



Regenerative Agriculture: an introduction

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Quantis

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Our mission

We aim to transform
businesses to create a
thriving future for people
and the planet.



How we work

Who

We partner with leading global organizations in key sectors who are serious about reducing their environmental impact.

How

Our unique approach combines deep sustainability expertise with strategic business knowledge to help your company align within planetary boundaries.

What

We enable sustainable business transformation, helping you build resilience, unlock innovation and optimize your performance.



We guide you through a three-phased Sustainability Transformation Journey



Assess

Gather the best available data, metrics & insights

Identify opportunities for improvement



Plan

Define your ambition and strategic framework to guide the transformation

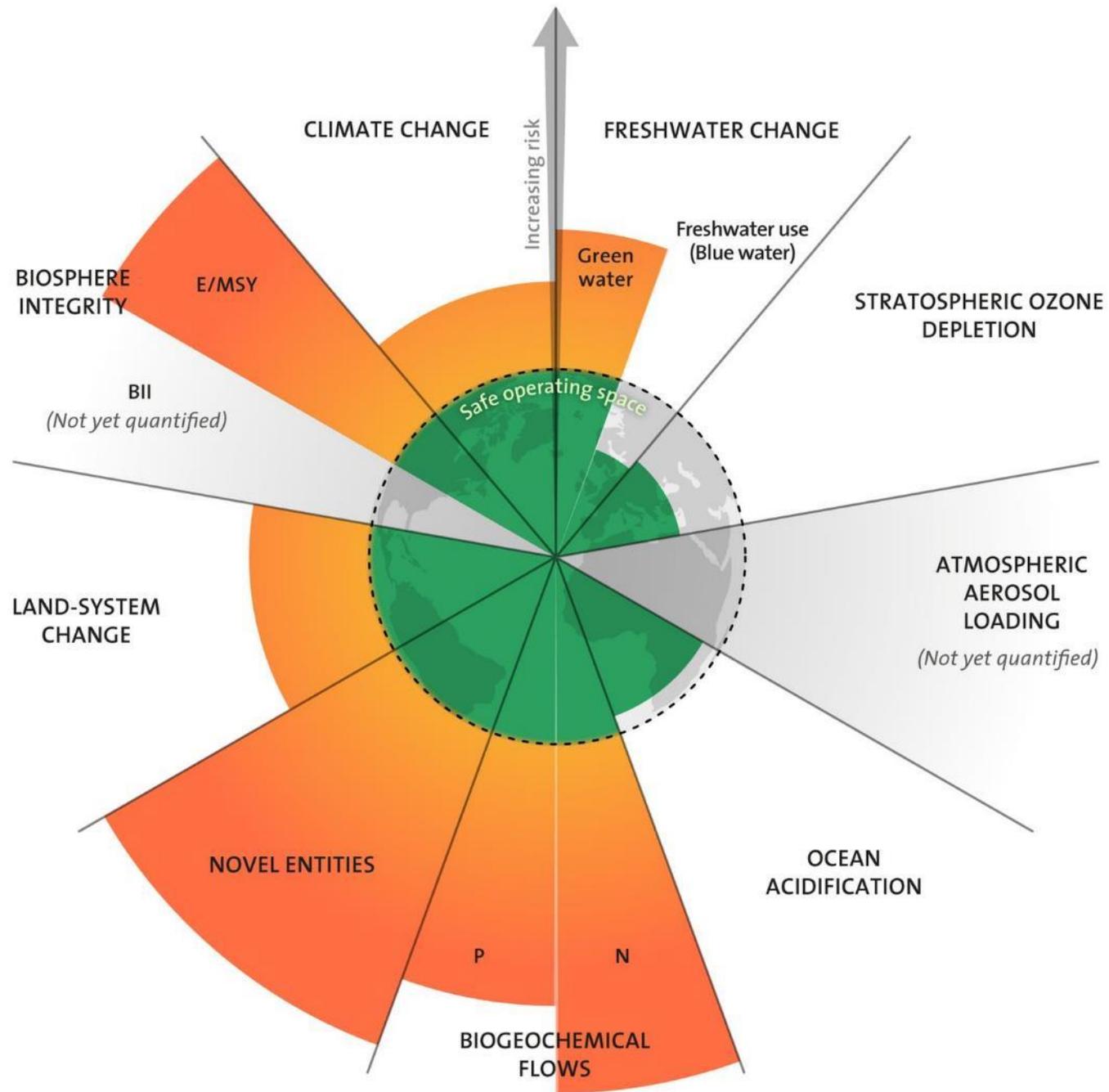
Set the goals and outline the roadmaps for actions



Transform

Put the transformation plan into action

Engage with stakeholders and activate across the supply chain and portfolio



MOST RECENT

'No Mow May' Movement Seeks to Provide Food for Hungry Bees

BEES 21 hours ago

Scientists Say It's Time to Phase Out Plastics to Stop Sea of Pollution

OCEANS 22 hours ago

Three-Legged Dog With Cancer Rescues Baby Otter From Freezing Minnesota River

ANIMALS 23 hours ago

Millions of Bees in Shipment to Alaska Die Stranded in Atlanta Heat After Rerouted Delta Flight

ANIMAL WELFARE 23 hours ago

How to Make Your Bedroom an Eco Haven

PUBLIC HEALTH

First Person in U.S. Tests Positive for

10 Soccer Fields of Tropical Primary Forests Were Lost Every Minute in 2021



By [Olivia Rosane](#) | Apr 28, 2022 15:15PM EDT

POPULAR



“Whether we or our politicians know it or not, Nature is party to all our deals and decisions, and she has more votes, a longer memory, and a sterner sense of justice than we do.”

