

VIKING: Validating the introduction of Kernza in the Nordic-Baltic region



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and

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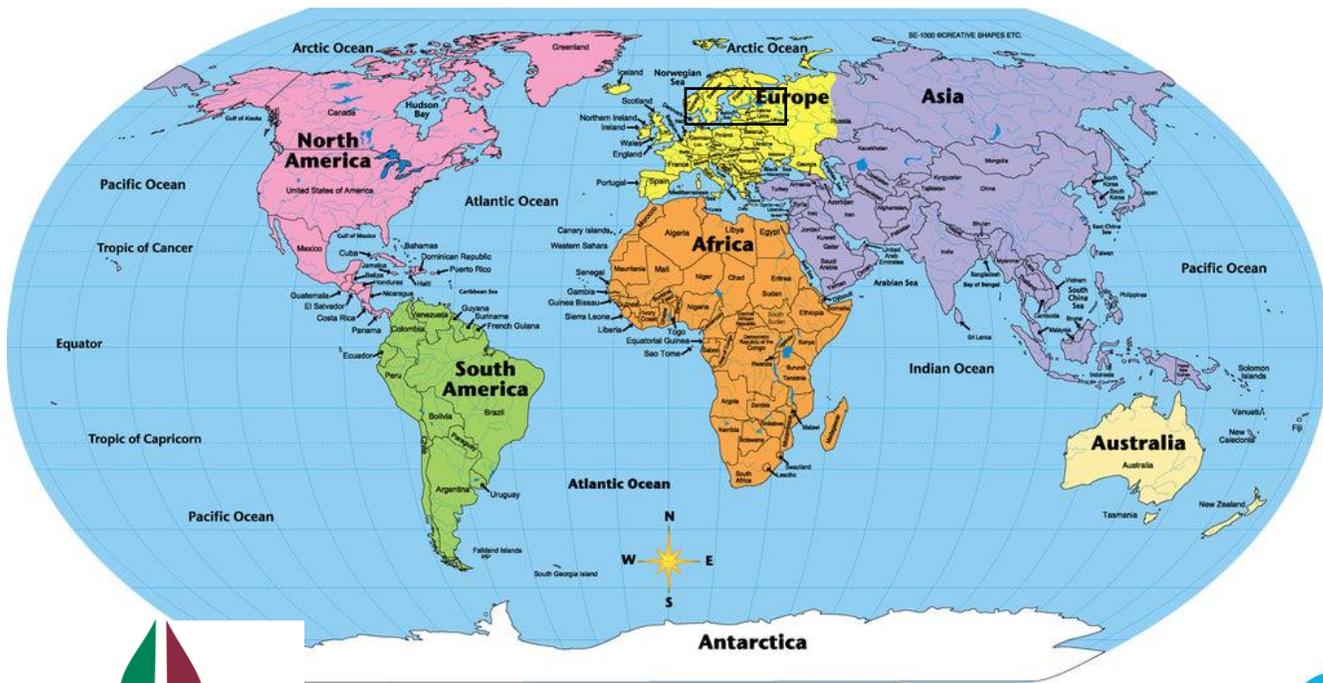
May 27, 2025



Our team at the Kernza field:



Estonian University
of Life Sciences



Estonian University of Life Sciences



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VYTAUTAS MAGNUS
UNIVERSITY



AARHUS UNIVERSITY

The aim is to study the suitability of Kernza for grain and forage



Intermediate wheatgrass

- *Thinopyrum intermedium*
- Perennial crop, newly domesticated
- Dual-use for grain and forage
- Kernza is the tradename when used for grain (from word „kernel“)
- Drought resistant, prevents erosion, helps to sequester carbon, good in nutrient use, suitable for organic and intercropped systems.



