-products

Ventimola
GmbH & Co. Dämmtechnik KG



TADEJ ZIMIC S.P.



WP5

THE UNIVERSITY of York



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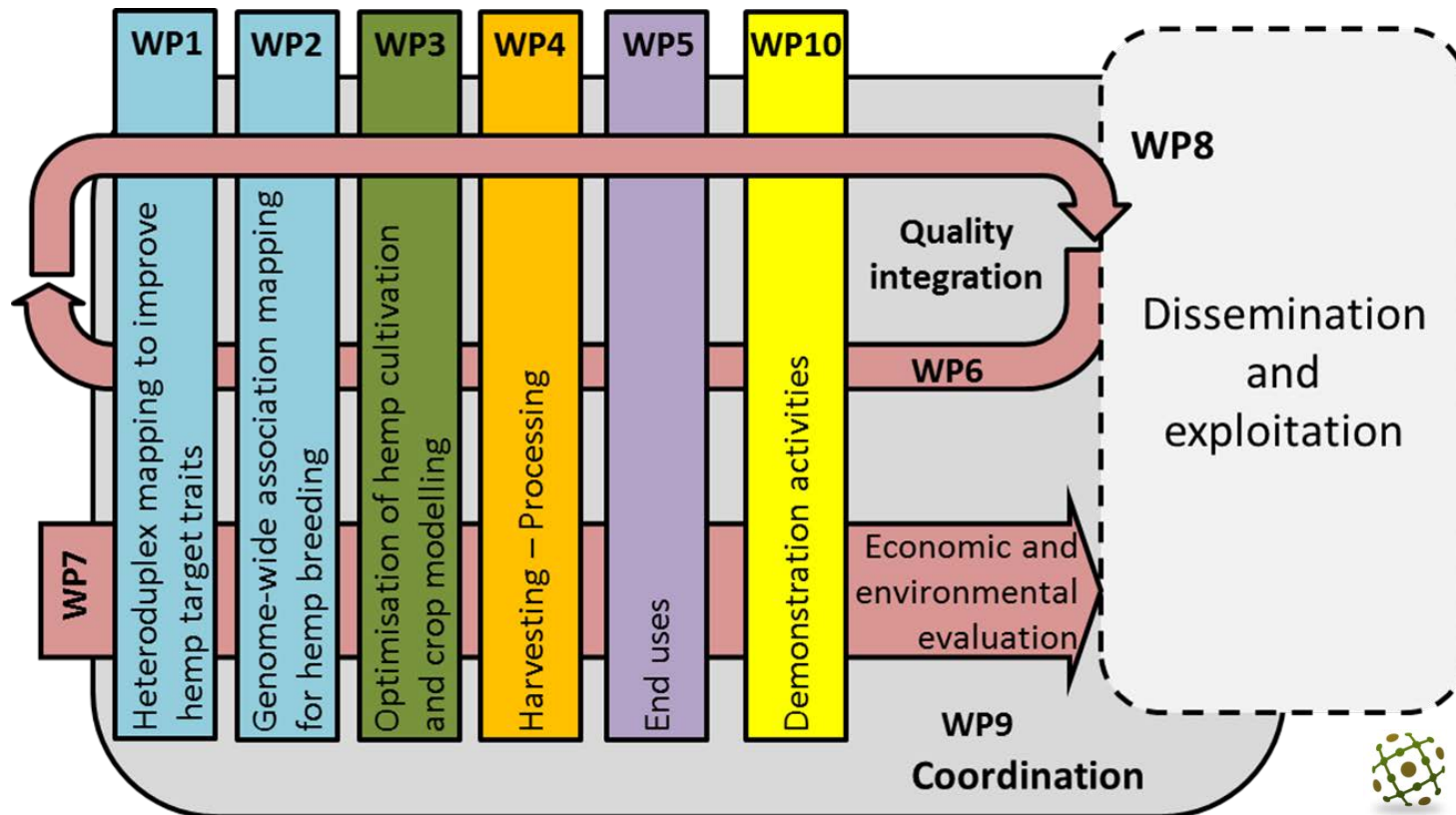
Specific objectives

- Understand the physiological and genetic basis of relevant hemp traits;
- Genotypes with enhanced traits for diverse environments and use;
- Characterization of hemp varieties that are commercially available;
- Development of a high-throughput quality evaluation system;
- Parameterisation and validation of a sophisticated crop model;
- Advances in agronomic practices;
- Design of a modular biorefinery, in which markets dictate the flow of raw material;
- Integrated sustainability assessment with LCA & TEE
- Targeted dissemination and exploitation activities.



