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Most potential business models from forestry residues

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- Agenda:
  - Business models of utilisation of forestry residues
  - Methodology of qualitative assessment of the business models (vs. quantitative feasibility studies)
  - Comparison of business models developed in the frame of CEforestry project
  - Discussion of the potential of the developed business model

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- Four business model were developed in the frame of CEforestry project (as an output O2.2. - CE business model for the forestry biomass residues recovery):
  - BM 1 – Antibacterial extracts for B2B (wastewater treatment/paper industry): This model focuses on using biomass residues to produce antibacterial extracts, which can be used in wastewater treatment and the paper industry.
  - BM 2 – Antibacterial extracts for the food industry (food preservatives): This model focuses on producing antibacterial extracts as food preservatives, significantly extending the shelf life of food.
  - BM 3 – Meat anoluge adds (fermentation variant): This model proposes using fermentation and purification of biomass residues which can be used in the food industry, i.e. to produce meat analogues.
  - BM 4 – Bio-extracts for cosmetic production (B2B): Focused on producing bio-extracts for use in the cosmetic industry, this model allows for the creation of natural and eco-friendly cosmetic products.

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- Qualitative assessment of the business model were done according to the methodology based on the classical commercialization model developed by Jolly [1,2]
- Procedure of the QuickLook™ assessment consist on the seven steps:
  - Defining the scope of the evaluation
  - Description of the technology (defining the essence of innovation)
  - Assessment of the technology's value, taking into account intellectual property (IP)
  - Identification / definition of technology recipients
  - Assessment of available resources (organizational, technical, personnel, financial, etc.) that may affect the commercialization process
  - Development of a model / task recommendations for technology transfer, alliances, or market entry
  - Development of recommendations for the commercialization method

[1] Jolly, Vijay K. "Commercializing new technologies: getting from mind to market." Harvard Business School Press, (1997).

[2] Malec, M., Stańczak, L., & Ricketts, B. Integrated commercialization model of research and development project results. *Management systems in production engineering. (2020) vol. 28, issue 4*

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- In the case where a comparative assessment is required, the following criteria are applied:
  - Level of technological development (i.e. TRL level) [weight: 40%]
  - Market potential (including market growth rate and diversity of applications) [weight: 25%]
  - Competitiveness (including the possibility of intellectual property protection) [weight: 20%]
  - Market size and maturity [weight: 15%]
- If you do a score evaluation, you can weight the total score for comparison [suggested weights in square brackets].

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Business model & technology	BM 1 – Antibacterial extracts for B2B (wastewater treatment /paper industry)	BM 2 – Antibacterial extracts for the food industry (food preservatives)	BM 3 – Meat analogue adds (fermentation variant)	BM 4 – Bio-extracts for cosmetic production (B2B)
Level of technology development	Semi-technical scale tests were performed.	Laboratory scale test were performed.	Short-series product were launched to the market.	Laboratory scale test were performed.
Rank	★★★★★	★★★	★★★★★	★★★

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Market growth potential (2025-2030)	Natural antimicrobial agent for industry is forecasted to growth at CAGR 4,4%-7,1%	Natural food preservatives growth rate (CAGR): 6,5%-7,0%	Natural food additives market is forecasted to growth at a CAGR 5,4-5,9%, Global meat substitutes market will growth at CAGR 13,5%	Natural (bio) cosmetics market is forecasted to growth at 5,9%-6,4% CAGR.
Rank	★★★	★★★★	★★★★	★★★★

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Business model & technology	BM 1 – Antibacterial extracts for B2B (wastewater treatment/ paper industry)	BM 2 – Antibacterial extracts for the food industry (food preservatives)	BM 3 – Meat analogue adds (fermentation variant)	BM 4 – Bio-extracts for cosmetic production (B2B)
Competitiveness (measured as IP patentability)	„spruce bark extract" – 21 records at Esp@cenet worldwide	„ spruce needle extract" – 11 records at Esp@cenet worldwide	„fermented spruce needle" – 0 records at Esp@cenet worldwide	„needle tree cosmetics" – 7 records at Esp@cenet worldwide
Rank	☆☆☆☆	☆☆☆☆	☆☆☆☆☆	☆☆☆☆

