

WELCOME

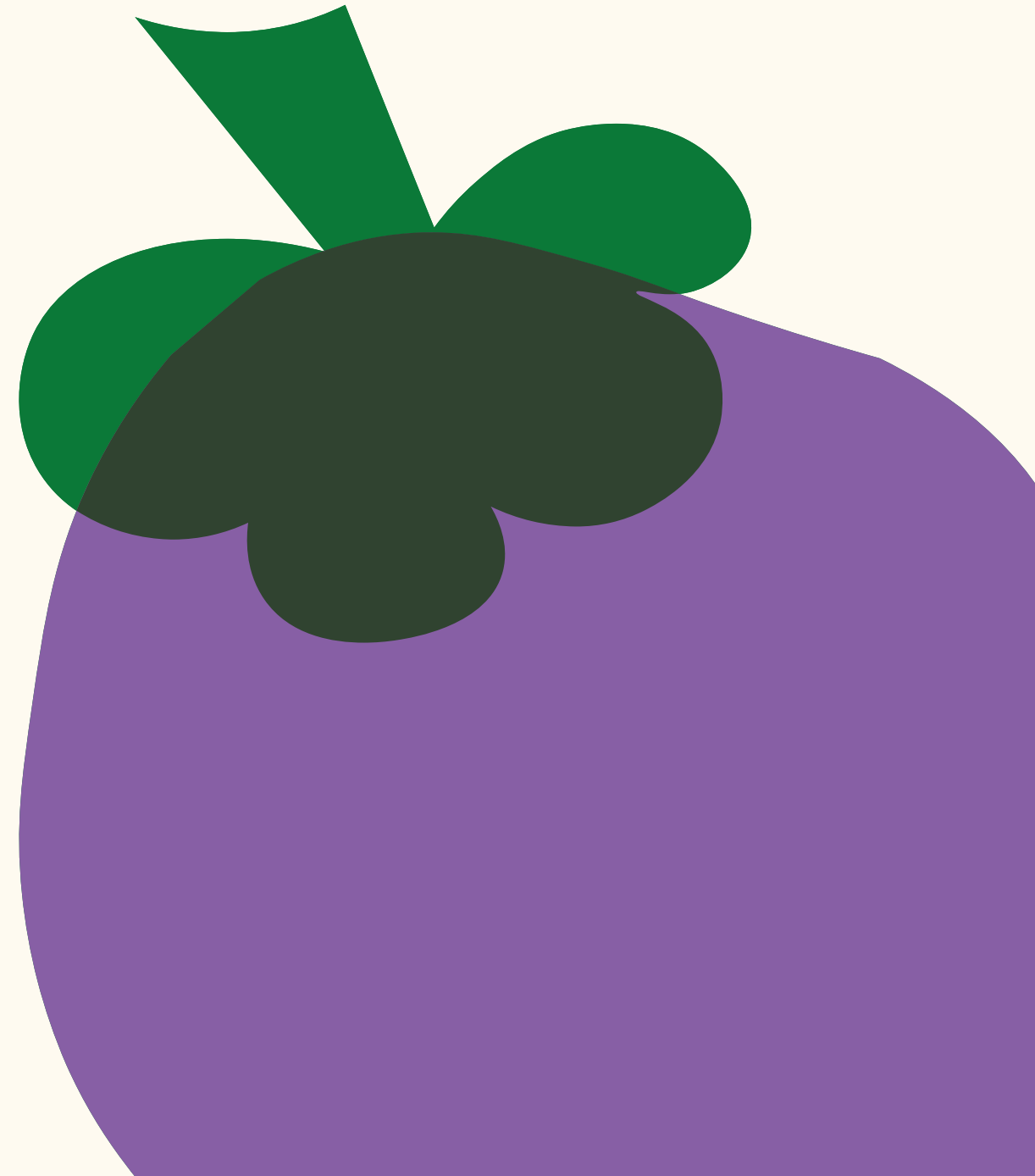


# LET THE FOOD *AND SOIL* BE OUR MEDICINE