Specific objectives

- Understand the physiological and genetic basis of relevant hemp traits;





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WP1 Heteroduplex mapping to improve hemp target traits

- a HDM population has been generated from which four mutants for CsCAD2 will be taken forward to generate homozygous lines;
- CsWAT genes are being analysed
- Work on the other selected targets, GAUT, RWA, PME is in progress.
- Homozygous seeds of the BC4 high oleic acid line have been bulked for field trials



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WP2 Genome-wide association mapping for hemp breeding

- Seed propagation of association mapping (AM) panel;
- Deep sequence data of 100 hemp lines, month 30, ongoing
- On field phenotyping and biomass evaluation



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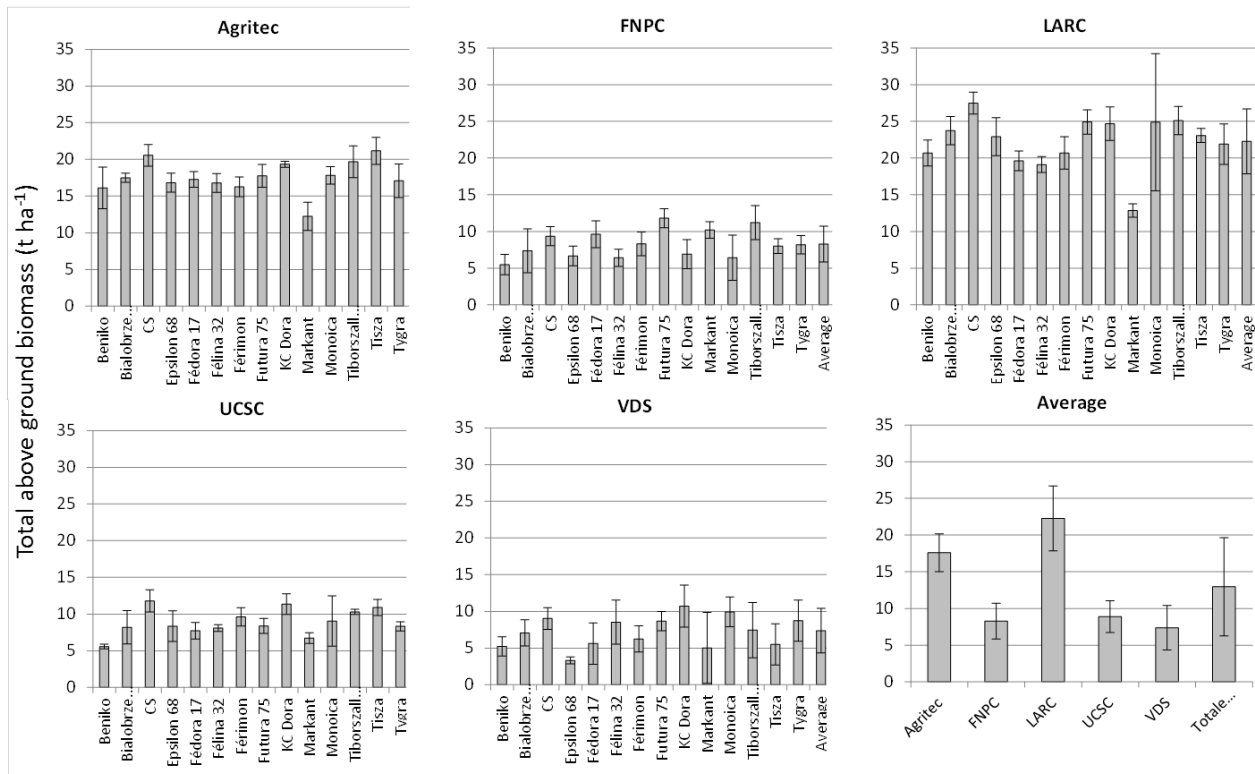
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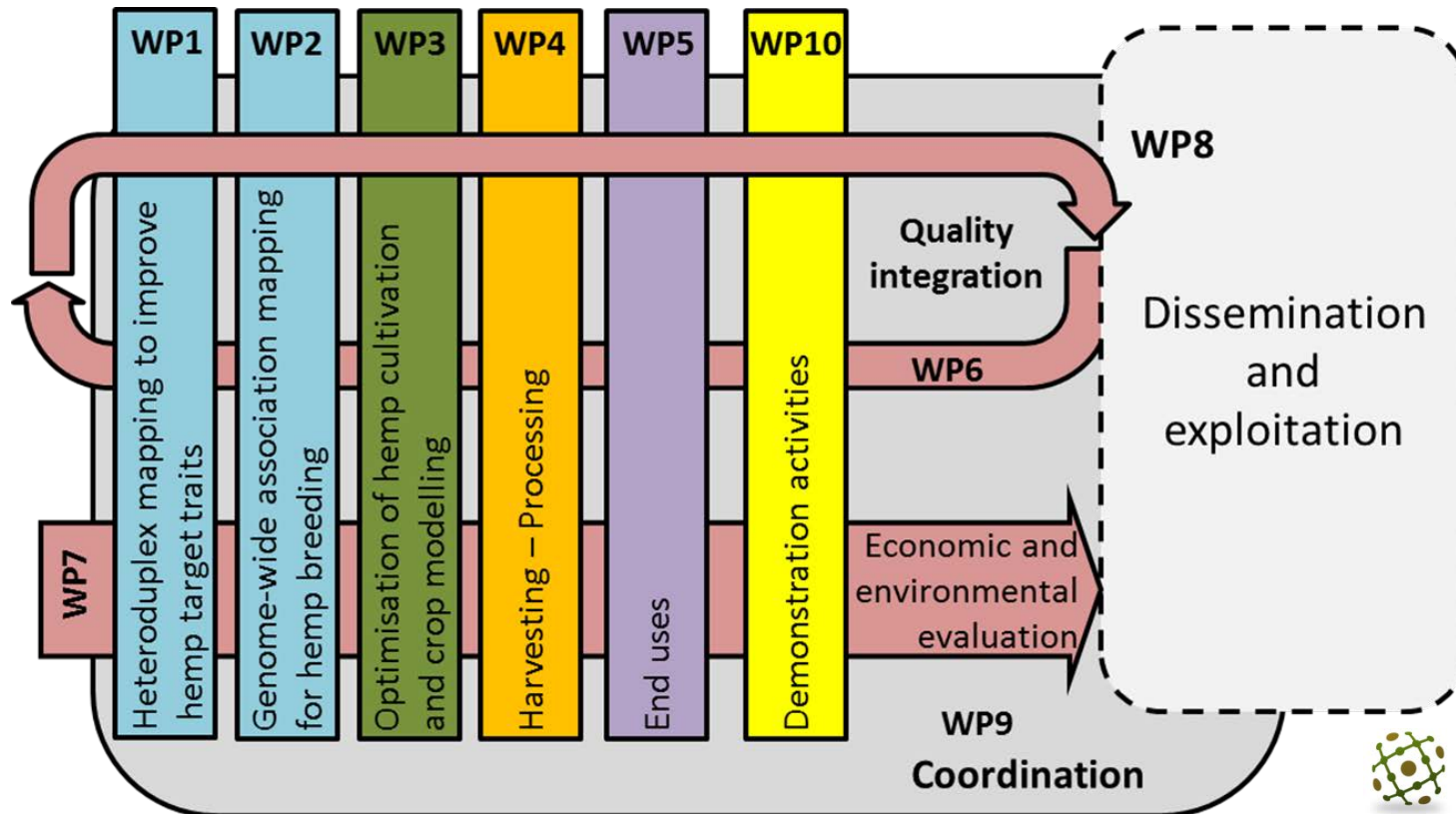
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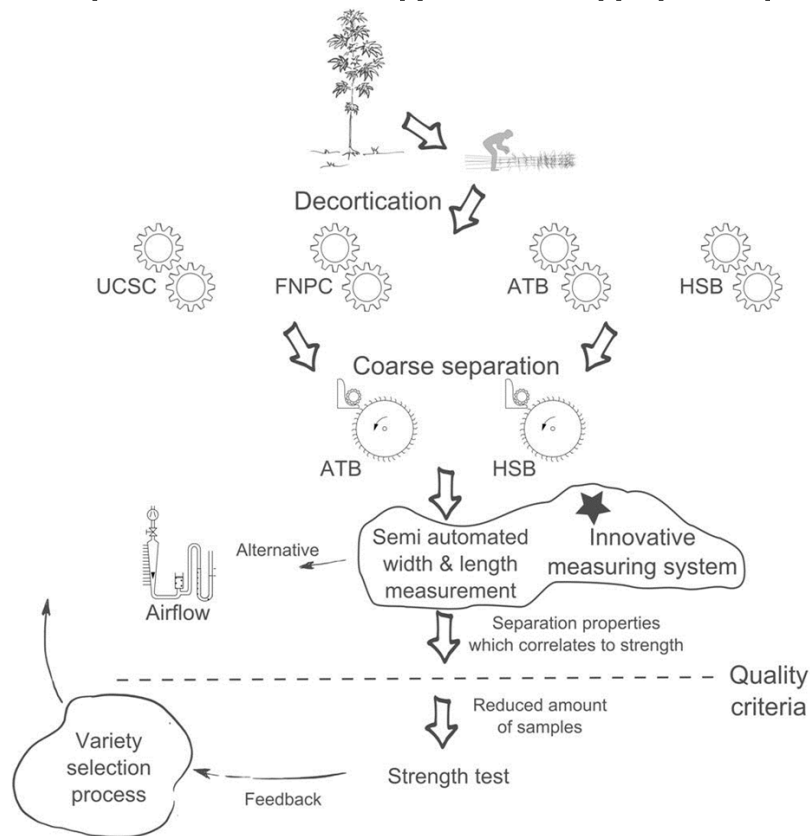