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Business model & technology	BM 1 – Antibacterial extracts for B2B (wastewater treatment /paper industry)	BM 2 – Antibacterial extracts for the food industry (food preservatives)	BM 3 – Meat analogue adds (fermentation variant)	BM 4 – Bio-extracts for cosmetic production (B2B)
Level of technology development	★★★★★	★★★	★★★★★	★★★
Market growth potential (2025-2030)	★★★	★★★★	★★★★	★★★★
Competitiveness (as IP patentability)	★★★★	★★★★	★★★★★	★★★★
Market size and maturity	★★★★★	★★★	★★★★★	★★★
Summary rank	★★★★★	★★★	★★★★★	★★★

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BM 3

Meat analogue adds (fermentation variant)

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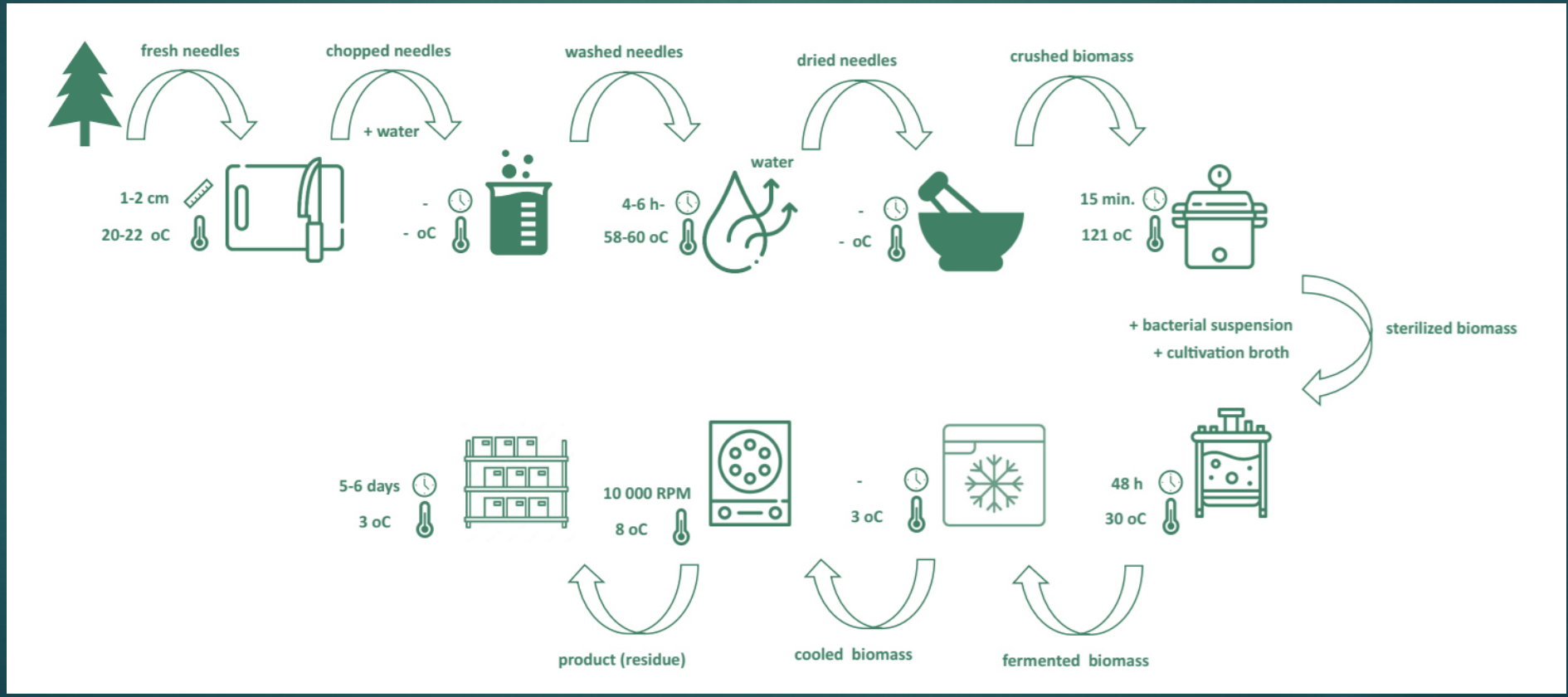
Meat analogue adds (fermentation variant) - technology



