Adaptive rotational (all year round) grazing in Smelyne Farm - managing grasslands for the benefit of soil and water retention

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The story (of the farm) begins in the sand (Smėlyne)...





Long story short

- Dream of creating a thriving, self-sustained farm;
- Sceptical opinions from older generations>land infertile and unsuitable for growing crops because of intensive ploughing and spraying for decades;
- Extensive hours researching soil regeneration and restoration - animals play a fundamental role in restoring soil ecosystems;
- With greater experience, broader knowledge, and a more grounded understanding of farming, they renewed their commitment to create a regenerative farm that could heal both – soil and the ecosystem and transform barren sandy soil into fertile, living land.

Farm overview

- Farm establishment began in 2015, farm active since 2018.
- Now works on 60 ha of pastures and wetlands in a hilly landscape and a river valley. Whole area in Kurtuvėnai regional park, partly in the Natura 2000 network.
- Mainly beef cattle, recently also egg layers.
- In total 75 cattle, including calves.
- Farm is active on social media (Facebook, Instragram, LinkedIn), is one of the founding farmers of the European Allliance for Regenerative Agriculture.

View of pasture lands



Practises they use to restore soil health and water retention

- No mineral fertilisers or pesticides are used on pastures to protect soil biodiversity, structure, and water quality
- Adaptive rotational grazing prevents soil compaction
- Bale grazing in winter helps increase soil organic matter and water holding capacity in the soil
- Preservation of healthy soil structure by maintaining perennial grasslands, which also act as a carbon sink
- A third of the land is left ungrazed every season until late autumn to encourage full regeneration of the pasture and habitat preservation for insect and bird species
- Only grass/hay is used as feed, preventing use of additional agricultural land