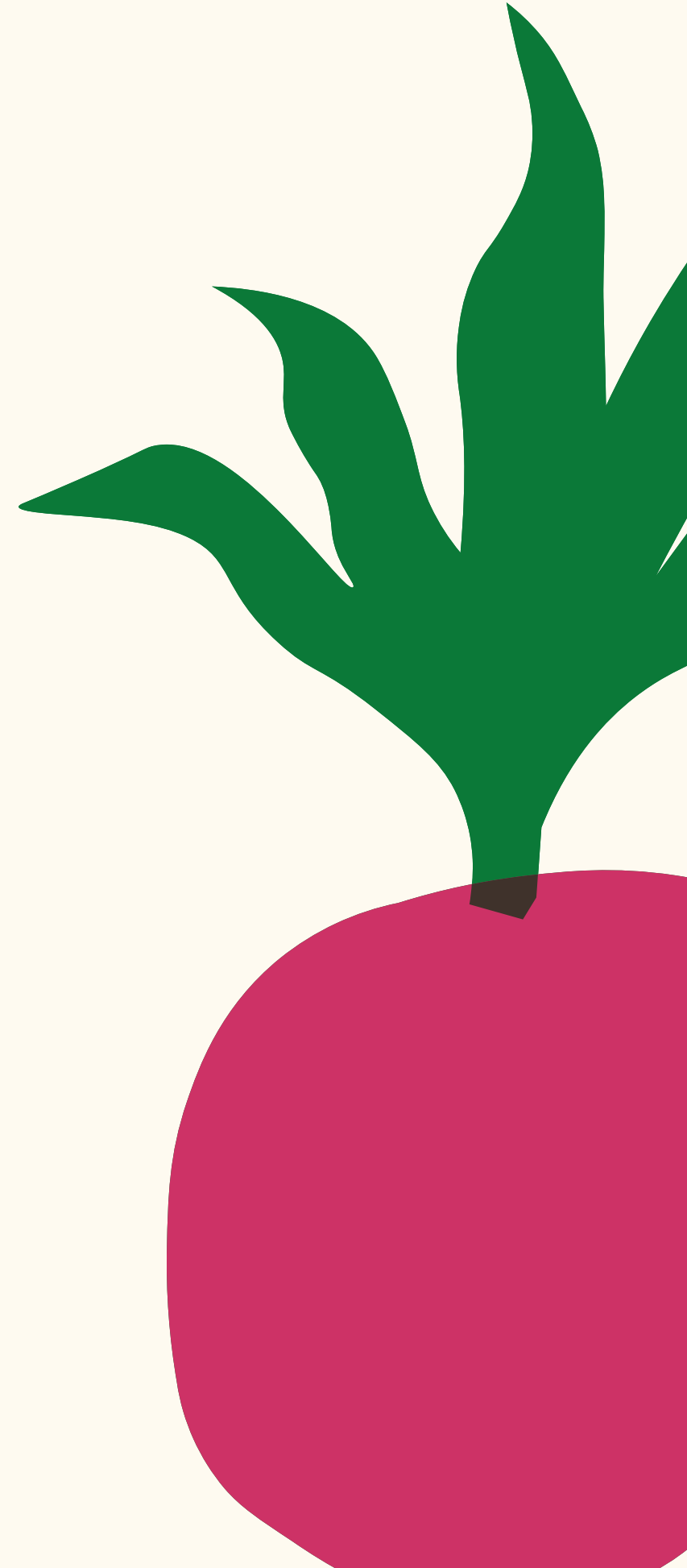
by environmental nutritionist  
Zuzanna Zielinska

