



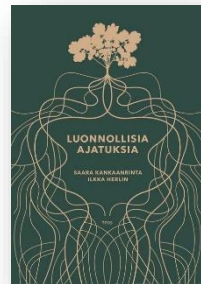
Saara Kankaanrinta

Work in a nutshell

- Chair, co-Founder BSAG foundation
- Chair, co-Founder Carbon Action platform
- Vice chair of the Board Natural Resources Institute Finland
- Board member, co-Founder Soilfood Ltd (recycled inputs to agriculture)
- Board member, co-Founder Q Power Ltd (storage of renewable energy)
- Owner Qvidja Research Farm
- Owner Gullkrona harbour, archipelago
- Writer, columnist IS
- Suomalaisen ruoan laatukirja 2020
- Luonnollisia ajatuksia 2021



Active in Twitter:
[@Skankaanrinta](https://twitter.com/Skankaanrinta)



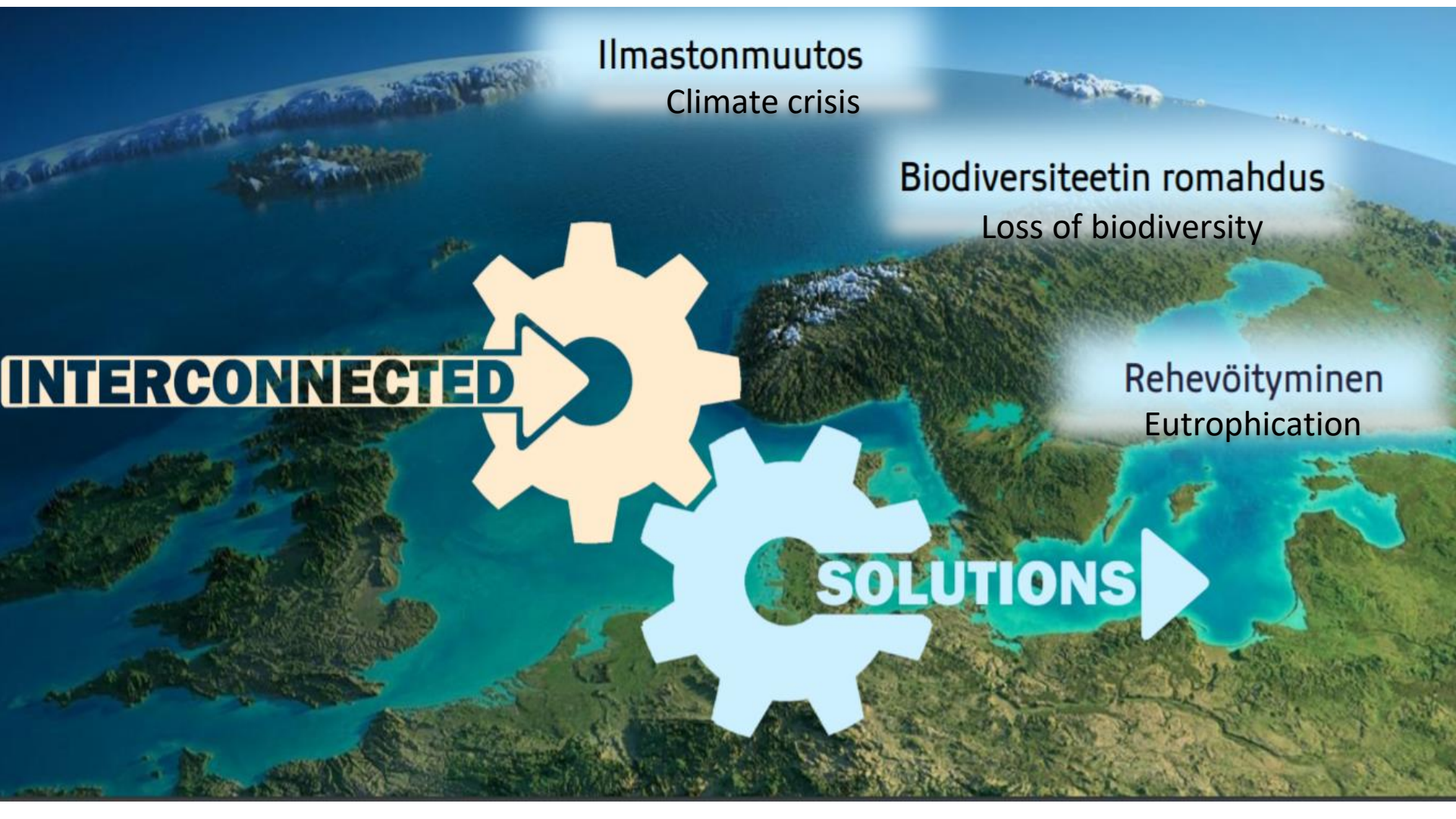
Ilmastomuutos
Climate crisis

Biodiversiteetin romahdus
Loss of biodiversity

Rehevöityminen
Eutrophication

INTERCONNECTED

SOLUTIONS



Lake Erie



Eutrophication & landuse (intensive agriculture)



Baltic Sea

(picture: Seppo Knuuttila)