{Wendell Berry, American writer and farmer}



A background image of a coffee plantation with green leaves and clusters of coffee cherries in various stages of ripeness (green, yellow, red). A semi-transparent brown rectangular box is overlaid in the center, containing the text.

ORIGIN, DEFINITION, PRINCIPLES

Living System Design

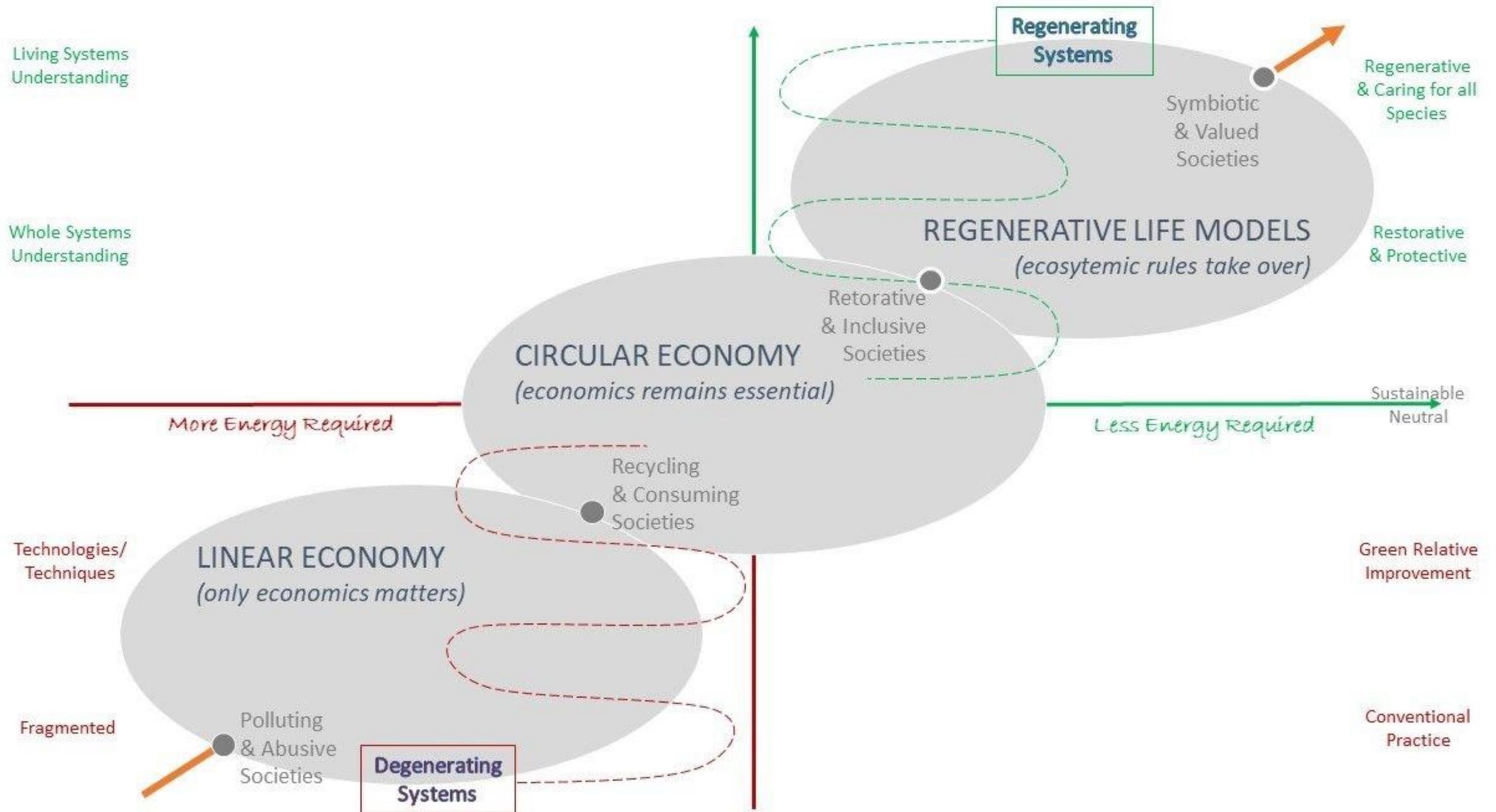
Living & Whole systems
Pattern thinking

“The health of soil, plants, animals, and humans is one and indivisible” (Howard 1943)”

