

Towards a cost-effective start with **special plants**: an innovation for successful nettle field establishment by direct seeding (**SEEDINET**)

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Stinging nettle cultivation

- **A multipurpose plant**
- Native to Europe
- Perennial, fast growing
- Dioecious (♀ + ♂ plants)
- Nitrophile
- Good frost resistance
- Few pathogens/pests
- Resilient to many extreme events



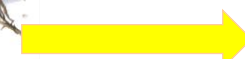
Minerals, vitamins, proteins, bioactive compounds
(Functional food / Feed / Cosmetics / agriculture...)



Minerals, vitamins, bioactive compounds (Functional food,..)



Fibers (textile, composite,..)



Bioactive compounds
(pharmaceuticals,..)

Previous project: ARKNOKK

“Arctic nettle, from weed to money”, ERDF, 2020-2023

- ✓ **Establish the bases for the nettle value-chain in Lapland**
- ✓ **Optimize** cultivated nettle **yield and quality** using **organic** cultivation techniques
- ✓ Ensure **regular supply** of nettle as a raw material to companies
- ✓ **Promote** the use of nettle as a raw material by companies and end-users

How is
nettle
market ?

Which
nettle to
cultivate ?

How to cultivate
nettle in northern
Finland ?

Nettle
for
reindeer ?



Vipuvoimaa
EU:lta
2014–2020

Which nettle to cultivate ?

Comparison of 13 provenances



Growth, biochemistry



- **KIT** (for fibers)
- **VAR** (for food)



Seeds production



How to cultivate nettle in northern Finland ?

Comparison of different planting systems

France



Growth, organic fertilizers



- Strawberry bench + plastic mulching was best system, easier weed control
 - Strong fertilizer effect



Nettle for reindeer ?

Nettle-supplemented pellet (5%)



Winter feeding 4 months (Dec-Mar),
3 groups (3x9 reindeer)



Feeding 4 months (Dec-Mar), 3 groups
(3x9 reindeer)



Blood analysis, wellbeing



A close collaboration to support the same goal: promote nettle use

Benchmarking in France 23-28.4.2022

- Visits included Horticulture school and seedling production, farmers, Textile center Cetelor, used-water treatment station



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Visit to Finland 12-17.6.2023

- ARKNOKK Open day, 13.6.2023 (presentations available at www.arktinennokkonen.fi)



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ARKNOKK results



- **Nettle is a low-input, fast growing plant that fits well to cultivation in Northern Finland**



- **Challenges:**

- No controlled seed availability and no commercial production of nettle seedlings
- Effective, but too expensive field establishment by planting seedlings
- Limited access to post-harvest processing facilities
- Strong price competition with non-Finnish nettle
- Production relying on few producers
- Limited nettle-based products and immature market



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Nettle field establishment

Current

- Seedling production in greenhouse, field planting
- Direct seeding unsuccessful: light seeds (0.1mg), slow and light-dependent germination



Innovation: make direct seeding successful by **seed priming and pelleting**

A new project with existing partners

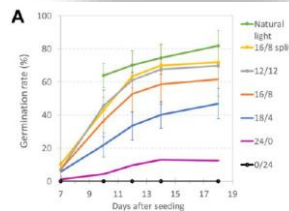
Finland

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- Nettle Finnish accessions and seed production
- Seed germination tests

Finnish companies

- Arctic Warriors Oy
- Nordic Herbs Oy

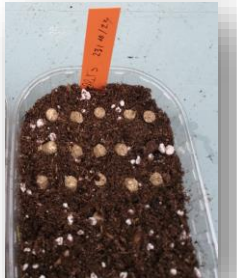


France

Horticultural school of Roville (Laurent Dervaux)

Experimental farm La Bouzule, ENSAIA (Alexandre Laflotte)

- Nettle accession
- Pelleting of nettle seeds
- Farmers network
- Network of diverse nettle users



SEEDINET

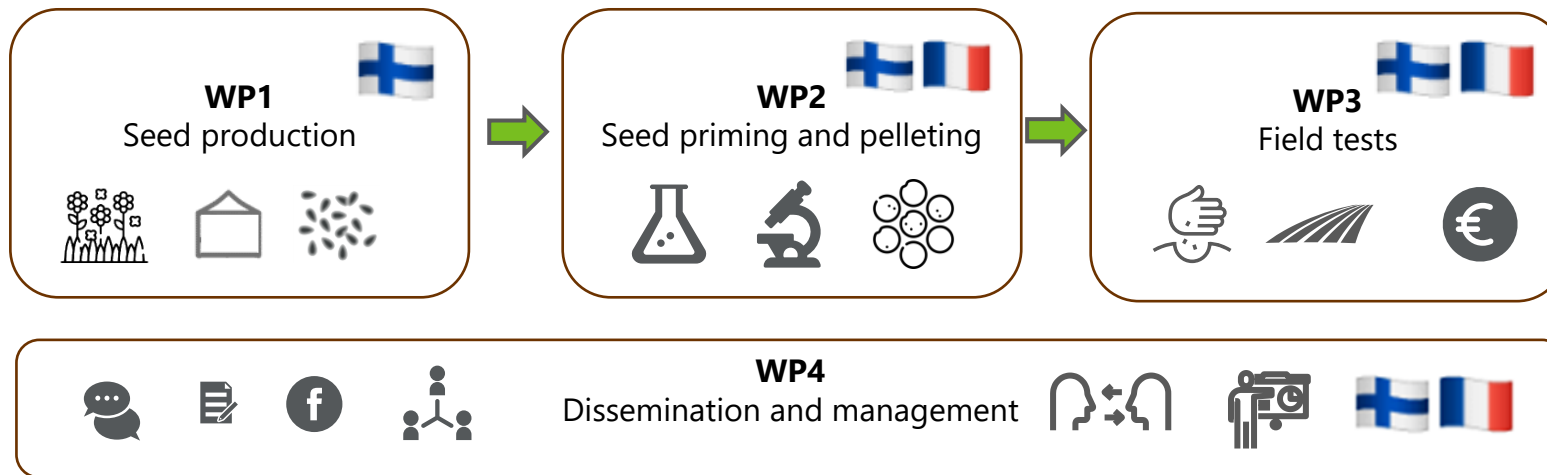
EAFRD fund (EIP-project)

L'ortinnov

EAFRD fund (EIP, submitted 5.2024)

SEEDINET structure

- WP description



- Funding: 196396€ (100%)
- ELY-Centers Lapland and Satakunta
- Duration: 6.2024-5.2027
- International collaboration
 - Close collaboration for shared expertise and shared material
 - Parallel field tests

Thank you!

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<https://www.luke.fi/en/projects/seedinet>