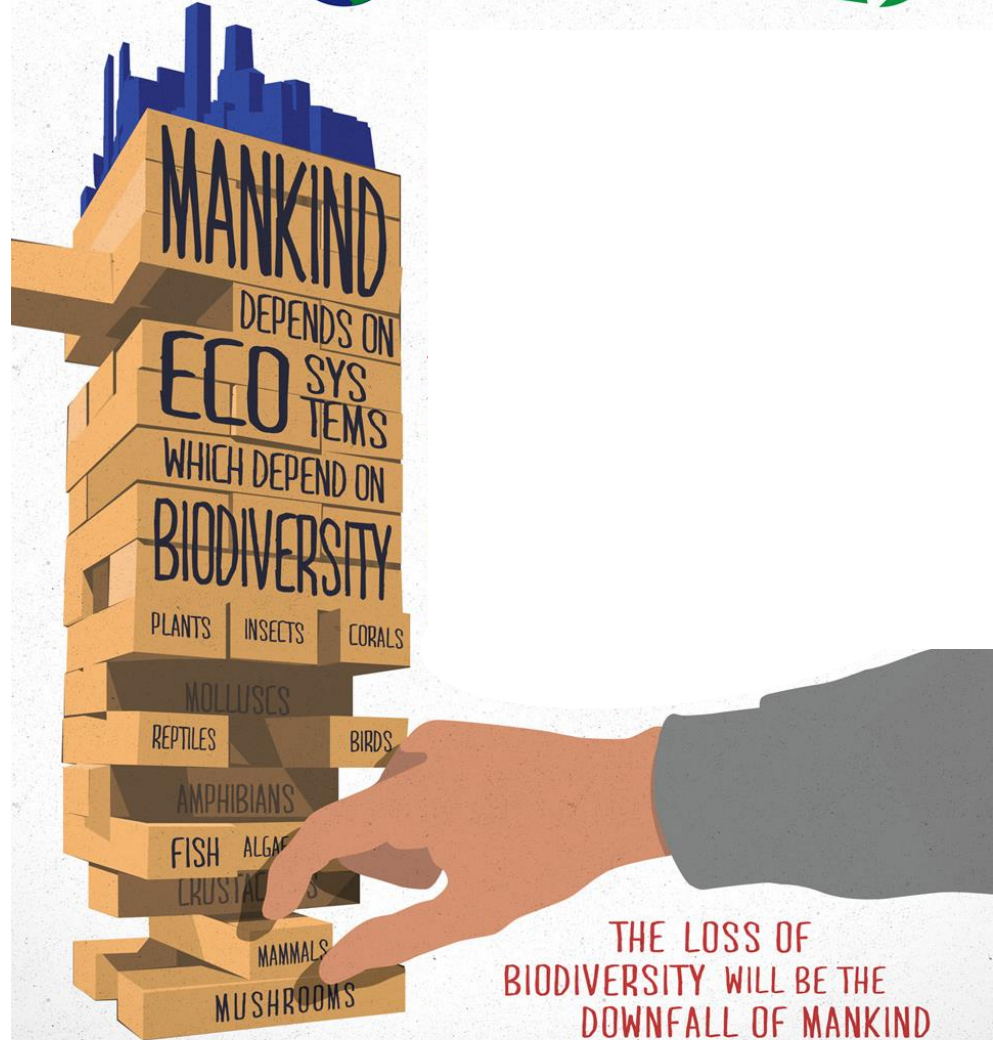


Bay of Mexico



03 FEB 2021 | PRESS RELEASE | NATURE ACTION

Our global food system is the primary driver of biodiversity loss



CLIMATE CHANGE

Soil has a significant potential in storing carbon from atmosphere back to underground.

Cutting climate emissions is necessary but no longer enough.

There is already more carbon in soil than in the atmosphere and plant biomass combined!



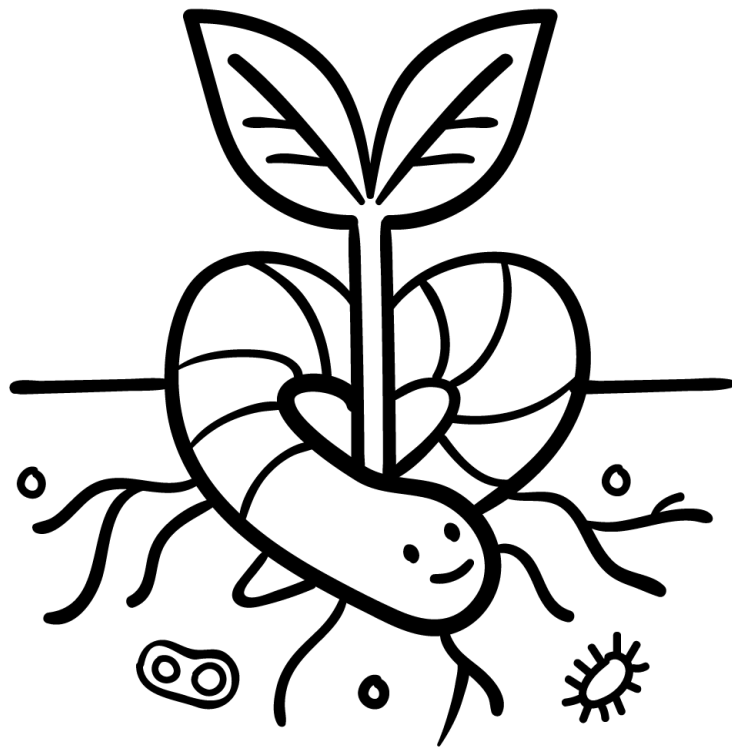
WHY SOIL?