Wheatgrass field in Tartu on May 26, 2025



Kernza for grain

Figure 2. Kernza 'Canada' cultivation for grain

Crops	production	Fertilization
	Kernza monoculture	0, 70 or 140 kg N per ha
 + 	Kernza + Red clover	0 or 70 kg N per ha
	Annual cereal	120-220 kg N per ha
	Red clover monoculture	0 kg N per ha (control)

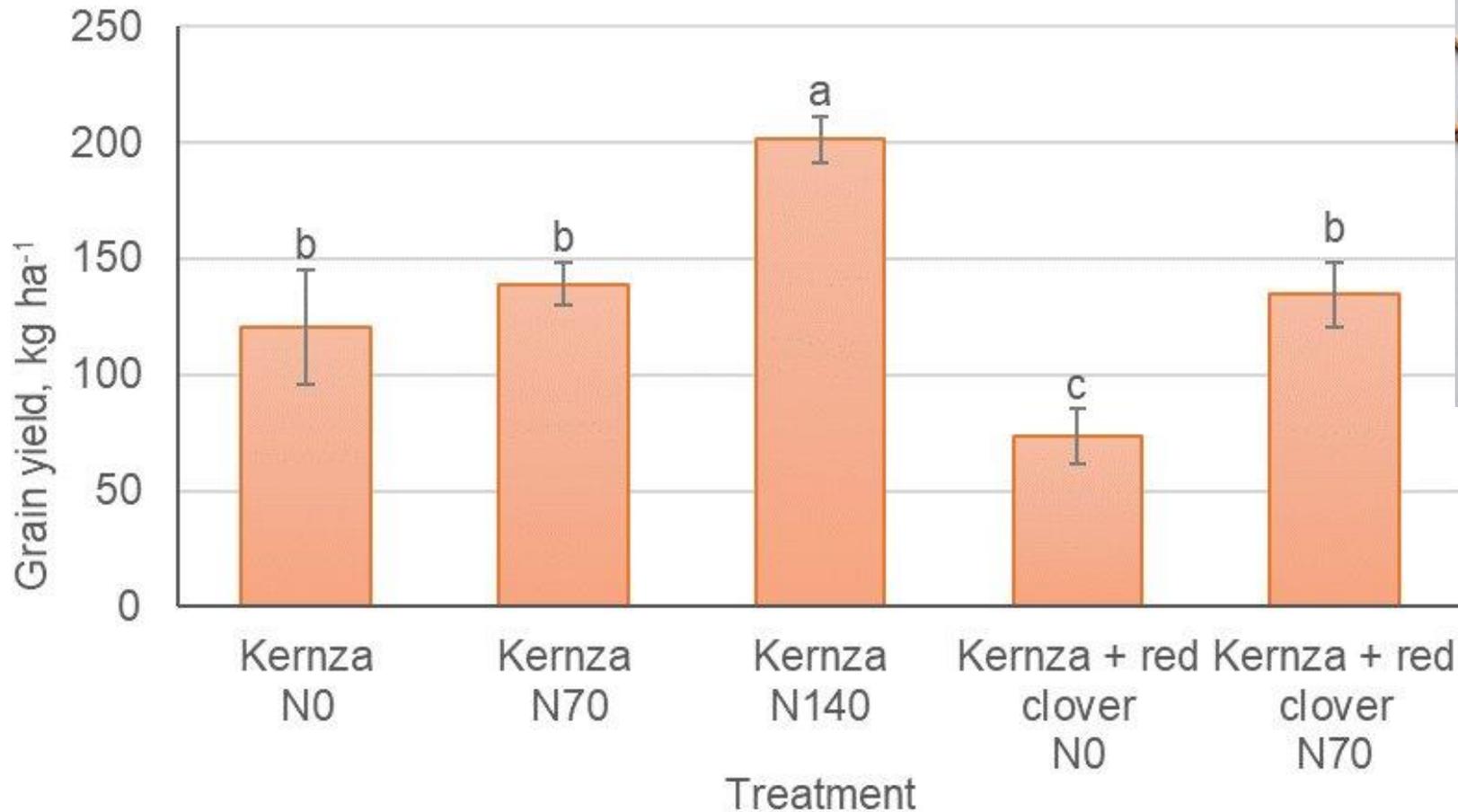


- Sweden
- Norway
- Finland
- Lithuania
- Estonia

Kernza was sown in 2023.