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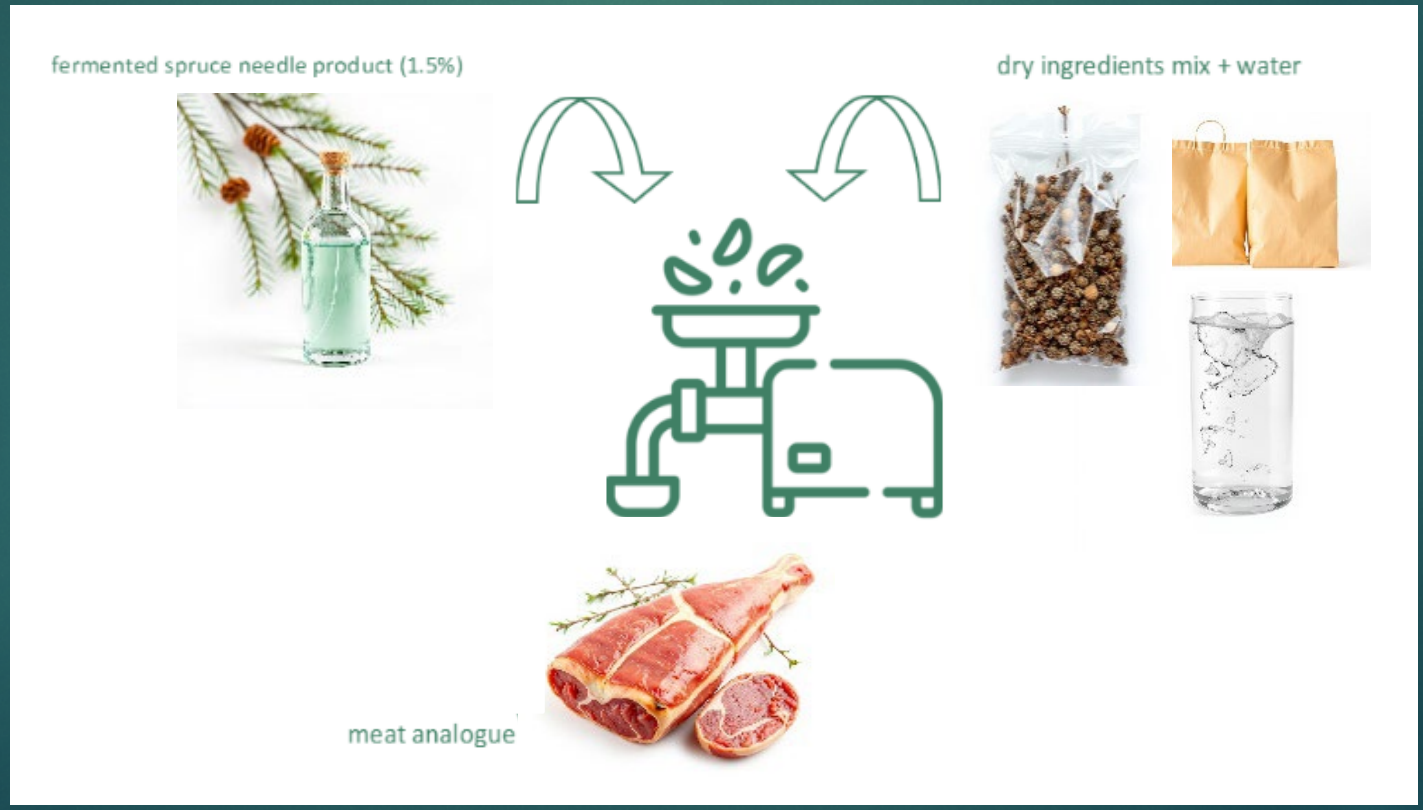
Meat analogue adds (fermentation variant) - use



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- **Strengths**
  - Innovative product
  - Large market for meat analogues
  - Low financial barriers to entry
  - Low barriers related to IP protection
  - Commercially tested (small scale)
- **Weaknesses**
  - Niche nature of the product due to its flavour and aroma
  - Uncertain market growth forecasts

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- **Opportunities**
  - Possibility of formal IP protection
  - Changing consumption habits in the EU
  - Search for healthy and sustainable food
- **Threats**
  - Easy-to-copy product (unless protected)
  - Dominance of large corporations producing food additives
  - Susceptibility to consumer trends

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Thank you for your attention!

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&

GreenBack Ltd.

team

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Thank you
Time for a question