Of all **BIODIVERSITY**

25%

is in SOIL!

**Focus on
SOIL =
CLIMATE,
BIODIVERSITY
and the
BALTIC SEA !**



WHY SOIL?

Healthy soil stores carbon, secures better yields with less inputs – and minimizes emissions to the water bodies



PARADIGM SHIFT: DEGENERATIVE OR REGENERATIVE AGRICULTURE?



Beyond Sustainable: Think Regeneratively Kiss the Ground
<https://kisstheground.com/thinkregeneratively/>

BALTIC SEA ACTION GROUP

Regenerative agriculture is a conservation and rehabilitation approach to food and farming systems.

It focuses on

- topsoil regeneration,
- increasing biodiversity,
- improving the water cycle,
- enhancing ecosystem services,
- supporting soil carbon sequestration
- increasing resilience to climate change
- strengthening the health and vitality of farm soil.



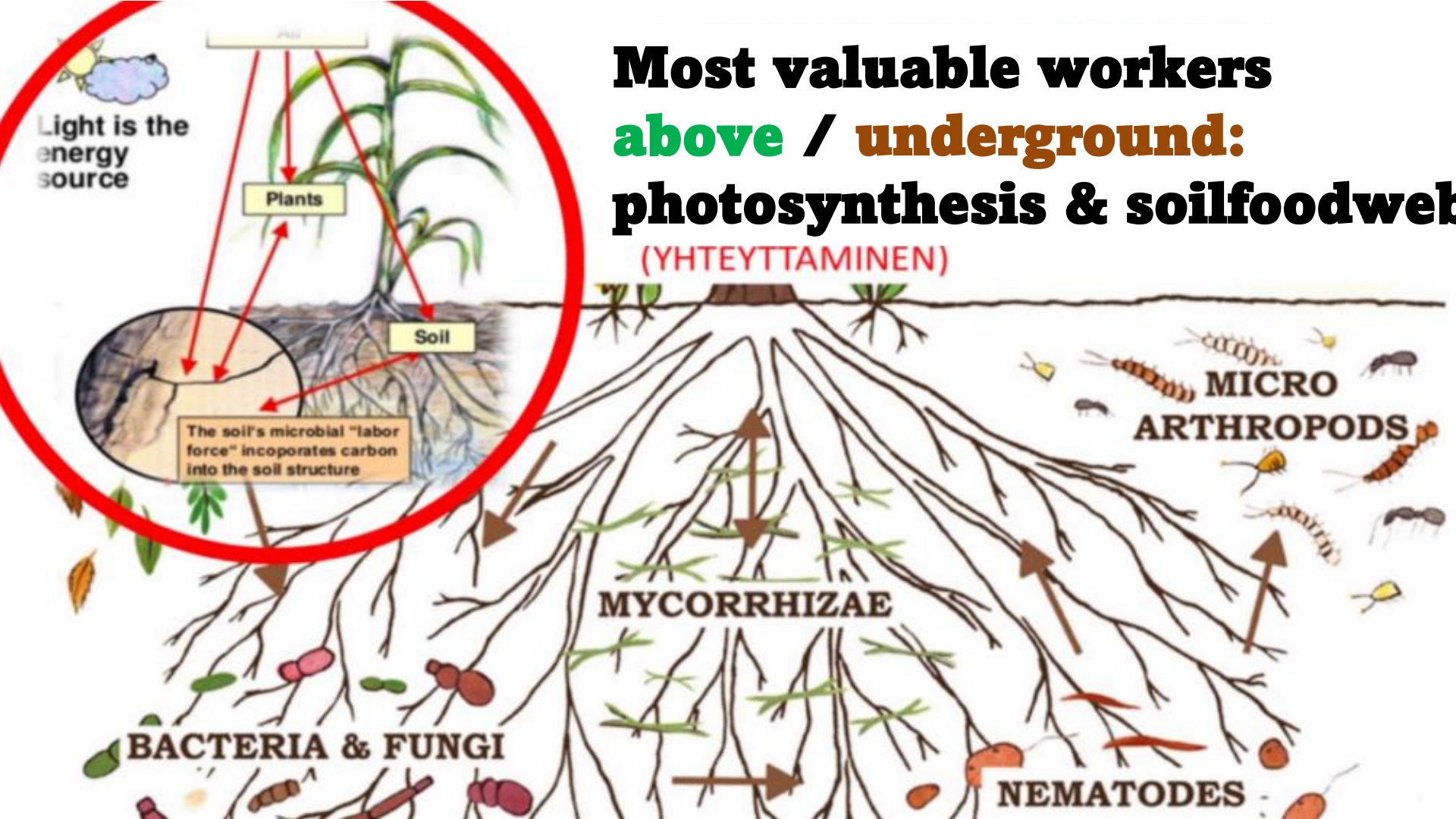
THOSE WHO TEND THE LAND HAVE SOLUTIONS IN THEIR HANDS

Same field 2 years apart

Qvidja 2016

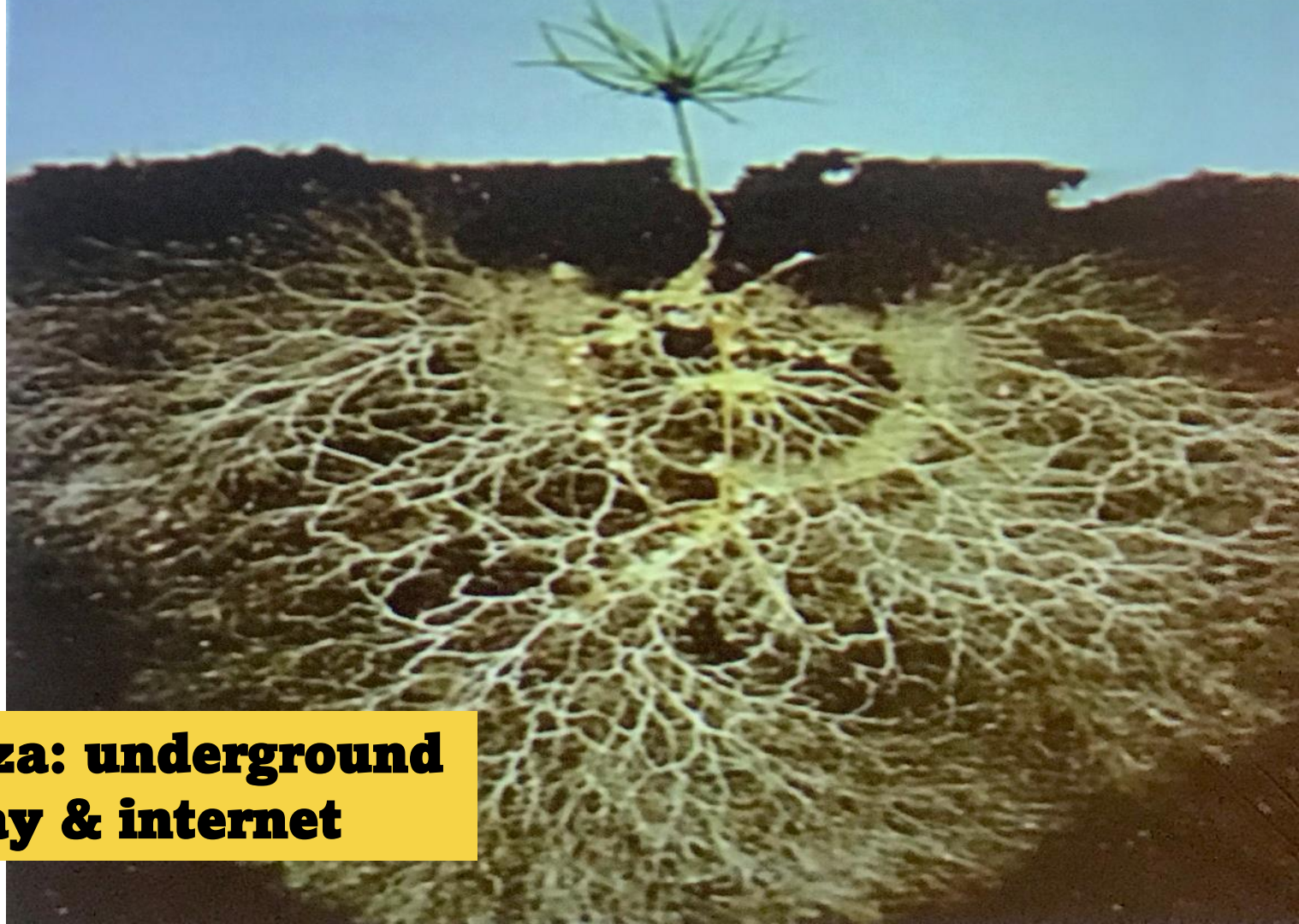
Qvidja 2018

BALTIC SEA ACTION GROUP



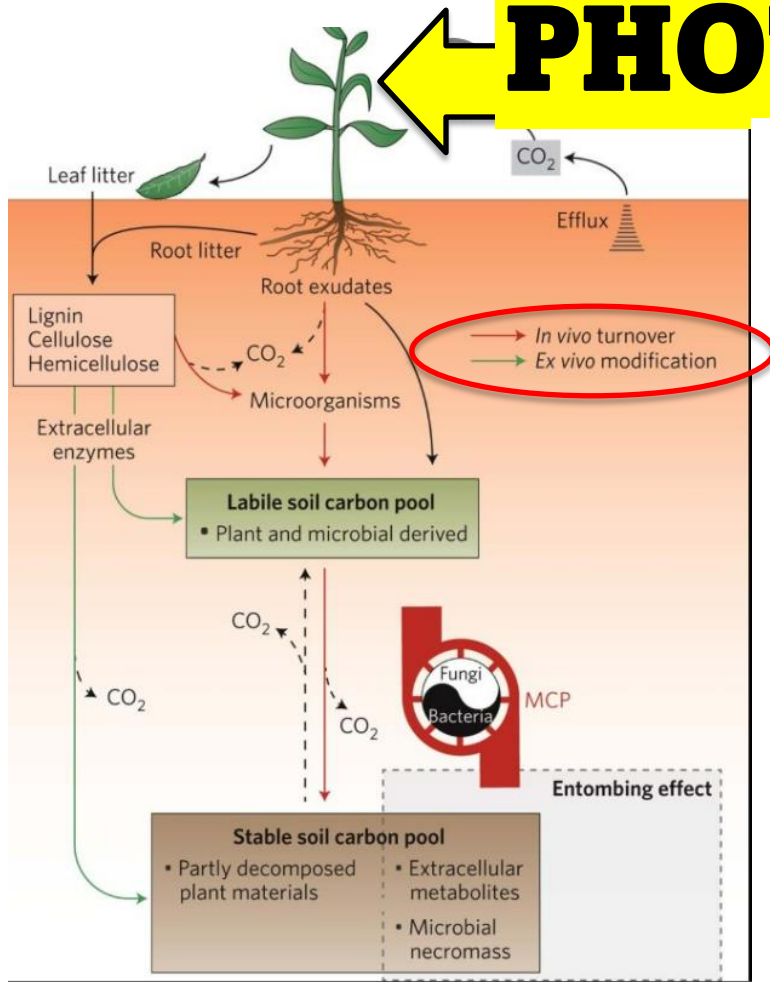
Most valuable workers
above / underground:
photosynthesis & soilfoodweb

