

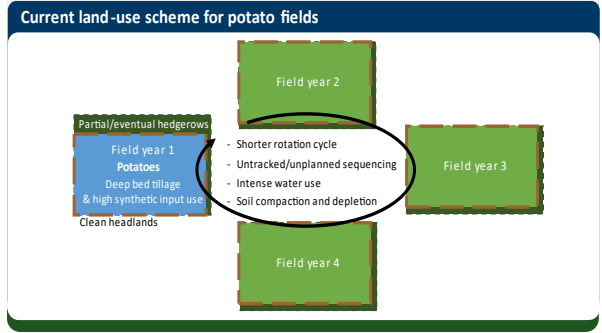


# A regenerative approach for potato fields will lead to higher and more resilient profits for East of England growers

The initial investments to enhance soil health and crop management are offset by an average 20% increase in farm profitability after the first longer rotation cycle.

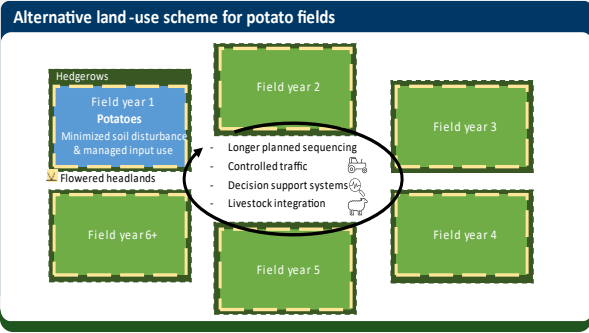
## Current state of agricultural land-use

- Agronomic & Environmental**
- Climate-driven rainfall shifts, intense input and water use, limited data on field history, degraded soil health and complicated crop management.
- Economic**
- Short-term land stewardship agreements, market fluctuations, rising input costs, and uncertainty over trade policies.
- Social**
- Labor shortages during critical seeding and harvesting periods, exacerbated by new immigration rules, along with farm consolidations (large farms acquiring land belonging to small ones) and a steady reduction in the number of small and medium-sized growers.



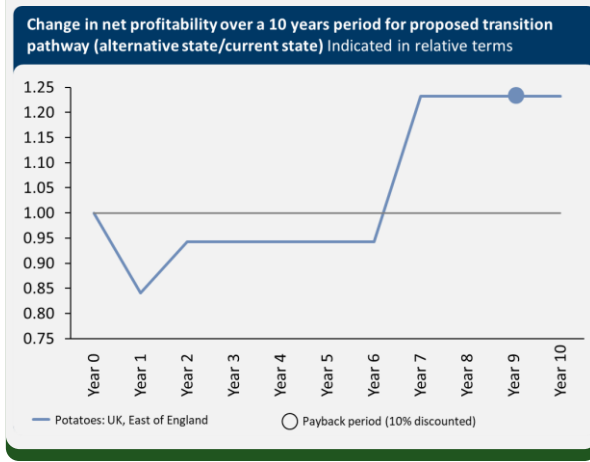
## Transition pathway hypothesis

- Extended and planned crop rotations**
- Broaden potato field rotations to 6+ years with context appropriate and no-till crops for soil recovery, pest prevention and natural nutrient cycling.
- Minimized soil disturbance**
- Control farm traffic and keep tillage to a minimum to prevent soil compaction and damage, preserving microorganisms and keeping carbon locked-in.
- Farm and input management**
- Introduce data-driven decision-aid systems to reduce use of synthetic inputs and runoff, and longer-term rental agreements for joint soil fertility investments.



## Results of economic modeling

- Over 10 years, the cumulative effect of a transition to regenerative agriculture is positive with an average net added value of 240 USD/ha and a payback<sup>3</sup> by year 9 (10% discounted).
- Profitability lowers during an interim period and reaches a point of equilibrium 20% higher after the first full 6 years rotation.
- Higher overhead costs and investments, including machinery, are the main profitability detractors while savings on chemicals and labor are the main contributors to positive change in profits.



## Implications and recommendations

- Regenerative systems can increase farmers' income post-transition.
- Farmers can improve resilience to weather and market fluctuations through stable yields, reduced irrigation, and fewer synthetic inputs.
- Introducing regenerative practices in potato fields will benefit other crops and the broader landscape.

- For transition to be possible, we need:
- Practical, trustworthy, context-specific knowledge programs that help farmers adopt new practices and make informed decisions tailored to their goals.
  - Longer-term tenures and joint soil fertility investment by tenants and landlords.
  - Easily available financial incentives and value chain facilitation to allow initial farm investments and secure margins during the transition.
  - Developed data ecosystem with clear protocols for sharing information like field history and supporting data-driven decisions.

Note: <sup>1</sup>Net Present Value 10% discounted. <sup>2</sup>Costs and returns will vary significantly based on the farm's portfolio. The model compares profitability per hectare for potato crops alone, excluding opportunity costs from longer rotation periods and revenue from other crops in the sequence. Conservatively assumes no extra subsidies, carbon revenues, green premiums, or increase in land value. Landscape transition happens all at once. <sup>3</sup> When accumulated profits from alternative state surpasses those from current state. Systemiq analysis for Regen10.org