

Cross-visit 'Organic farming supply and value chain optimisation'

Tuscany, Italy
28-29 June 2023



Funded by
the European Union

“Bone-dry grain (LEANDRY)”

Kurt Hansson, Sweden

A New Grain Drying Method - LEANDRY

Innovation idea

Finding another drying method that is not based on hot air is therefore important in order for us to be able to achieve set climate goals, to reduce the water content to that required for storage and trade in dry goods.

Project owner/-leader: Kurt Hansson

Partners: LiU, LTH, Hasta Eco AB



LEANDRY

A technology that does not need hot air to lower the water content to the level required for the storage and trade of cereals, seeds and seeds.

Project owner/-leader: Kurt Hansson

Partners: Linköping University, Lund Technology University, Hasta Eco AB

Total-budget: 245 000 Euro

Project time: 2022-05-05 -- 2025-03-31

BACKGROUND

Project objectives:

Handling of the harvest from the field to the farm-storage and then processed to consumer ready products.

Project activities:

To make bone-dry grain we do not need hot air. In this project we are after a new way to take away the water in the drying air, so it take away the needed watercontent in the harvested grain or any seeds.

Challenges tackled by the project:

Optimisation of production processes,; Economic viability and sustainability of production for farmers;
Climate and resource management; Networking and cooperation; Biodiversity; Waste management

Project results:

Yes, we have one new unit to test later this year.

Hasta farm website, <https://www.youtube.com/watch?v=7pgQILqayfl&t=4s>

Participating representatives:

- Kurt Hansson, Farmer/farm manager or farm worker; Innovation support agent and/ or innovation broker, SERO Swedish Renewable Energies Organization
- Stefan Schöring, Farmer/farm manager or farm worker; Rural entrepreneur, Ecologic farmers in Sweden, Farmers' organisation / association. Owner of Hasta farm.

**Country, Region:**

Sweden, 150km west of Stockholm / Arlanda airport and closest city is Arboga 15km from the farm Hasta



Challenge

- After the so-called oil crisis of the 1970s, the farm dryers have been built with straw, wood chip or pellet boilers to reduce oil dependence and the capacity needed for modern combines. But there are still yard dryers that are fired with fossil oil or LPG.

Innovation idea

- Finding another drying method that is not based on hot air is therefore important in order for us to be able to achieve set climate goals, to reduce the water content to that required for storage and trade in dry goods.



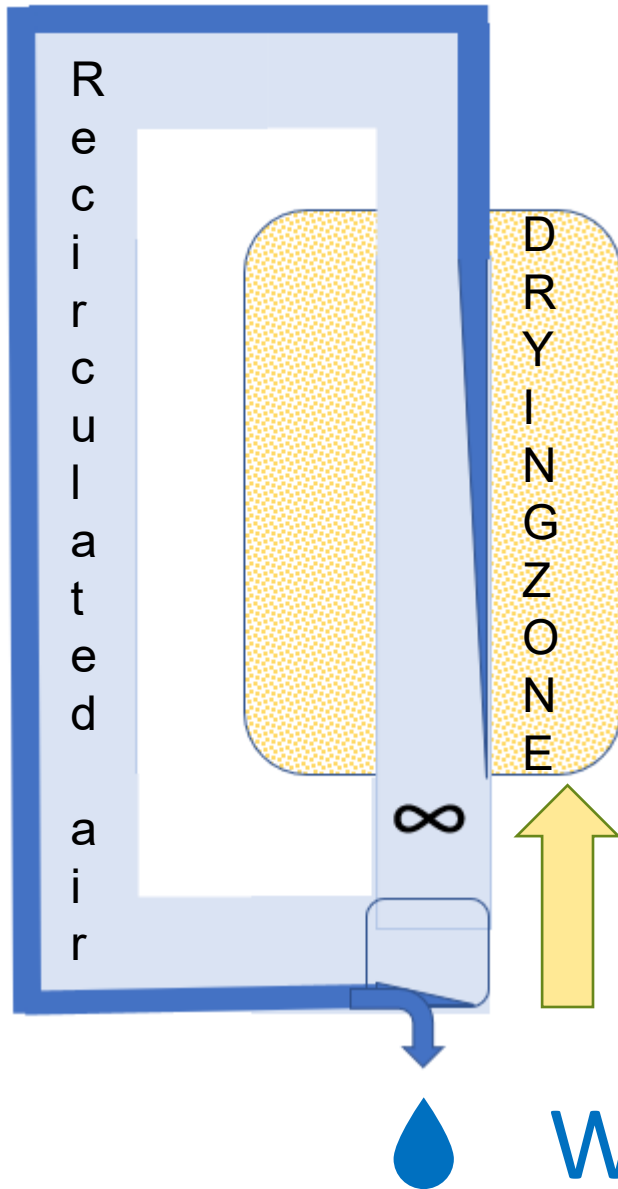
Results by now

If the drying air can be kept below 50% RH at different temperatures, the equilibrium water levels required for safe storage are obtained.

Grader C / % vh	20	15	10	5
Korn	11,1	11,8	11,8	11,9
Vete	12,2	12,2	12,3	12,3
Råg	11,6	11,6	11,7	11,7
Havre	11,0	11,3	11,4	11,4
Ärter	12,0	11,9	12,0	12,0
Raps	6,6	6,6	6,6	6,7
Gräsfrö	10,5	10,5	10,6	10,6

Source:
Leukke, 1960





LEAN drying

Dry air is used to transport the water away without much energy consumption $< 0.3 \text{ kWh / liter}$

DRY AIR

Water zink

Thank You for Your time!

Kurt Hansson



EU CAP Network cross-visit 'Organic farming supply and value chain optimisation'

28-29 June 2023, Tuscany (Italy)

All information on the cross-visit is available on the event webpage:

https://eu-cap-network.ec.europa.eu/events/eu-cap-network-cross-visit-organic-farming-supply-and-value-chain-optimisation_en

