Bioproducts from bio-based waxes and oils

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Why Nordic biowaxes & bio-oils?



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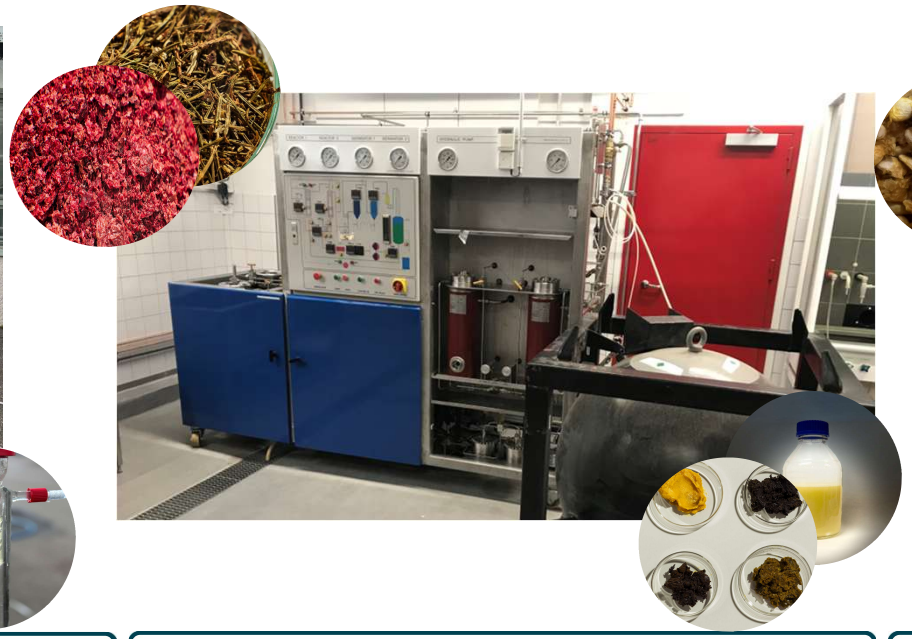
- **Renewable** alternatives for fossil-based ingredients
- **High-value** ingredients from underutilized biomass
- **Multiple products** from the same raw material
- **Functional properties** for different applications
- **More value and less waste** from existing side streams
- Opportunities for differentiated, **traceable** Nordic products

Even a small fraction can create significant value when its composition and functional properties are matched with the right application and market.

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Different separation methods create different ingredients







STEAM DISTILLATION
Essential oils + hydrosols
- fresh, frozen or dried feedstock
- herbs, needles, stems, leaves, roots, seeds, blossoms, berry pomaces etc.

SUPERCRITICAL CO_2-EXTRACTION
Oils + waxes + lipophilic fractions
- dried feedstock
- needles, roots, seeds, berry pomaces, cereal bran and germ fractions or other biomass

COLD PRESSING
Plant and seed oils
- dried oil-rich seeds, grains or nuts
- fresh oil-rich plants, fruits or berries

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The target product and market determine the right separation method.

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VEGAN
Food: coating, glazing, colour & texture modification
Cosmetics: balms, creams, lotions, texture & stability modification
Health & wellness: nutraceutical or functional food ingredient
Condiments & flavorings: plant or seed oils
Textiles: coatings & finishing treatments
Fragrances: perfumes, floral waters, facial mists & toners, wellness products
Wood: coating, colour & surface treatments
Paper & paperboard: coating concepts
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Moisture- & grease-barrier
Antimicrobial
Emollient
Antioxidant
Value must be demonstrated through composition, safety, stability, performance, and customer demand.
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BIOPRODUCTS FROM NATURE – High value added products from forest and agricultural sidestreams | Natural Resources Institute Finland

Leverage from the EU 2014–2020

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BUSINESS FINLAND

BIO4P

Future Bio-Arctic Design

Future Bio-Arctic Design II

ValueBAR