RDBO lunchlezing, 01.07.2024

# LET'S PLAY TRUE / FALSE



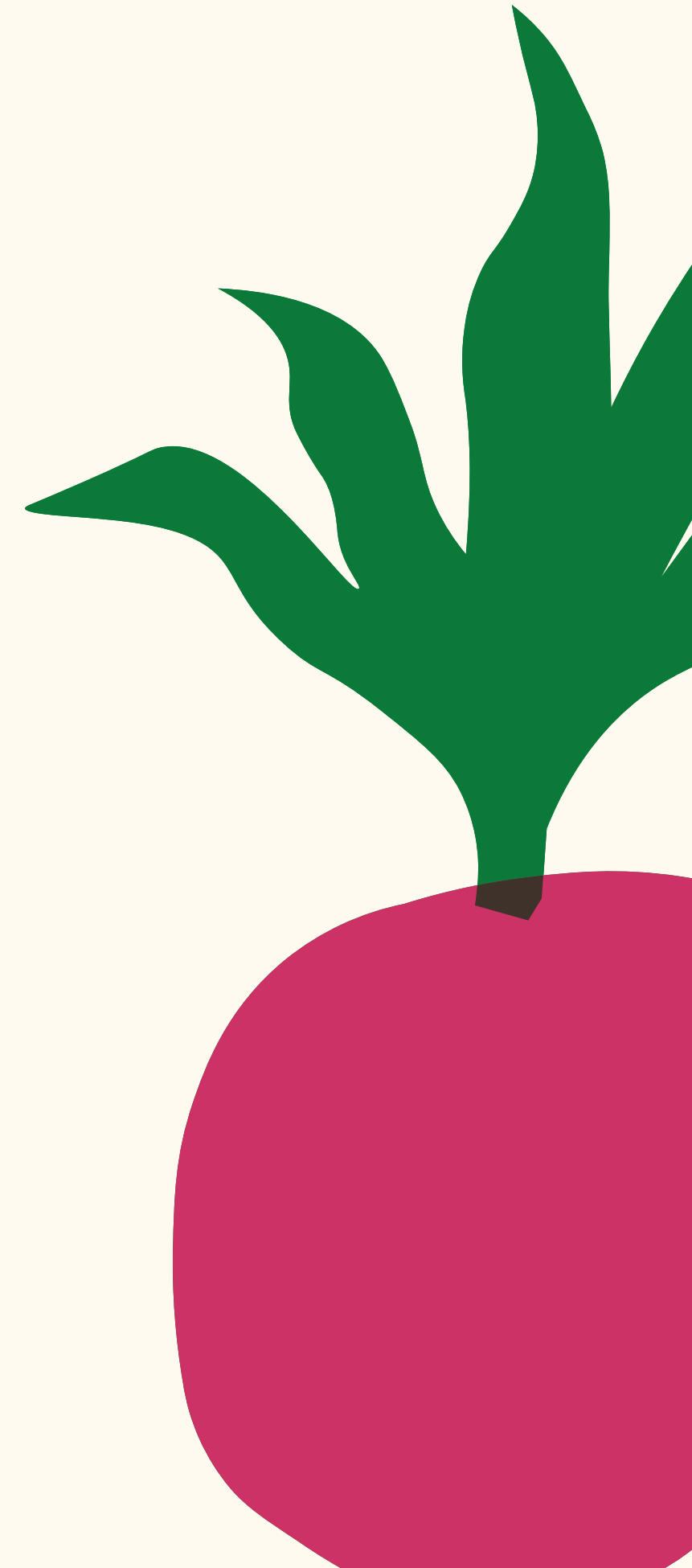
30% of soils in EU are degraded



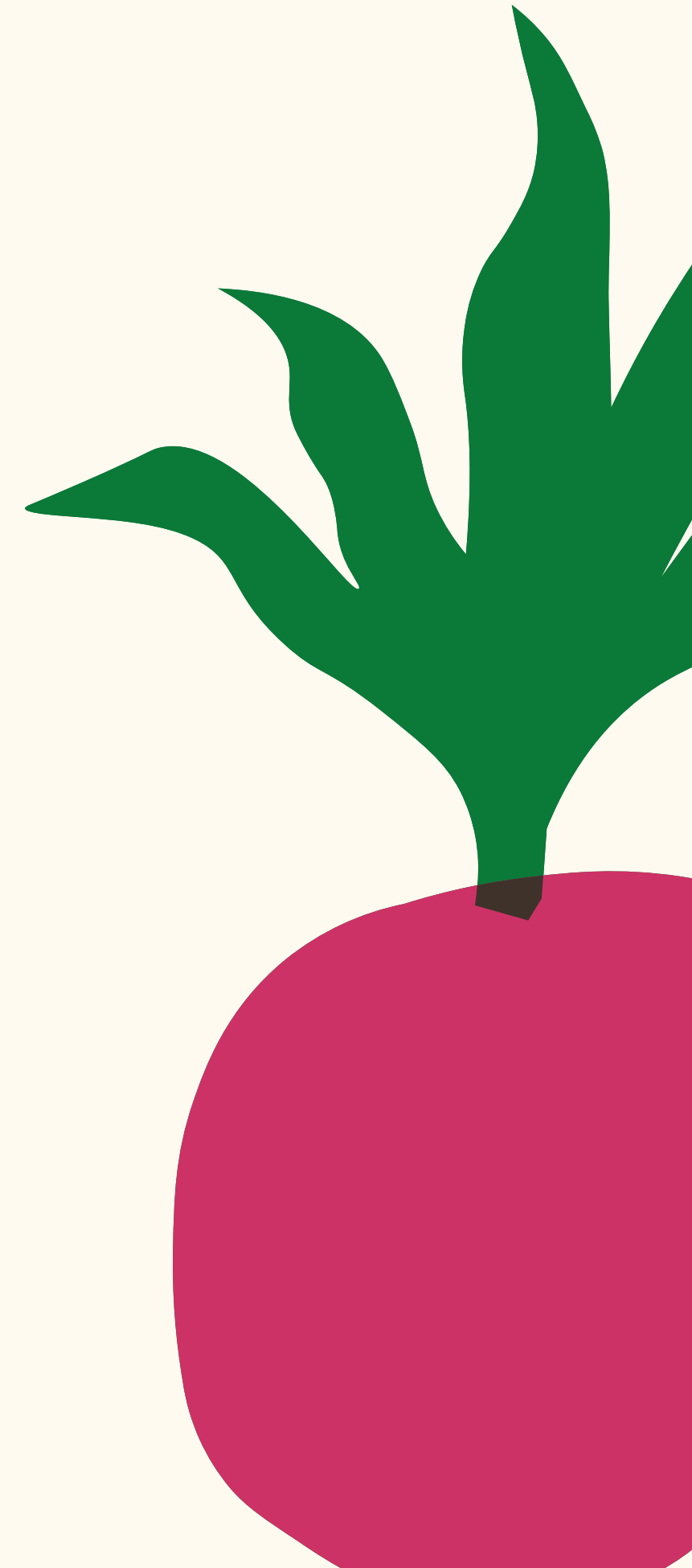