required

Technical System Design

Technologies & techniques
Fragmented thinking



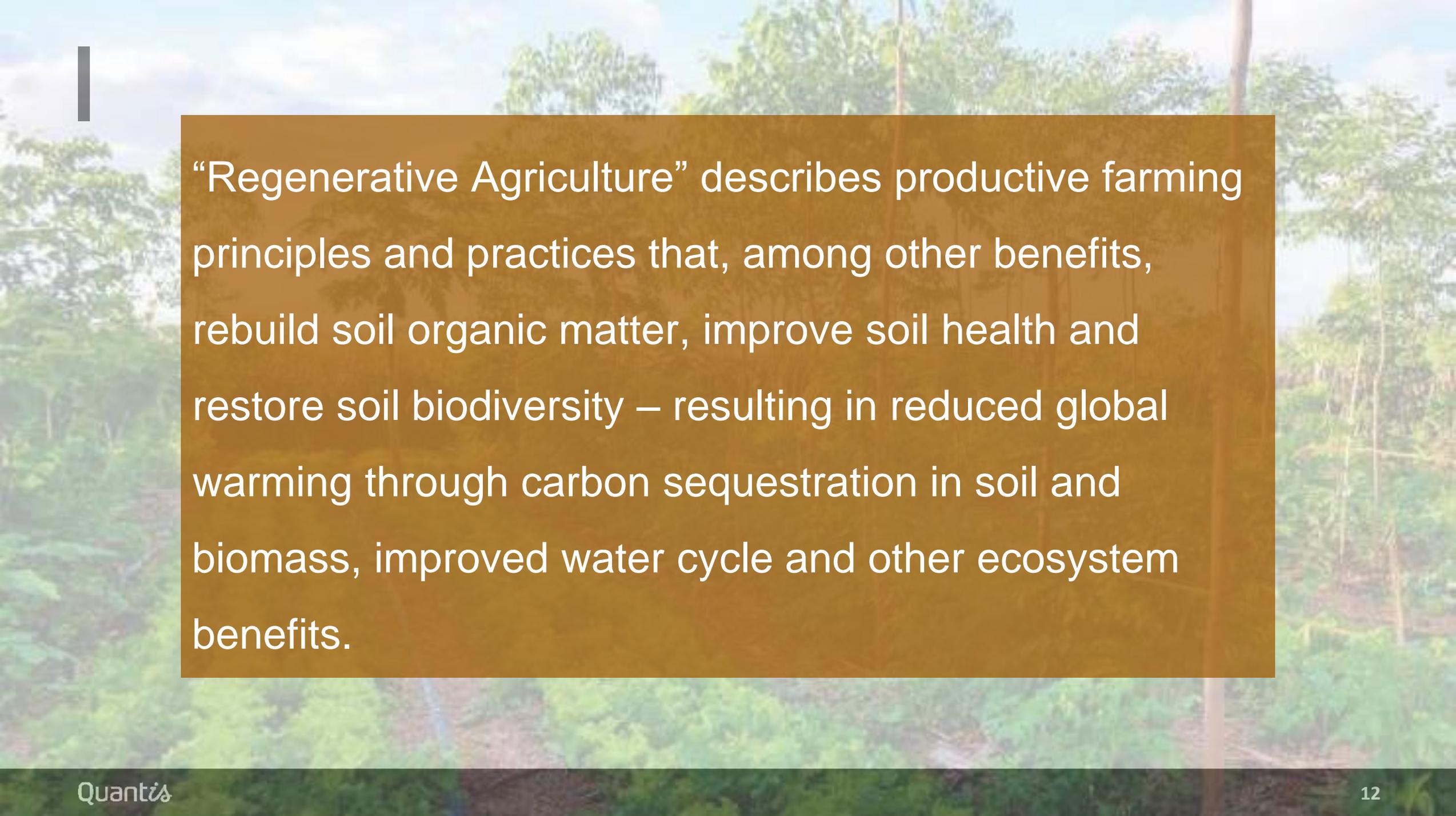
Source: Bill Reed (2007) Trajectory of Environmentally Responsible Design, amended by Alexandre Lemille (2021)

Regenerative Agriculture

- Robert Rodale, Founder of Rodale Institute. He concluded that regenerative organic agriculture is the preferred system
- But: organic only was easier to „sell“ and there was an organised global movement (IFOAM)
- „Regenerative agriculture“ was „rediscovered“ after 2000, mainly by Australian/US farmers, activists (Darren Doherty, Charles Massy, Joel Salatin, Gabe Brown etc.)
- Growing interest globally as big corporations step in (General Mills, Unilever, Nestlé, PepsiCo, Danone, Indigo Agriculture, etc.)
- Today many companies and farmers wit very different definitions

Seven Tendencies Towards Regeneration IN AGRICULTURE, COMMUNITIES, AND PERSONAL SPIRIT

1. **PLURALISM**
Increase in diversity of plant species.
Increase in diversity of businesses, people and culture.
Increase in diversity of personal experiences, capacities, opportunities and openness to new experiences.
2. **PROTECTION**
More surface cover of plants, ending erosion and increasing beneficial microbial populations near the surface.
More resistance to economic and cultural fluctuations because of quantity and variety of businesses and people, which increases overall employment and community stability.
Improvement of personal hardiness and an ability to withstand crisis, accompanied by a boost in the body's immune system.
3. **PURITY**
Without chemical fertilizer and pesticide use a greater mass of plants and other life exists in the soil.
Without pollution of the environment, more people can exist in better health.
By ending detrimental habits such as smoking or thinking negatively, the potential for growth, happiness and success increases.
4. **PERMANENCE**
More perennials and other plants with vigorous root systems begin to grow.
As businesses and individuals become successful and stable, they can contribute more to the community.
New, more positive, personal spiritual behaviors take root and provide a deeper meaning to life.
5. **PEACE**
Past patterns of weed and pest interference with growing systems are disrupted.
Former patterns of violence and crime are reduced, improving overall security and well-being.
Negative emotions such as anger, fear and hate lessen in intensity and are replaced by tolerance, compassion and understanding.
6. **POTENTIAL**
Nutrients tend to either move upward in the soil profile, or to accumulate near the surface, thereby becoming more available for use by plants.
"Trickle up" economics -- more resources and money accumulate and are more available to more people.
The positive qualities and resources in yourself and your environment become easier to access and affect more people around you.
7. **PROGRESS**
Overall soil structure improves, increasing water retention capacity.
Overall community life improves, increasing the health and wealth of its inhabitants.
Capacity for well-being and enjoyment increases.