Context may be different but principles are the same

- **Constant movement**
- **Non-selective grazing**
- **Recovery period**



Cows are creatures of habit



Learning to respect the fence line







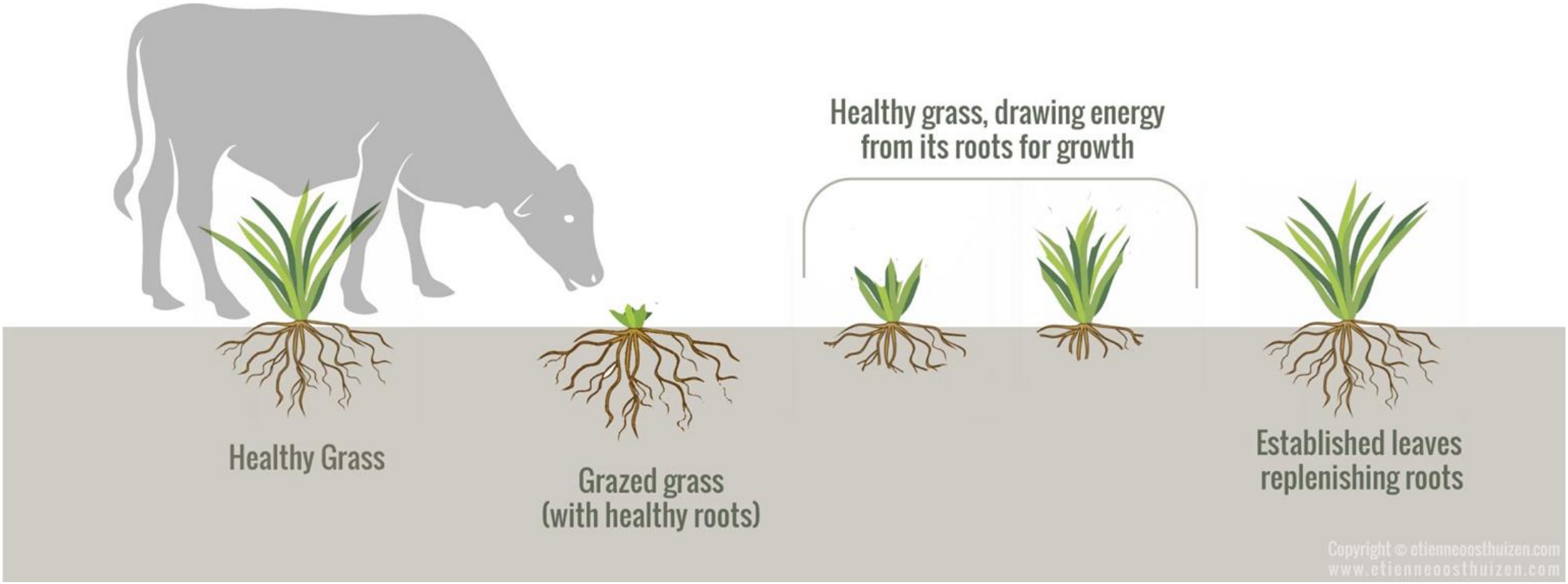
Packing the herd

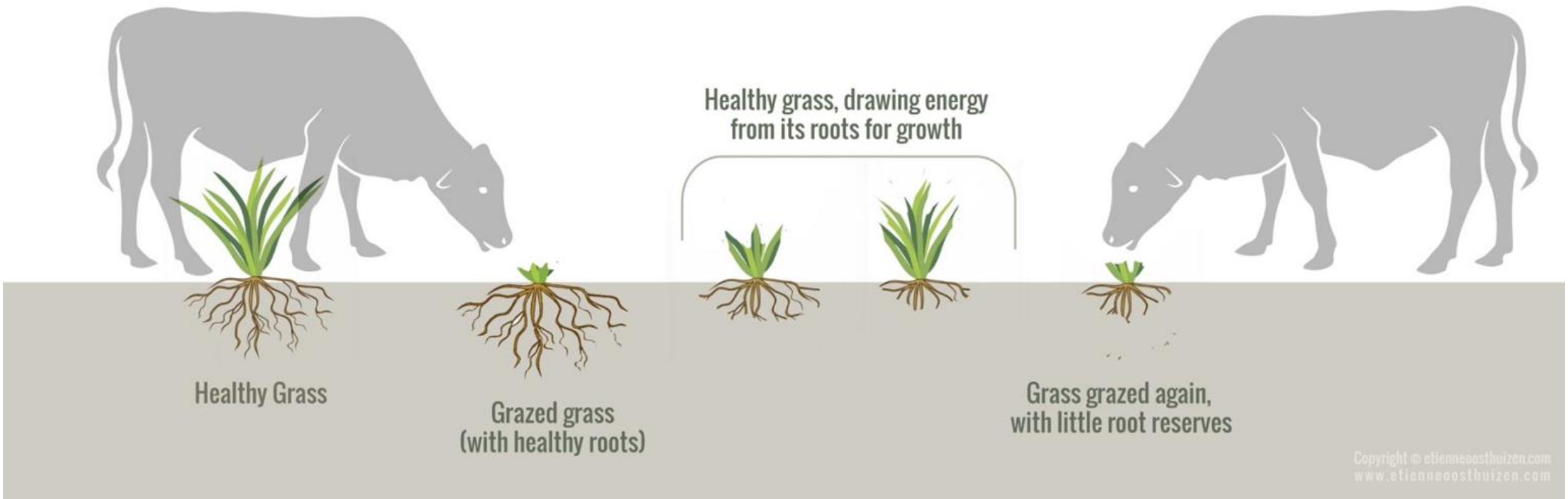






Overgrazing and recovery period




Healthy grass, drawing energy
from its roots for growth
Healthy Grass
Grazed grass
(with healthy roots)
Grass grazed again,
with little root reserves
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Goals when managing the herd

- Move the cows away before the grass regrowth starts;
- Do not come back to the same pasture plot before the plants have not fully recovered
- Create conditions for non-selective grazing







Cows can be grazed in winter too







Bale grazing to restore soil health and condition

Plots affected by erosion










The same place in summer


Before

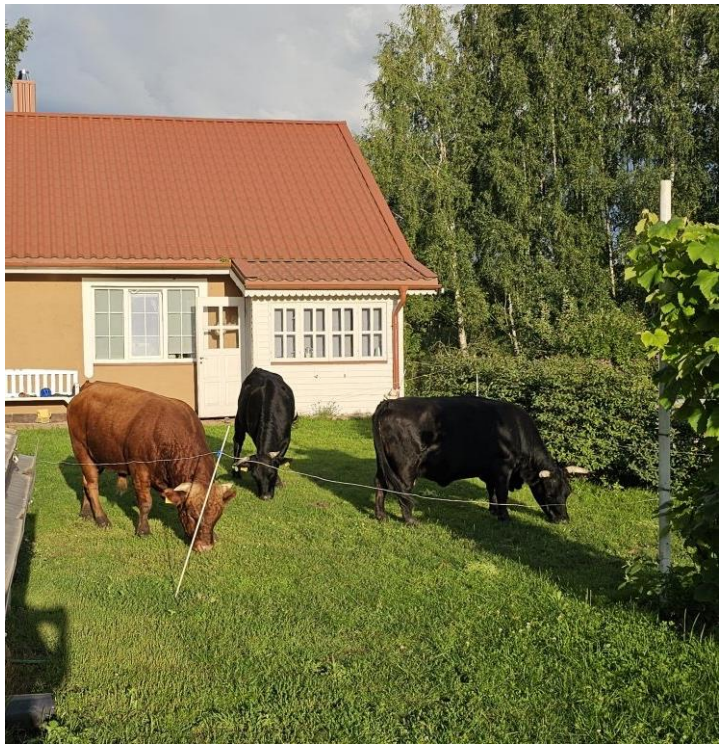

After



One plot story and results: 2016-2025







Soil tests 2016 vs. 2025

Category	🟥 2016 (Before: Acidic & Depleted)	🟧 2025 (After: Regenerated Biologically)
pH	4.90 (acidic, hostile to microbes)	7.40 (neutral–alkaline)
Organic Matter (LOI)	1.76%	2.70%
Ca:Mg Ratio	8.01 (imbalanced)	~3.2 (ideal)

1% more organic matter ≈ 7.5 mm = 75,000 litres of water per hectare

Challenges? Plenty

- The farm does no fit to the system! Or rather the system is not fit for farming that is beneficial to all? Regenerative farming is all about constant adaptation – reglaments are nearly static.
  - Problems with declaring land
  - Standards of big farms applied to all farms
- Being different is an every day state.

Their goal is a cow and farm adapted to the environment, rather than changing the environment for the farm





Questions?

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