**FALSE**

60% of soils in EU are degraded

European Commission, 2022



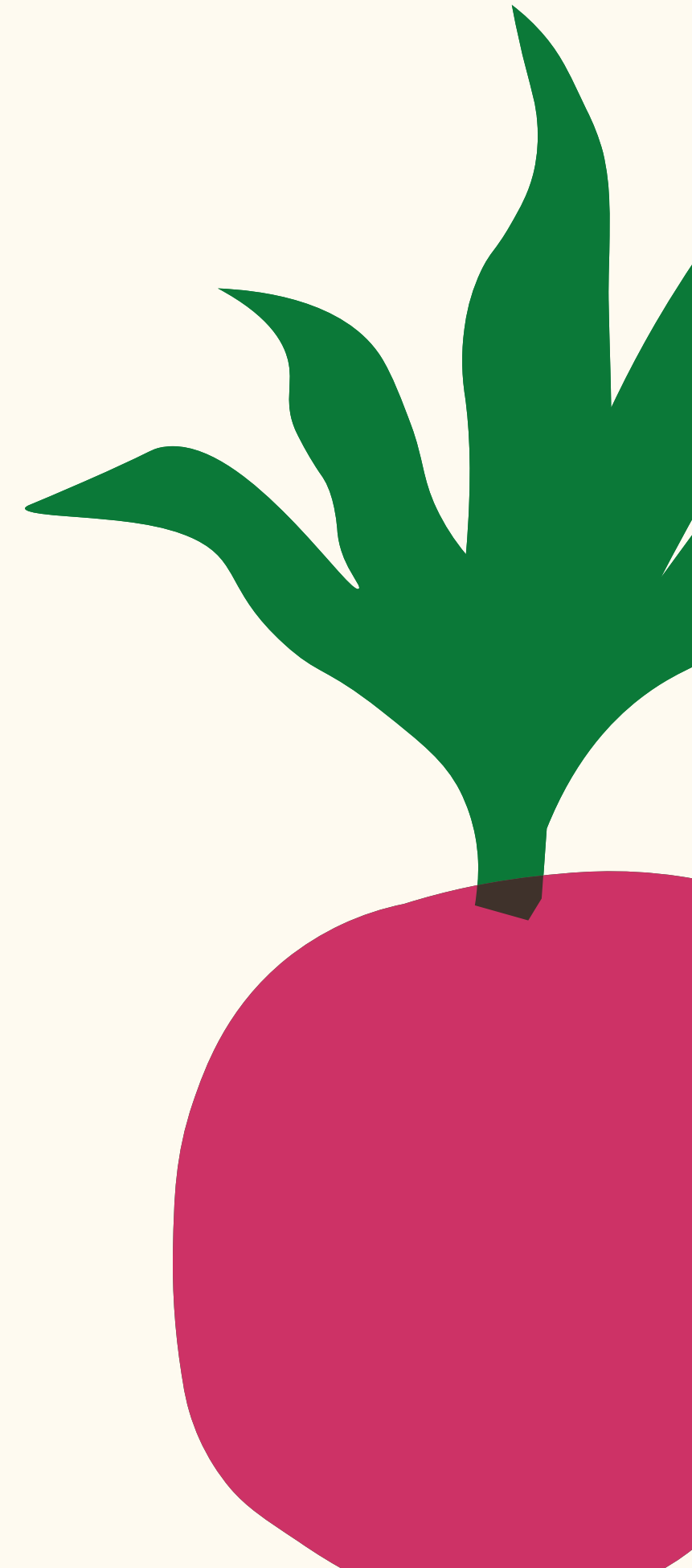
**10% nutritional value  
lost since 1950 in  
vegetables**