(YHTEYTTAMINEN)



**mycorrhiza: underground
railway & internet**

PHOTOSYNTHESIS



Microbial Necromass in Soils—Linking Microbes to Soil Processes and Carbon Turnover

M. Kästner^{1*}, A. Miltner¹, S. Thiele-Bruhn² and C. Liang^{1,3}

Microbe to Microbiome: A Paradigm Shift in the Application of Microorganisms for Sustainable Agriculture

Prasun Ray¹, Venkatachalam Lakshmanan¹, Jessy L. Labbé² and Kelly D. Craven^{1*}

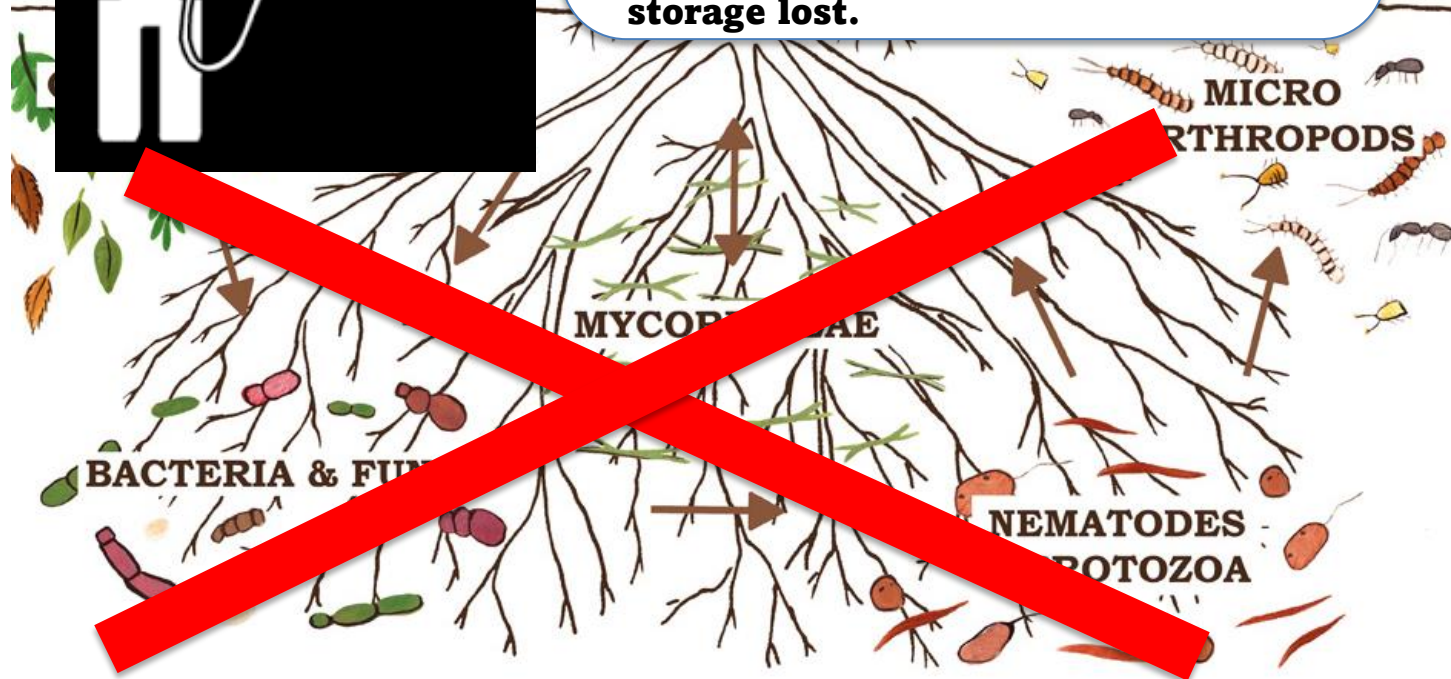
¹ Noble Research Institute, LLC, Ardmore, OK, United States, ² Biosciences Division, Oak Ridge National Laboratory, Oak Ridge, TN, United States