“Regenerative Agriculture” describes productive farming principles and practices that, among other benefits, rebuild soil organic matter, improve soil health and restore soil biodiversity – resulting in reduced global warming through carbon sequestration in soil and biomass, improved water cycle and other ecosystem benefits.

Definition of regenerative agriculture*

- Regenerative Agriculture is a system of nature based agricultural principles and applied farming practices that increases biodiversity, enriches soils, improves watersheds and enhances ecosystem services.
- By sequestering carbon in soil and aboveground biomass, Regenerative Agriculture aims to improve soil health and to decrease the amount of carbon dioxide in the atmosphere. At the same time, it requires less input to produce sufficient yields, strengthens resilience to climate instability, and contributes to a higher vitality of rural communities.
- The system draws from decades of scientific and applied research by the global communities of organic farming, agroecology, holistic grazing, and agroforestry. It combines ancient knowledge and modern science and technology.

*based on <http://www.regenerativeagriculturedefinition.com/>

Principles of regenerative agriculture

- **Minimization of disturbance** of the soil and soil surface (through processing, pesticides, artificial fertilizers, etc.)
- **Protecting the soil** surface by vegetation or mulch etc.
- Maximize **living roots in the soil** (agroforestry, perennial crops)
- Creation of a high **diversity** (crop rotation, mixed crops, etc.)
- Integrating **animals** (Holistic Management, Mob Grazing, Silvopasture etc.)