The first grain yield in Estonia



The first grain yield in Norway

Treatment	Grain yield (kg/ha)		
	Landvik (coastal)	Apelsvoll (inland)	Mean
N0 Kernza 0 kg N/ha	632	159	395
N70 Kernza 70 kg N/ha	790	271	531
N140 Kernza 140 kg N/ha	659	380	519
Kernza + red clover (intercropping) N0	37	0	19
Kernza + red clover N70	247	0	123
Spring wheat 110+40 kg N/ha	5296	3678	4487
N140 Kernza with Moddus Start,0.8 l	947	395	671

First grain yield in two Norwegian trials at Landvik (coastal location) and Apelsvoll (inland location) in 2024.

¹Split N application (early spring + BBCH 45). ²PGR applied at BBCH 31

Lars T. Havstad



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Kernza for forage

Figure 3. Kernza 'MN Clearwater' cultivation for forage

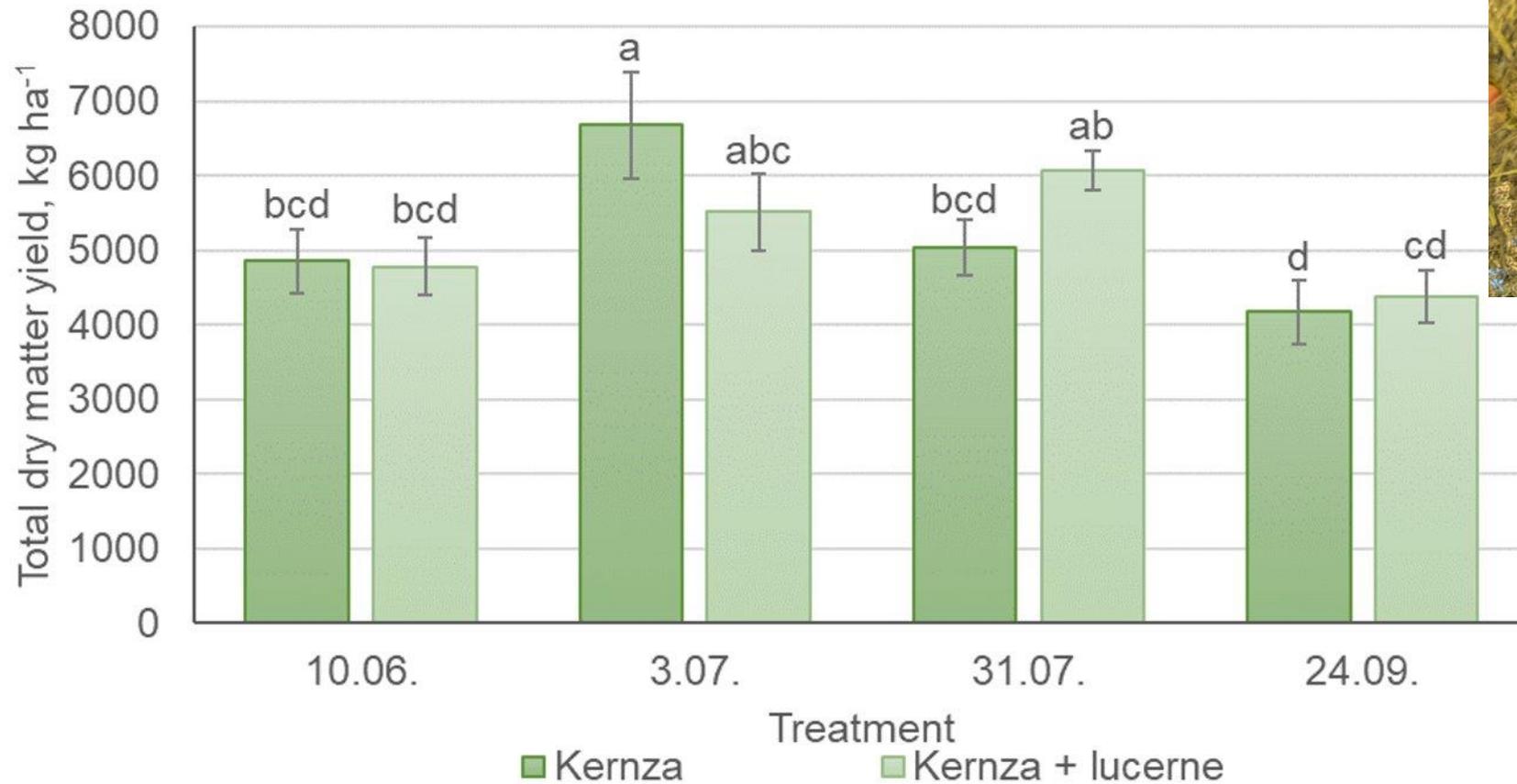
Crops	Harvest regime
 Kernza monoculture	Forage harvest in late May/early June, late June, late July and one regrowth forage harvest
 Kernza	Grain and straw harvest in September (control)
 Lucerne	