Light, water and healthy soil are three essential natural resources required for agricultural productivity. Industrialization of agriculture has resulted in intensification of cropping practices using enormous amounts of chemical pesticides and fertilizers that damage these natural resources. Therefore, there is a need to embrace agriculture practices that do not depend on greater use of fertilizers and water to meet the growing demand of global food requirements. Plants and soil harbor millions of microorganisms, which collectively form a microbial community known as the microbiome. An effective microbiome can offer benefits to its host, including plant growth promotion, nutrient use efficiency, and control of pests and phytopathogens. Therefore, there is an immediate



- monoculture
- inorganic, artificial fertilizers
- heavy tilling
- pesticides etc

Role of the soil? To keep the plant standing. Potential of the carbon storage lost.



Time, June 30, 1947



The great expectations held for DDT have been realized. During 1946, exhaustive scientific tests have shown that, when properly used, DDT kills a

one of the country's largest producers of this amazing insecticide. Today, everyone can enjoy added comfort, health and safety throughout the

CARBON ACTION PLATFORM

Appr. 3000 people:



FARMERS

100 pilot farms
1 000 in Carbon Action Club
1 000 registered for e-course

DECISION MAKERS

CAP & climate policies
Voluntary **carbon farming markets piloted**
→ guidelines for future
EU carbon market system

SCIENTISTS

21 projects:
Soil & plant processes,
farming practices,
verification, economics.
**World 1st forecast on
C sequestration**

COMPANIES

11 companies: training
contract farmers,
sourcing criteria
Products: e.g.
regeneratively produced
Christmas beer



FMI



**CARBON
ACTION
.FI**



SCIENCE

- **Carbon Action platform contains multiple research projects & multidisciplinary network of researchers. Network has wide international collaboration contacts. Lead by Jari Liski, FMI**
- **The research focuses on: Soil and plant processes, C, N, P dynamics, microbes. Farming practices. Verification and modelling. Economics and steering.**