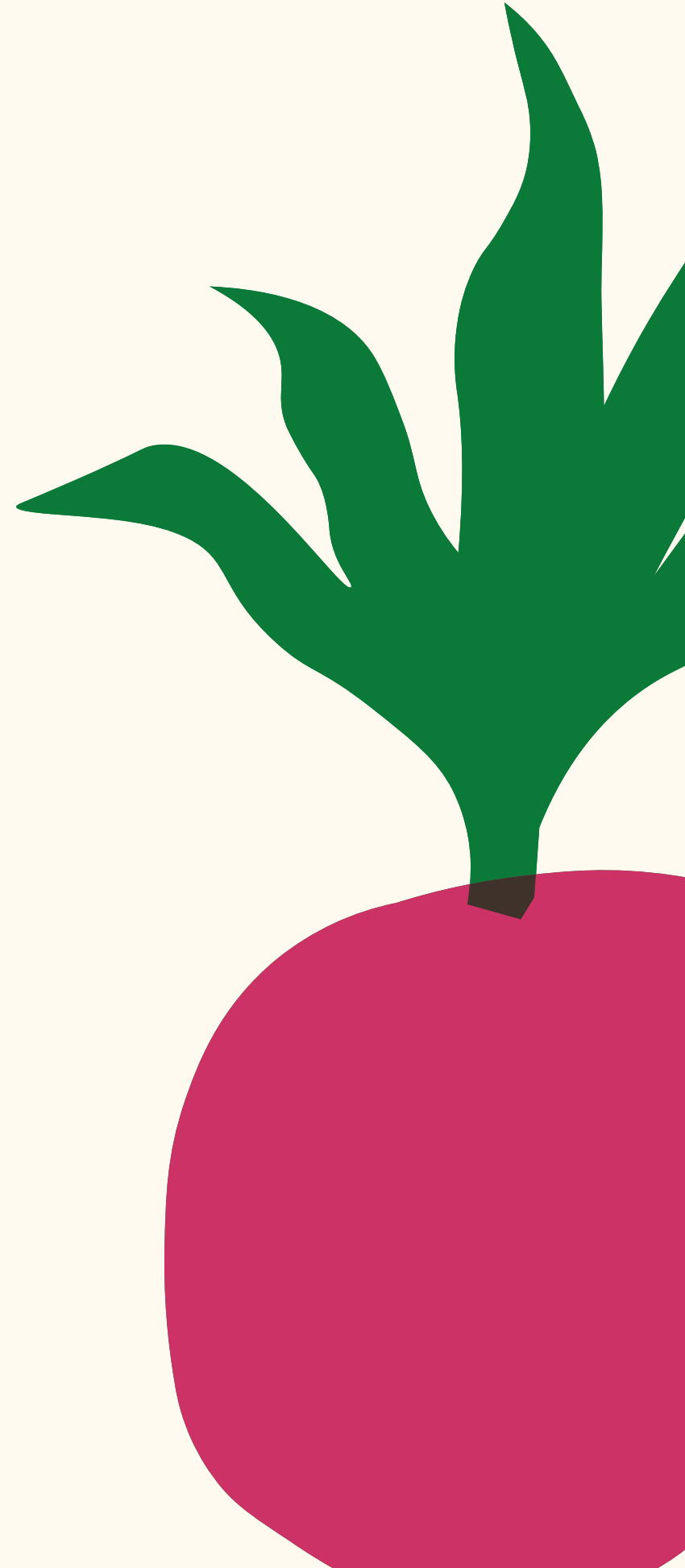
**FALSE**

38% nutritional value lost  
since 1950 in vegetables

Lal et al., 2022