- Sweden
- Estonia

Kernza was sown in 2023.

Total forage yield in 2024 in Estonia





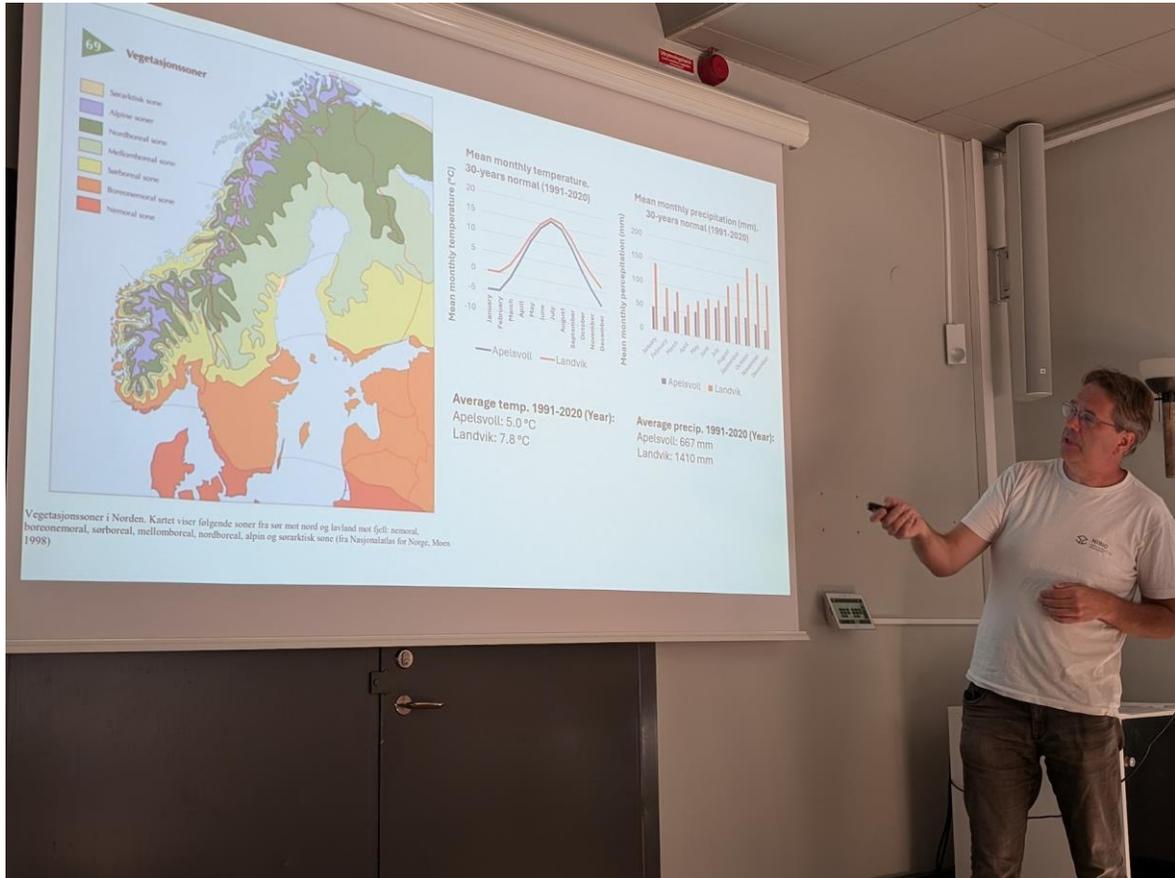
Collaboration



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Co-creation and learning from each-other



We share similar climatic challenges, as well as the long-day conditions.