Compete with Nature

Disturb Soil

Monoculture

Reductionist

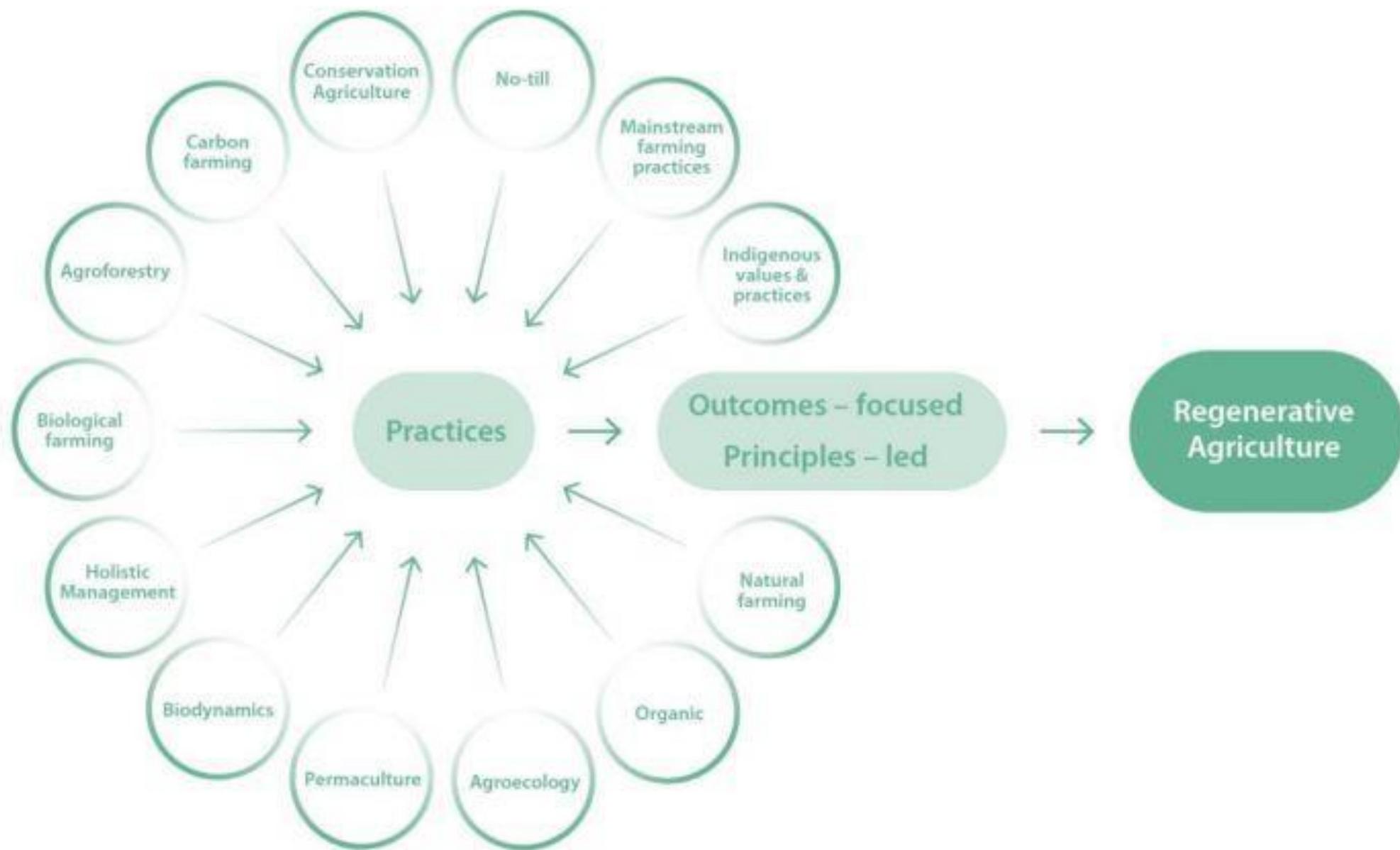


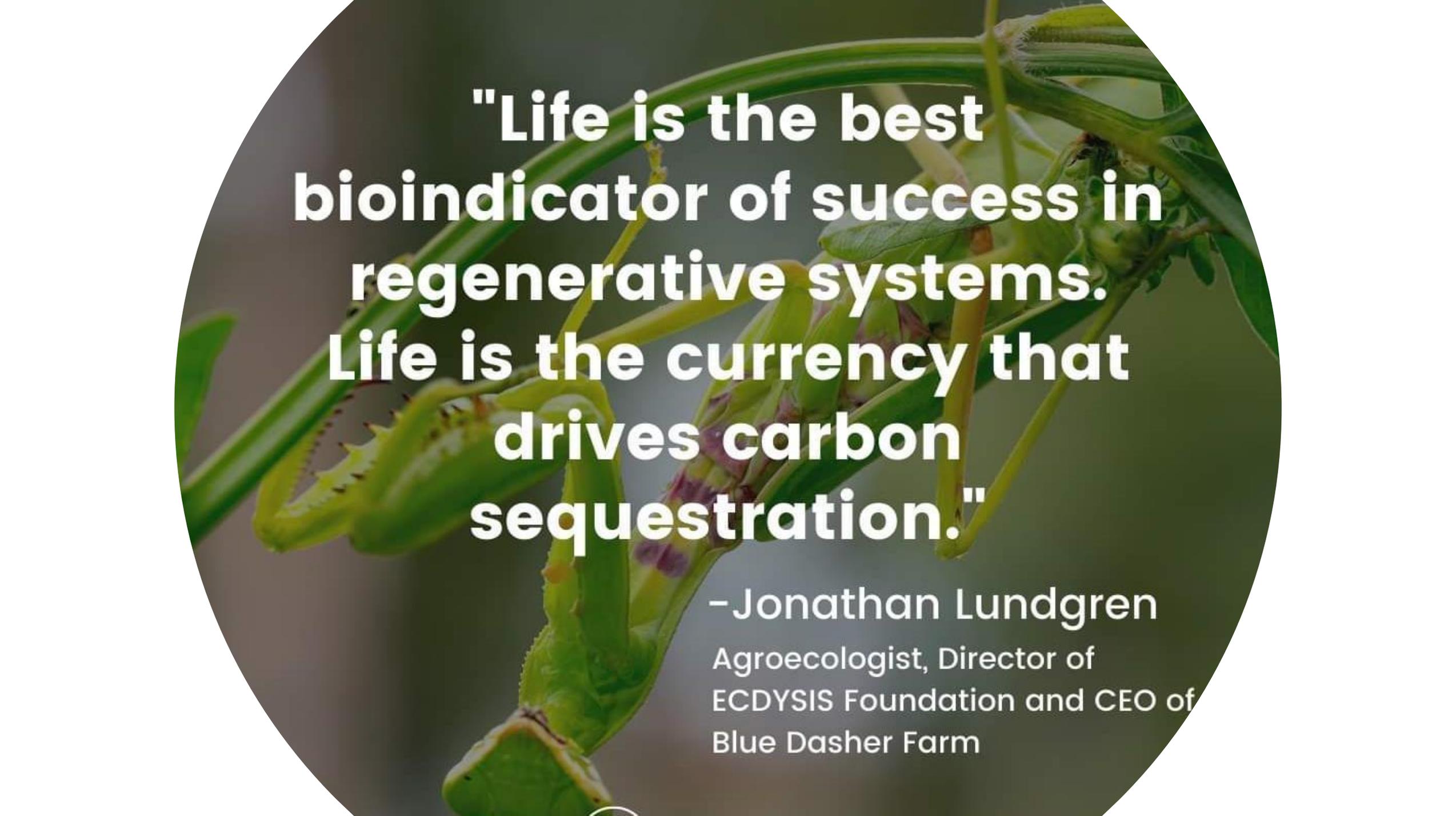
Partner with Nature

Protect Soil

Diversity

Holistic

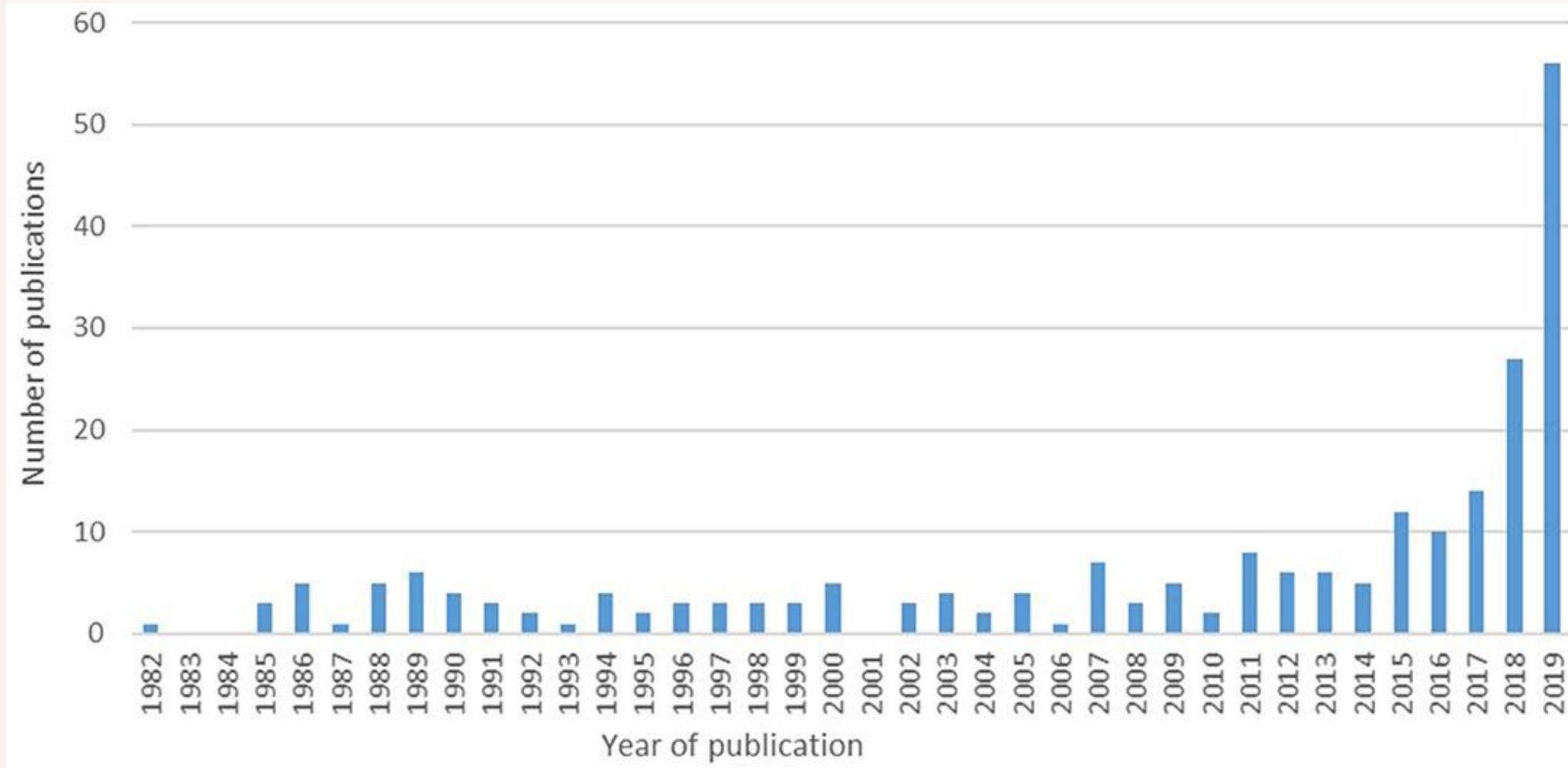




**"Life is the best
bioindicator of success in
regenerative systems.
Life is the currency that
drives carbon
sequestration."**

– Jonathan Lundgren
Agroecologist, Director of
ECDYSIS Foundation and CEO of
Blue Dasher Farm

Number of research articles using the term "regenerative agriculture" (USA)



Main challenges for farmers practicing regenerative agriculture

- Willingness to take **risks** and leave the comfort zone
→ new paradigm
- Risks associated with **transition**
→ support the transition
- Need for **investment in new tools** etc.
→ finding alternative financing mechanisms
- Need for good business management with **key performance indicators**
→ data management
- **Learning**, training, coaching are a big need, but limited and not accessible
→ train the trainer, farmer-to-farmer coaching