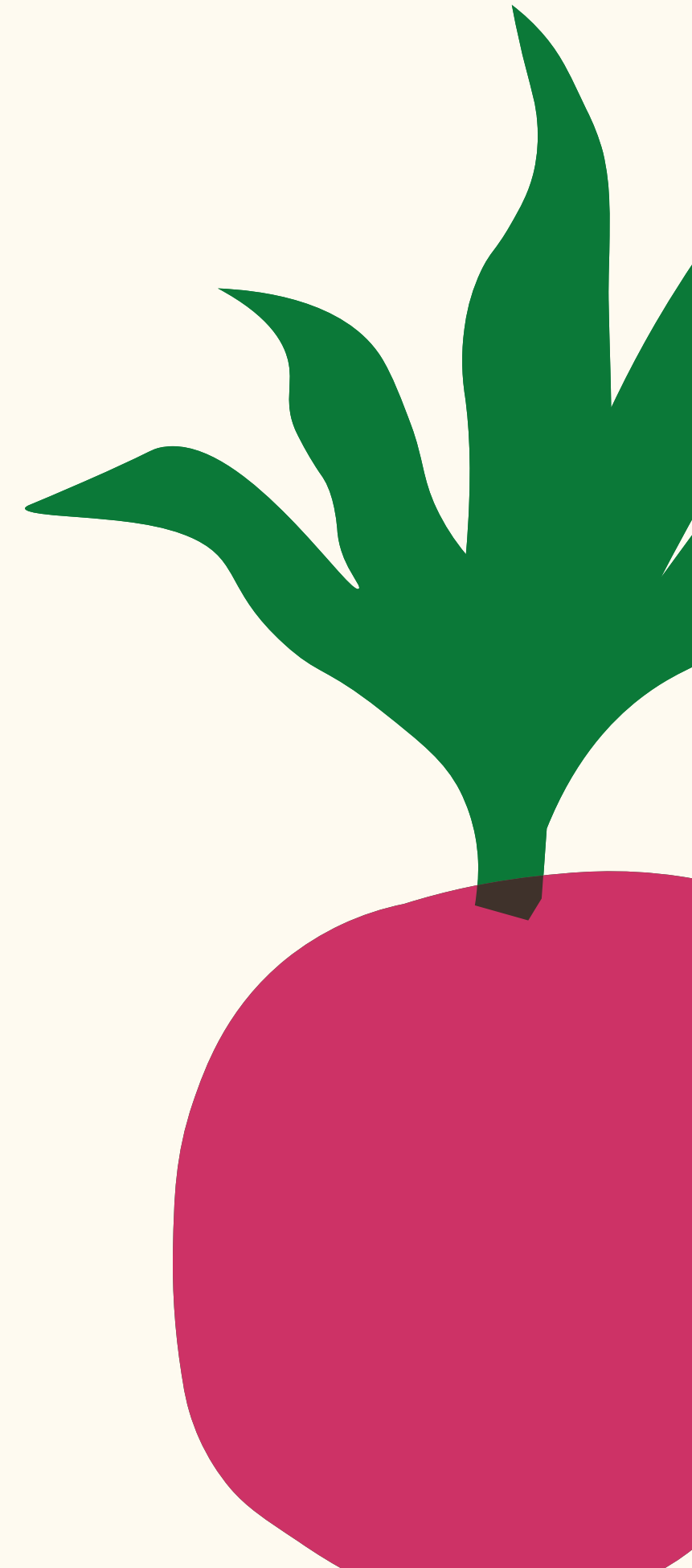
The health costs of the global food system are **11 trillion USD PPP** at least