ILMATIETEEN LAITOS
METEOROLOGISKA INSTITUTET
FINNISH METEOROLOGICAL INSTITUTE



HELSINGIN YLIOPISTO
HELSINGFORS UNIVERSITET
UNIVERSITY OF HELSINKI



HELSINGIN YLIOPISTO
RURALIA-INSTITUUTTI



Universität
Zürich^{UZH}

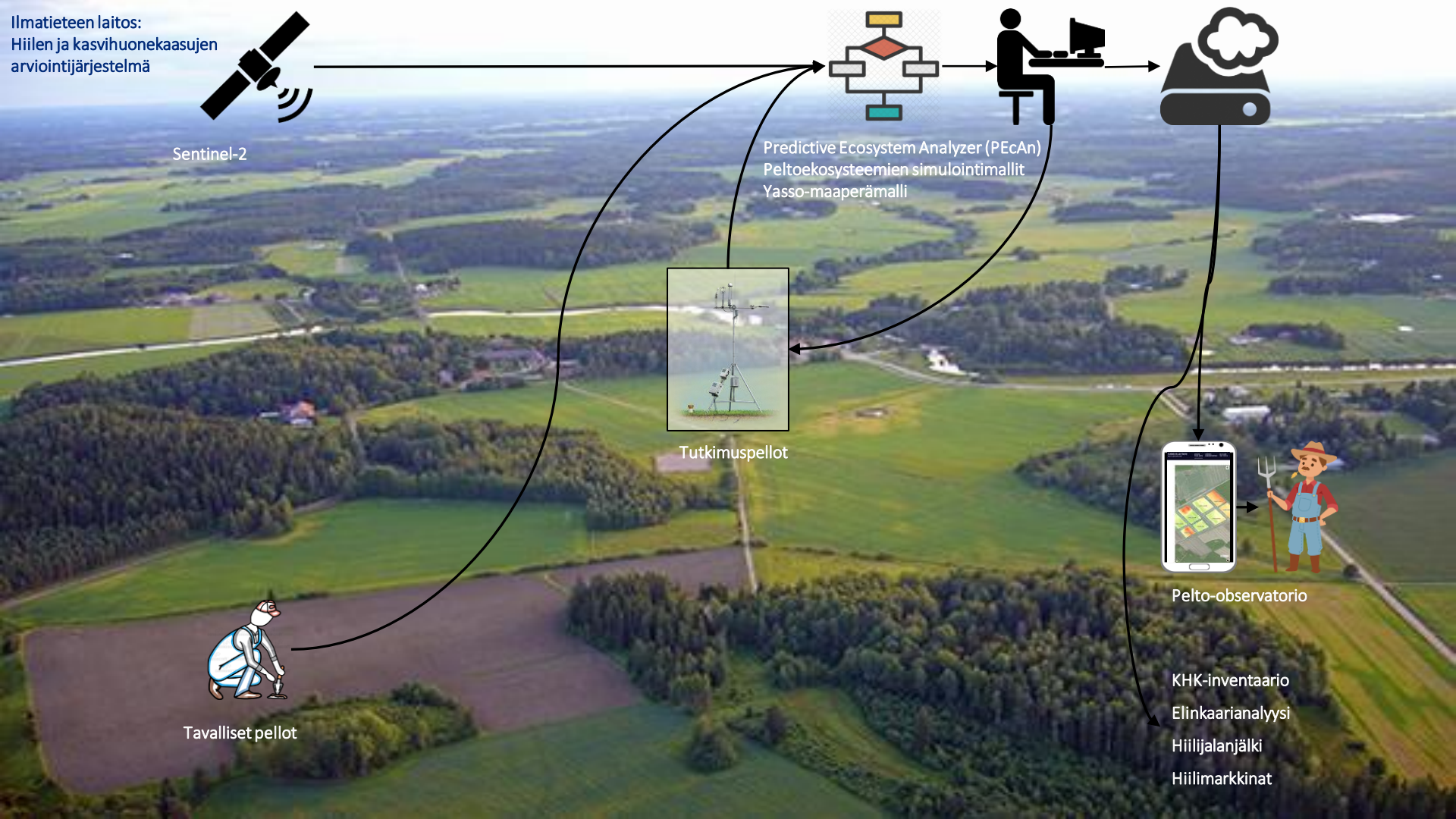
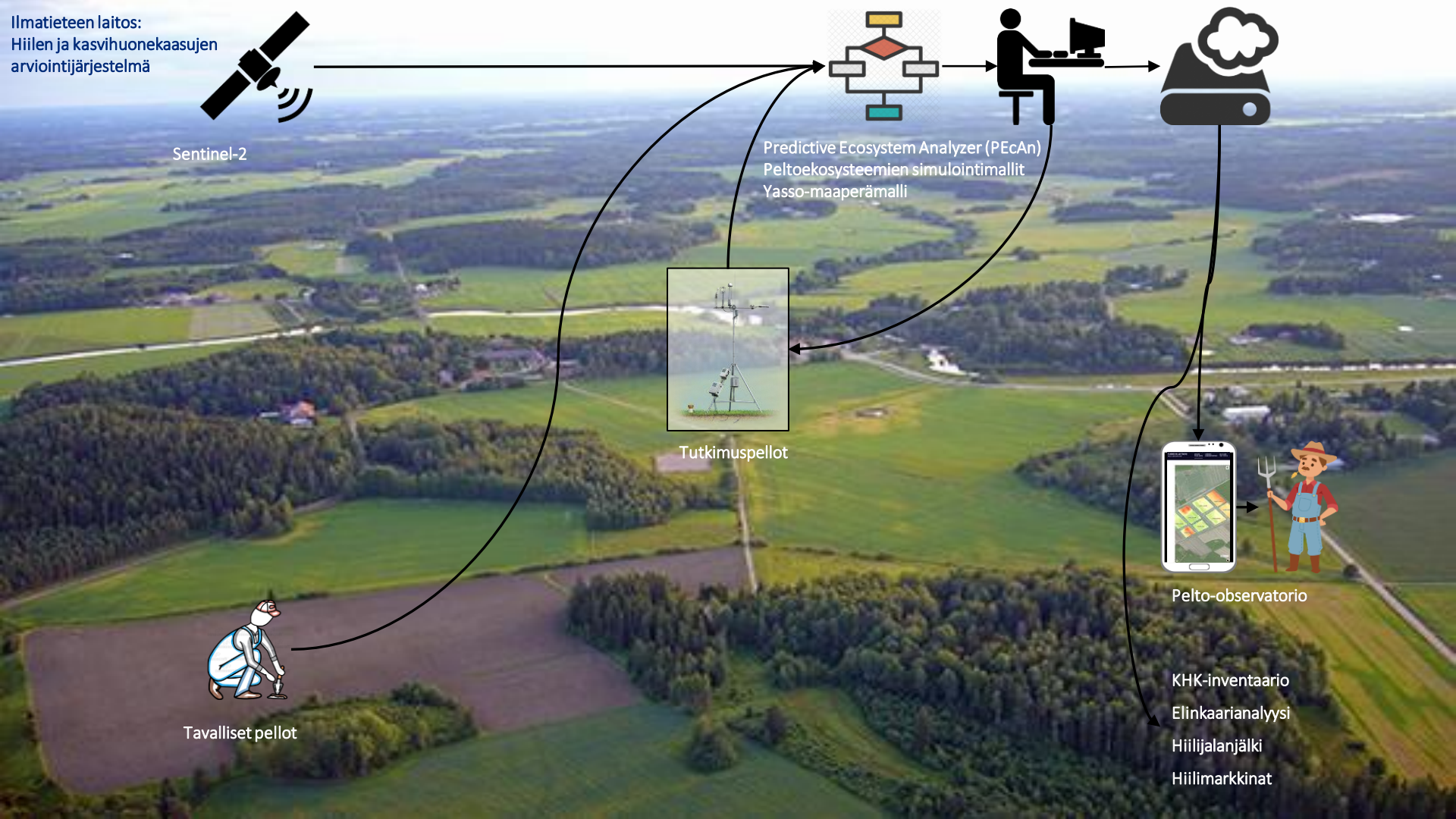


Tampereen yliopisto
Tampereen ammattikorkeakoulu

Co-creation everywhere: Carbon Action in Qvidja, Tvärminne, summits, fields and forests...







CARBON ACTION BUSINESS PLATFORM

Companies can guide both the work of farmers and consumer choices.