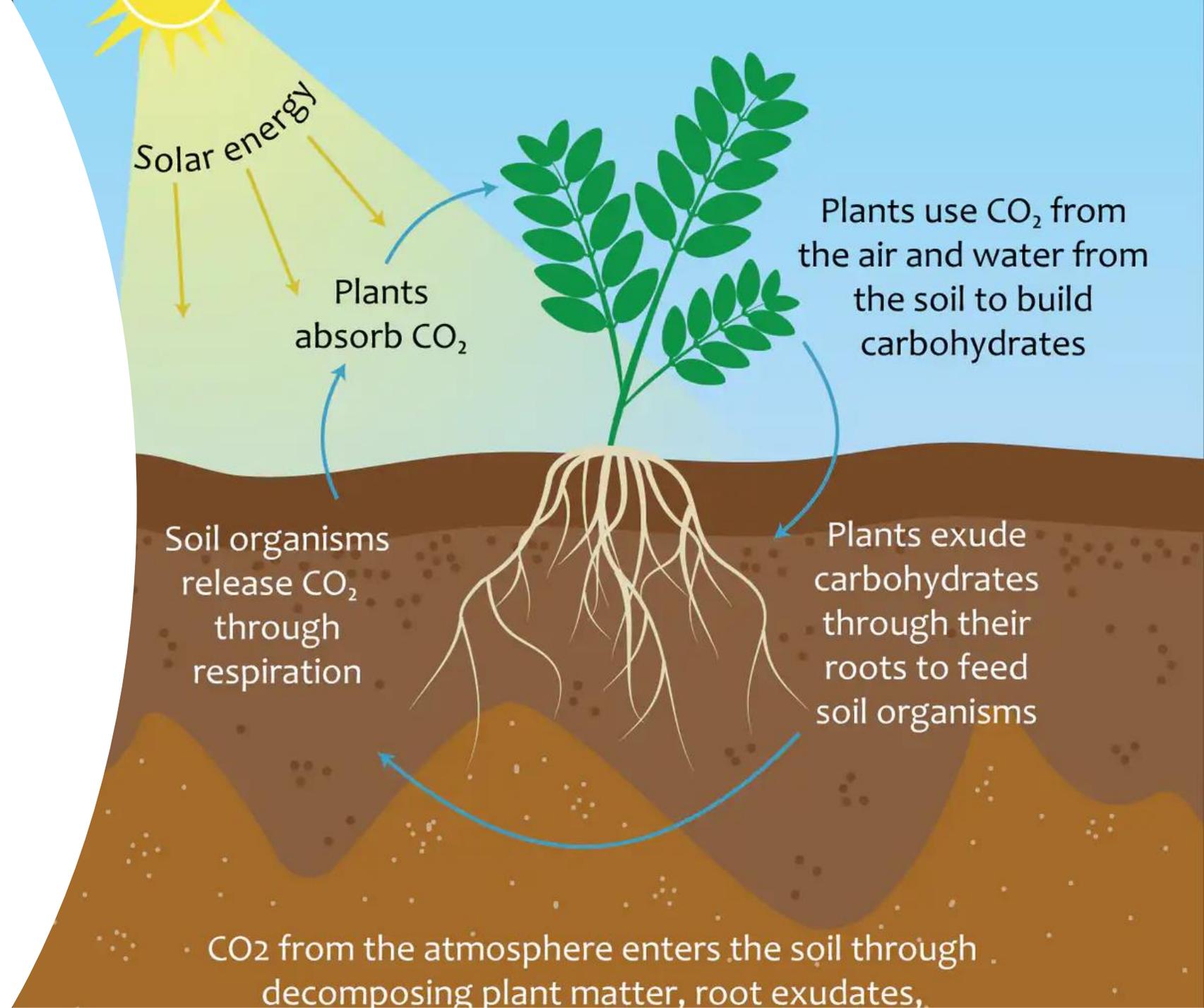


Success factors of regenerative agriculture

- Knowing nature, **understanding** connections and continuously optimizing the operation, based on **observation**
- Willingness and will to lifelong **learning** through training, **coaching**, mentoring and exchange with other farmers
- Develop the **vision** of the farm as an integrated system and formulate and visualize a clear **mission** statement
- Use suitable **technology** and environmentally compatible **products** in a targeted manner, keeping input costs as low as possible
- Actively work with **traders**, sales **markets** and optimization of value creation



Potential for carbon sequestration



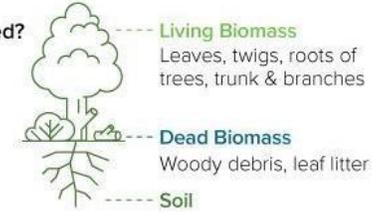
Carbon Storage in Earth's Ecosystems

Achieving net-zero by 2050 depends on the Earth's natural carbon sinks.

Forests play a critical role in regulating the global climate. They absorb carbon from the atmosphere and then store it, acting as natural carbon sinks.

Where is Carbon Stored?

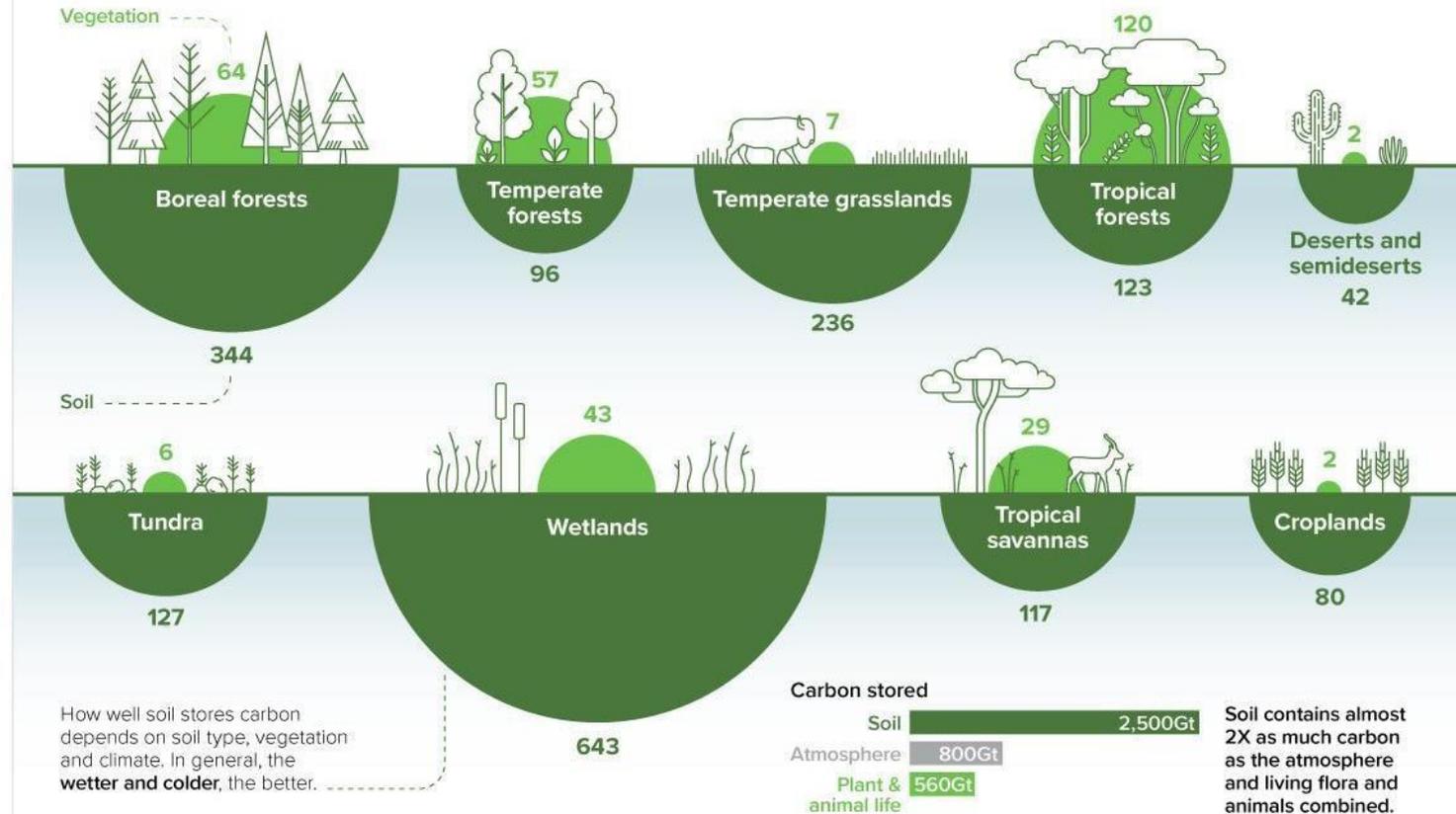
There are various carbon pools in a forest ecosystem.