How to measure a plant?
What makes it easier?



Great value is in established field-trials with similar scheme and evaluations made by the same standards.



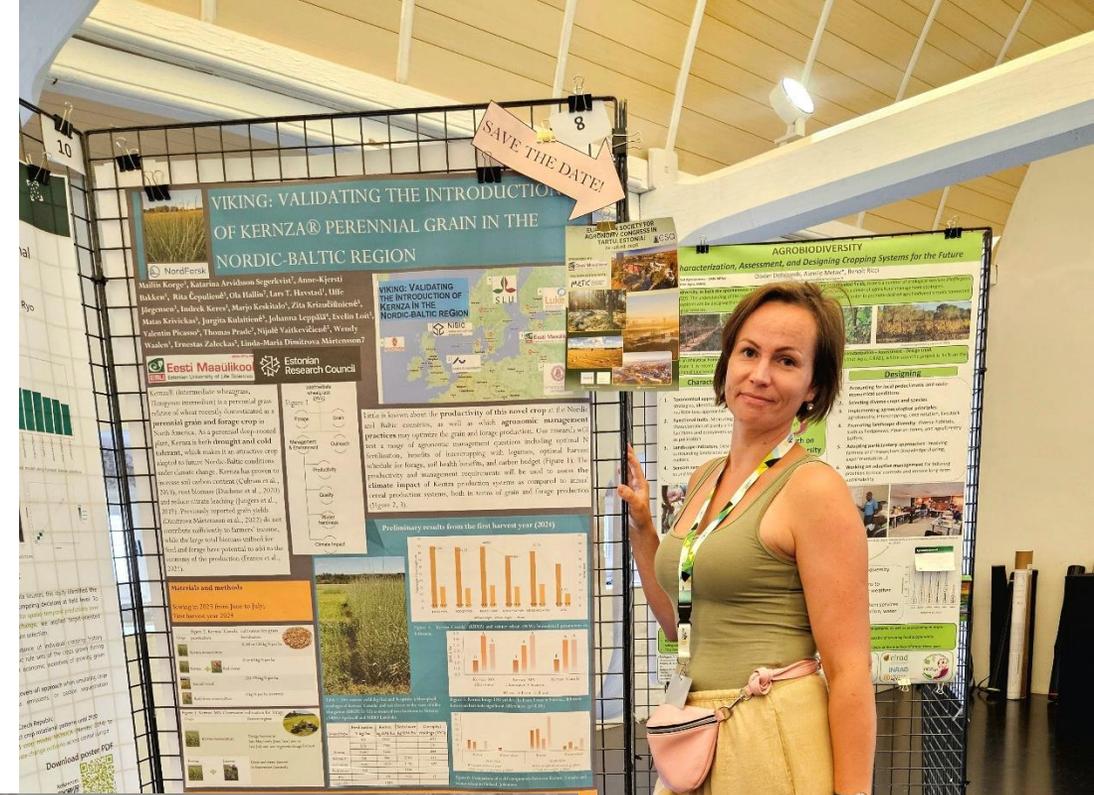
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We cover full value chain:
Last part of evaluation



United presence at the scientific conferences

- Poster at the European Society of Agronomy meeting in Rennes (August, 2024)
- Oral presentation at the Pathways to perennial future conference in Mexico (March, 2025).
- Short paper submitted for European Grassland Federation (2025)



Cultural enrichment



Västergötlands museum
Torpa Stenhus

Singing
together in
Skara
(Kernza song
by ABBA
melody)



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Creating connection with other Nordic-Baltic projects



Visiting prof. Larisa Garkava-Gustavsson (InNoBaHort) at Alnarp



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Future



- Marie Skłodowska-Curie Actions – doctoral network
- Scientific proposals on the topic of perennial grains
- Perennial grain European network



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NordForsk



Estonian
Research Council

Thank you for your attention!

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Euroopa Liit
Euroopa
Regionaalarengu Fond



Eesti
tuleviku heaks



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