For example, Valio, Atria and Altia train their contract farmers to become carbon farmers. Appetit, Altia and Fazer have committed to integrate the principles of carbon farming into their sourcing criteria.

Appetit

BERNER

ALTIA

Valio



GOFORE

Atria



BALTIC SEA ACTION GROUP

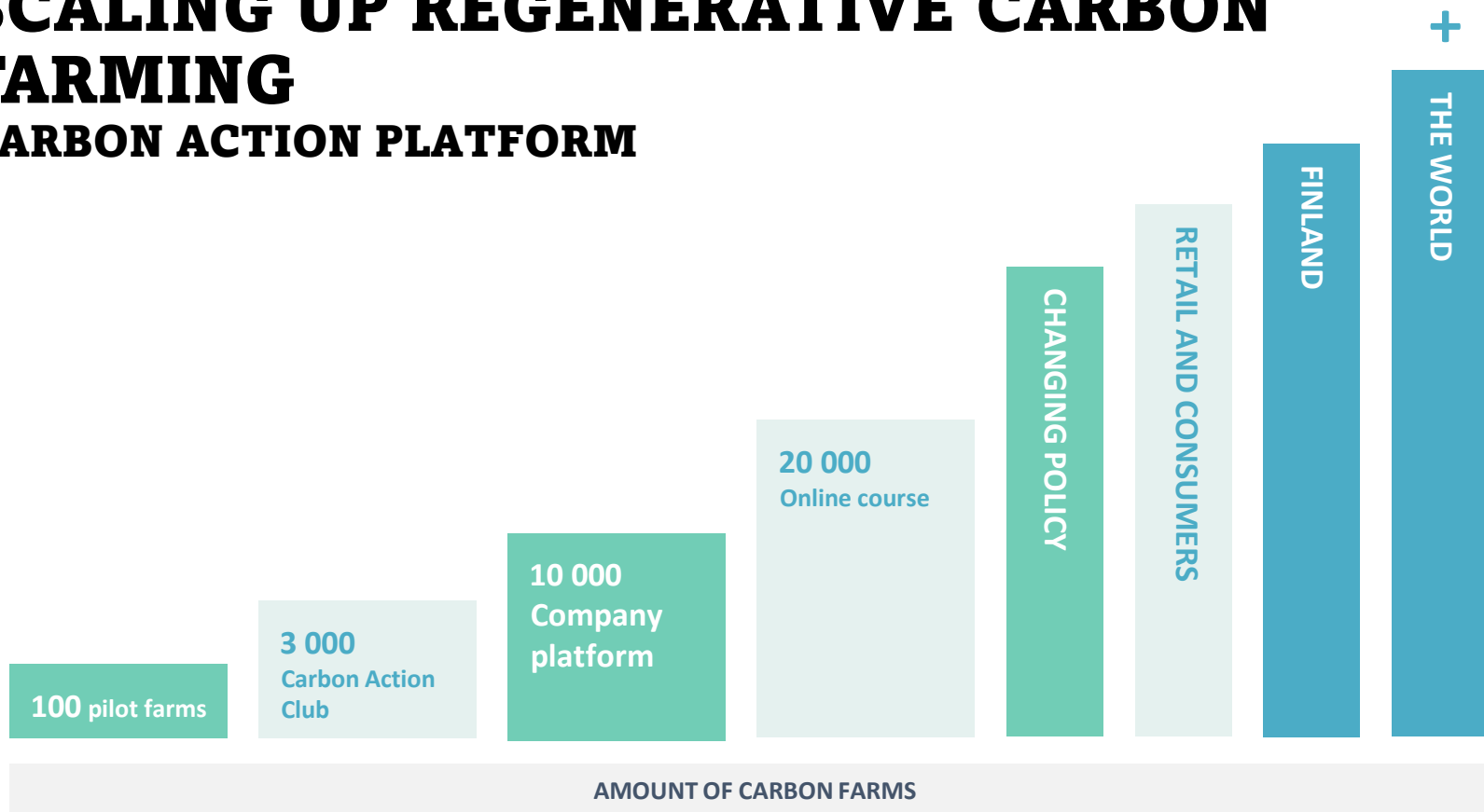
CARBON ACTION FARMS & FARMERS

- 100 farms committed to research, training and co-development
- 1000 farms joined to Carbon Action Club to get updating information
- 30 agricultural advisors are trained to become top experts in soil health and carbon farming
- Companies providing training to contract farmers (first 1000 farmers trained by the end of 2020)
- An elearning course for FREE FOR ALL farmers on regenerative agriculture (first Finnish and Swedish)



SCALING UP REGENERATIVE CARBON FARMING

CARBON ACTION PLATFORM



A group of people, mostly men, are gathered in a lush green field. Some are standing and looking towards the camera, while others are crouching or kneeling in the tall grass, possibly examining something on the ground. The background features a dense forest of tall trees under a cloudy sky. The overall scene suggests an outdoor educational or research activity.

**It's all about healthy ecosystem cycles...
...and how can we humans
understand and respect the ecological rules.**

Clouds; rain

CARBON

WATER

NITROGEN

PHOSPHORUS



CYCLE

CYCLE

CYCLE

CYCLE

plants & soil & microbes

**That's why we co-create and
act science-based with ACCC.
Hope comes from action.**