# TRUE

FSEC estimates the value of the hidden costs of the food system range of 14 to 18 trillion USD PPP a year, with a central estimate of 15 trillion. (11 trillion in healthcare, 3 trillion in environmental costs, 900 billion in poverty costs)

Food system economics commission, 2024





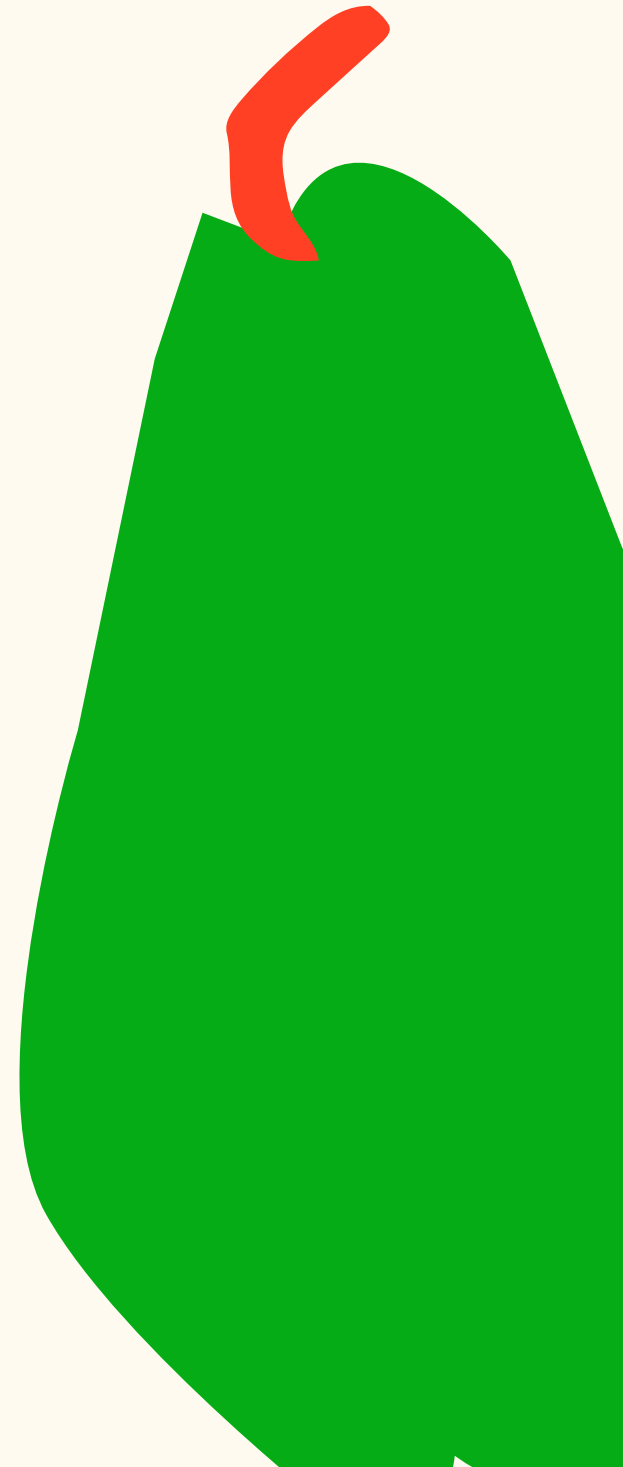
Non-communicable diseases, cause up to **50% of all deaths** (in EU)