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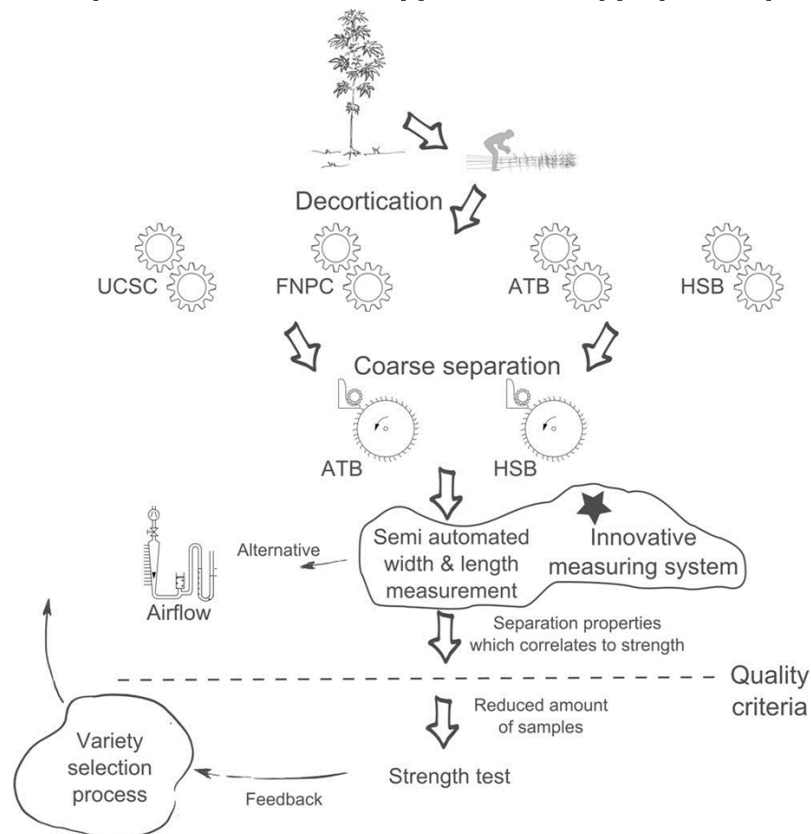
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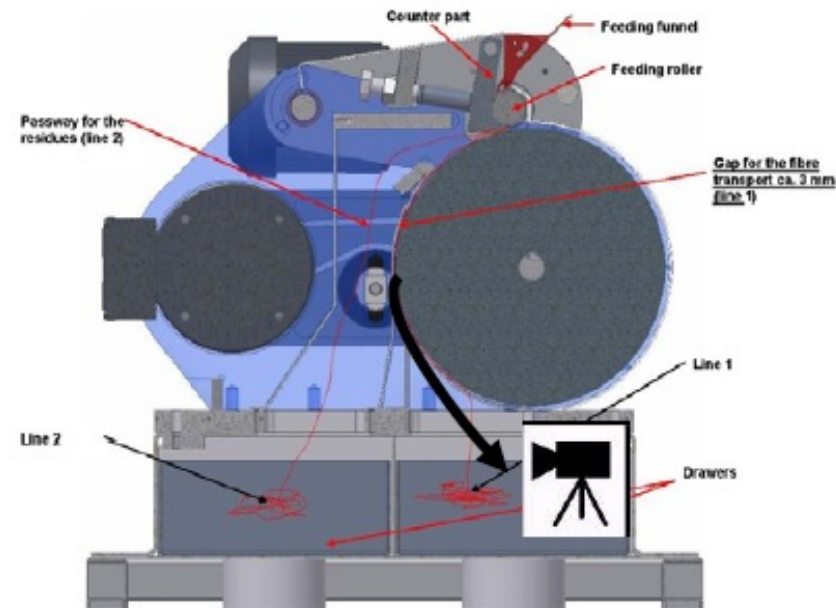
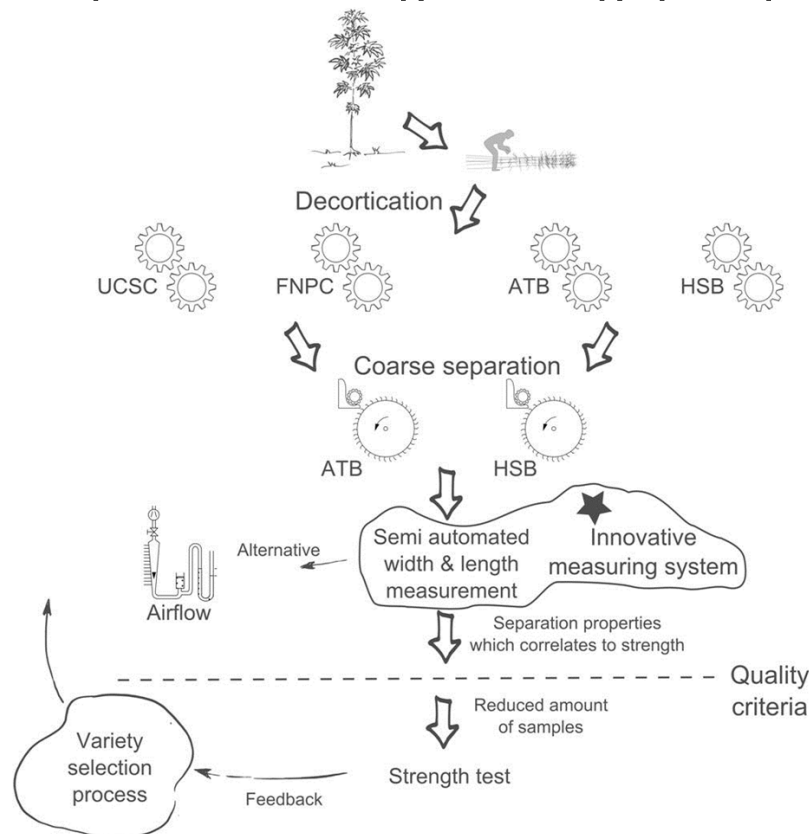