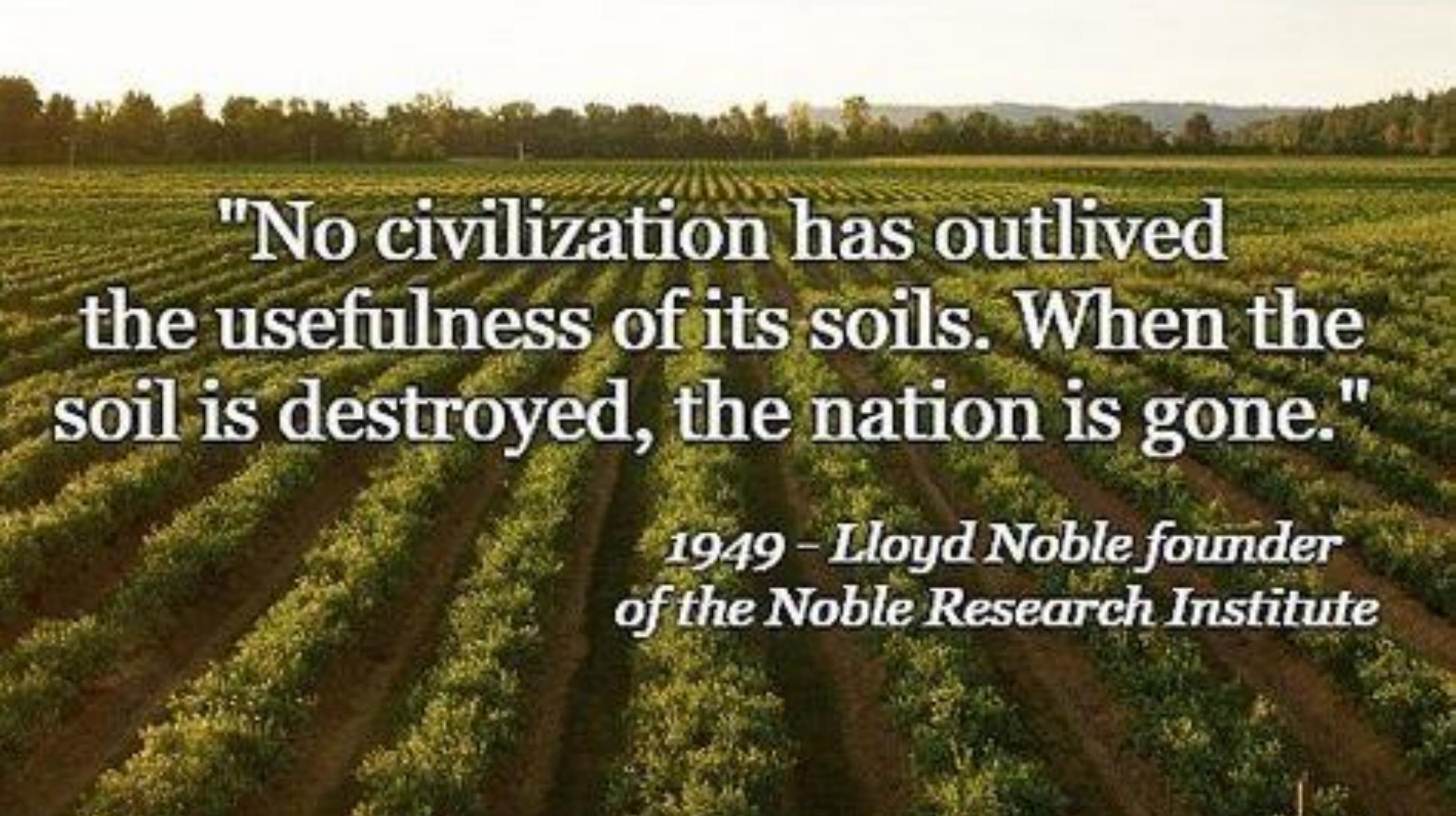
Carbon Storage Tonnes of Carbon per Hectare*

The world's forests absorb around **15.6 gigatonnes** of CO₂ each year. That's around 3X the annual CO₂ emissions of the United States.

However, around **8.1 gigatonnes of CO₂** leaks back into the atmosphere due to deforestation, fires and other disturbances.

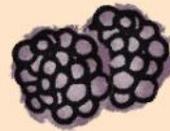
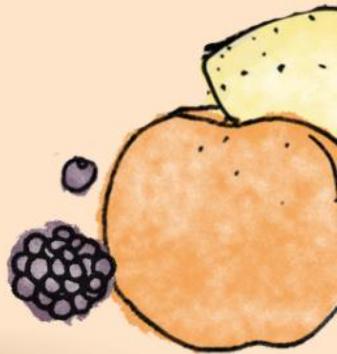


*At a ground depth of one meter
Sources: IPCC; NASA



**"No civilization has outlived
the usefulness of its soils. When the
soil is destroyed, the nation is gone."**

*1949 - Lloyd Noble founder
of the Noble Research Institute*





Thank you

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