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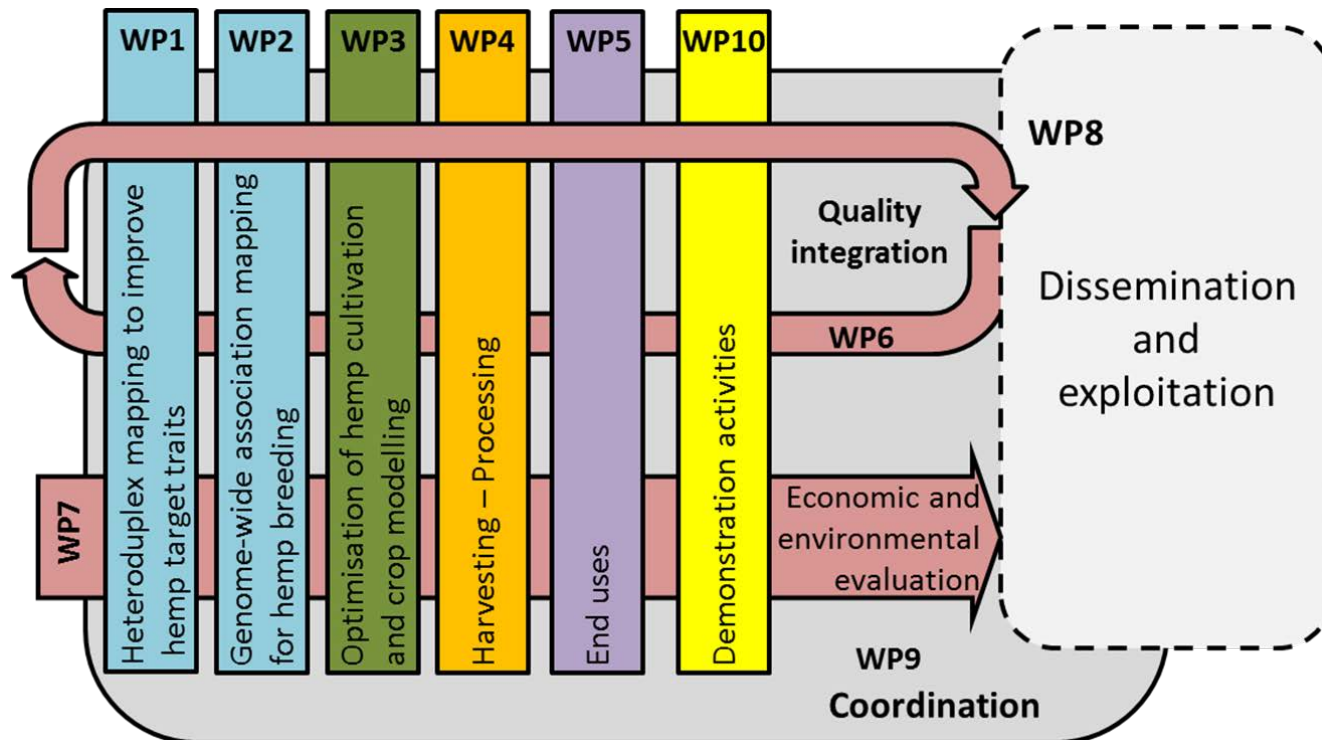
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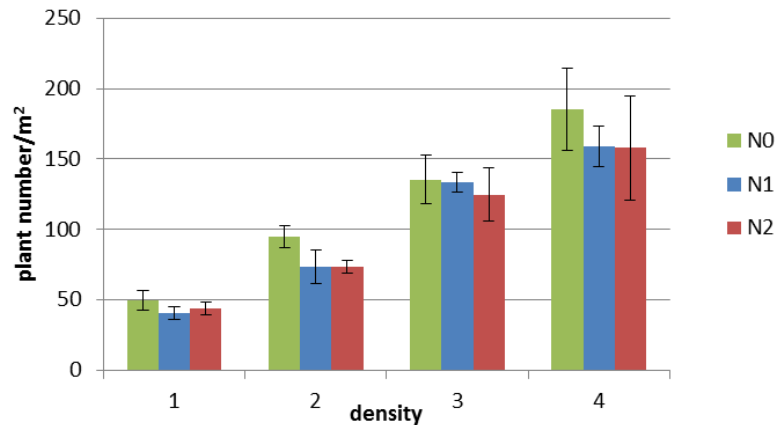




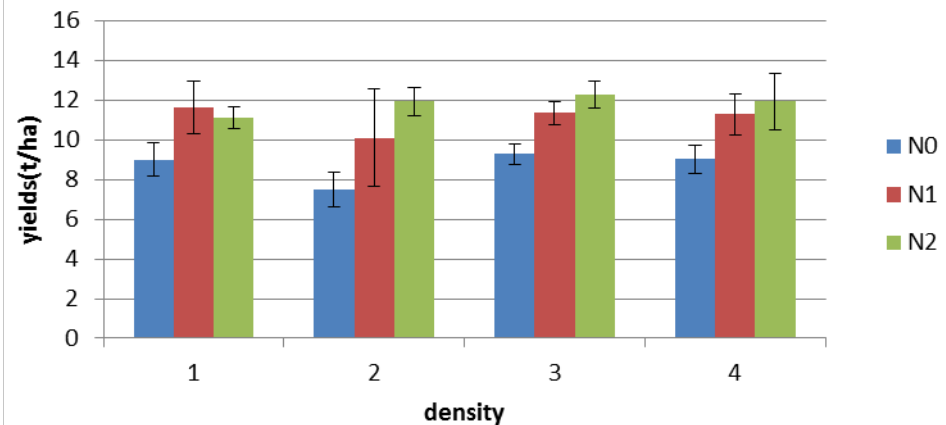
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- Parameterisation and validation of a sophisticated crop model;
- Advances in agronomic practices;

the density at the end of flowering



biomass yields in first harvest





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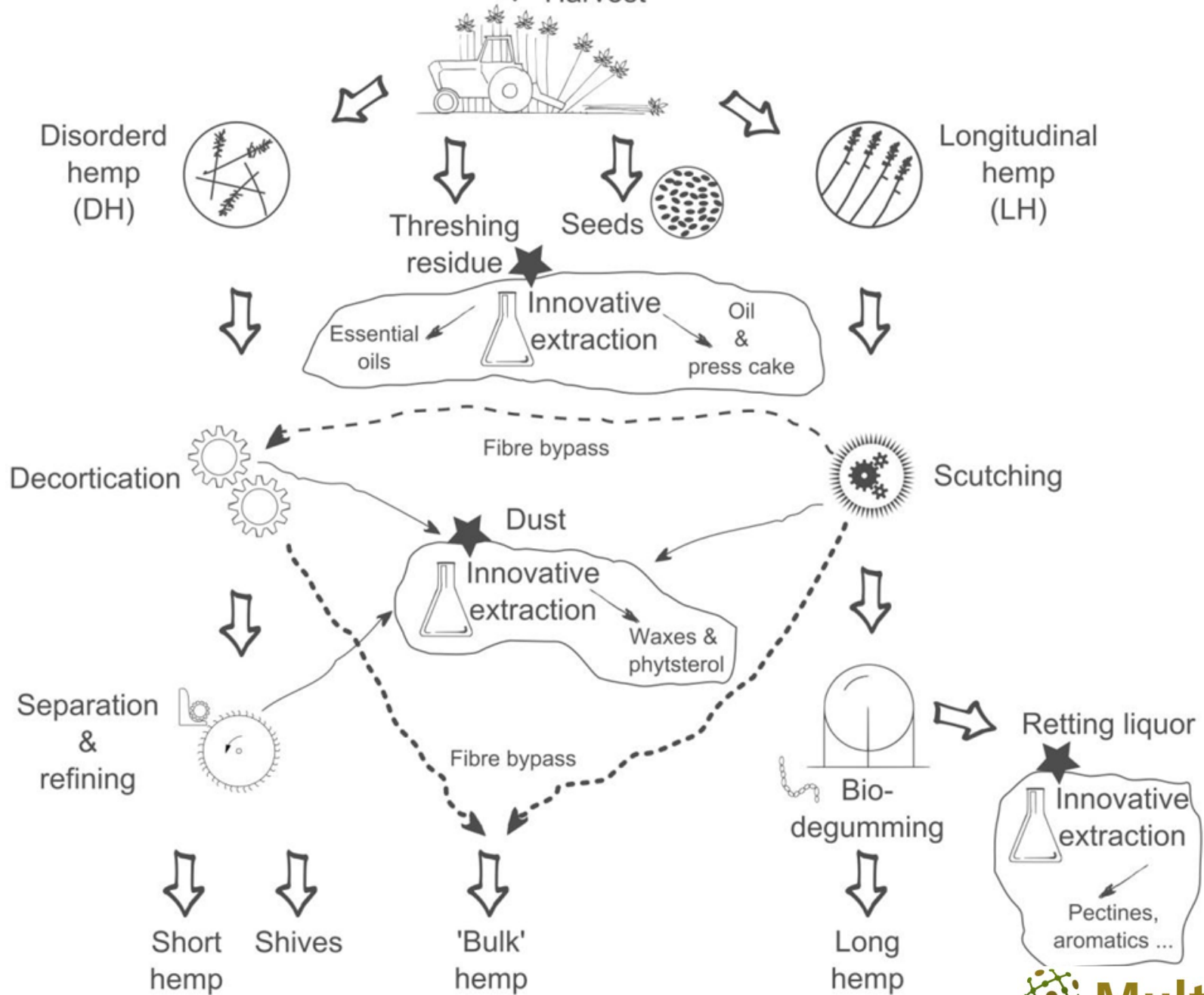


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Please follow the up dates on:
www.multiphemp.eu