# FALSE

Non-communicable diseases, cause up to 90% of all deaths (in EU)

WHO, 2022



Healthcare spending related to obesity and overweight reaches **65 billion euros** per year in NL



# FALSE

Healthcare spending related to obesity and overweight reach 79 billion euros per year in NL

Maastricht University, 2022

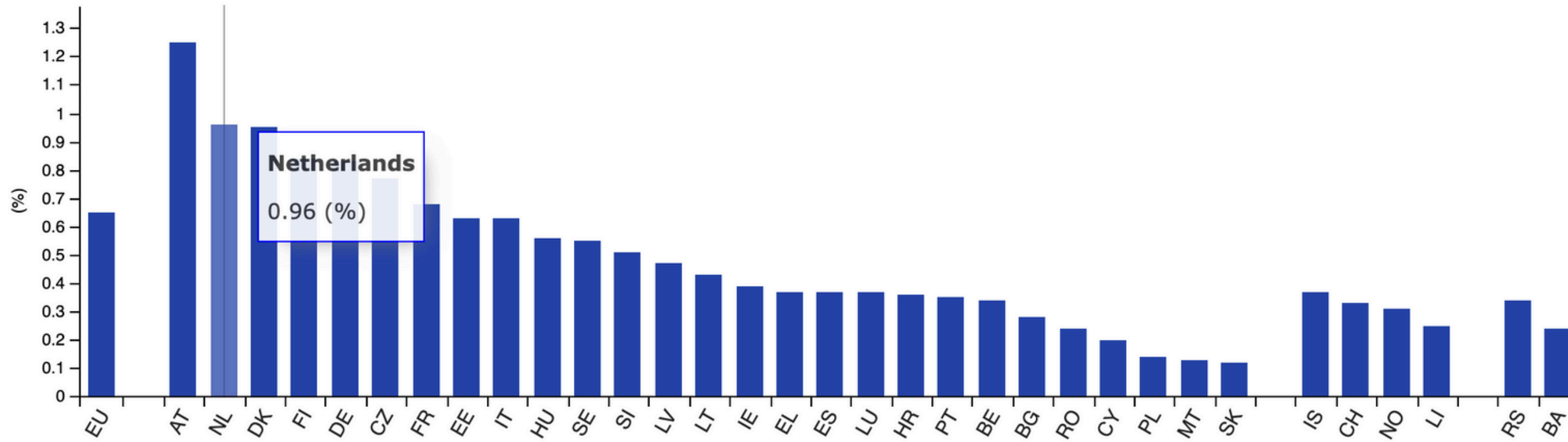


On average in NL we  
spend **3% of the  
healthcare budget on  
prevention**



# FALSE

Current expenditure on preventive healthcare relative to GDP, 2021



EU, Malta, Poland and Finland: provisional.

Source: Eurostat (online data code: hlth\_sha11\_hc)



Healthy food is on average **24% more expensive** in NL



# TRUE

*“The average cost of current household diets was €211/fortnight, and the healthy household diet was, on average, €50 (24%) more expensive.”*

Hoeinik et al., 2022





26% of citizens from disadvantaged neighborhoods suffer from **food insecurity** in the NL



# TRUE

The findings suggest that determinants within the personal environment are most important for explaining differences in experienced food insecurity.

Jansse et al., 2022



**45% less productivity**  
among employees  
eating unhealthy diets  
compared to regularly  
eating whole grains,  
fruits, and vegetables



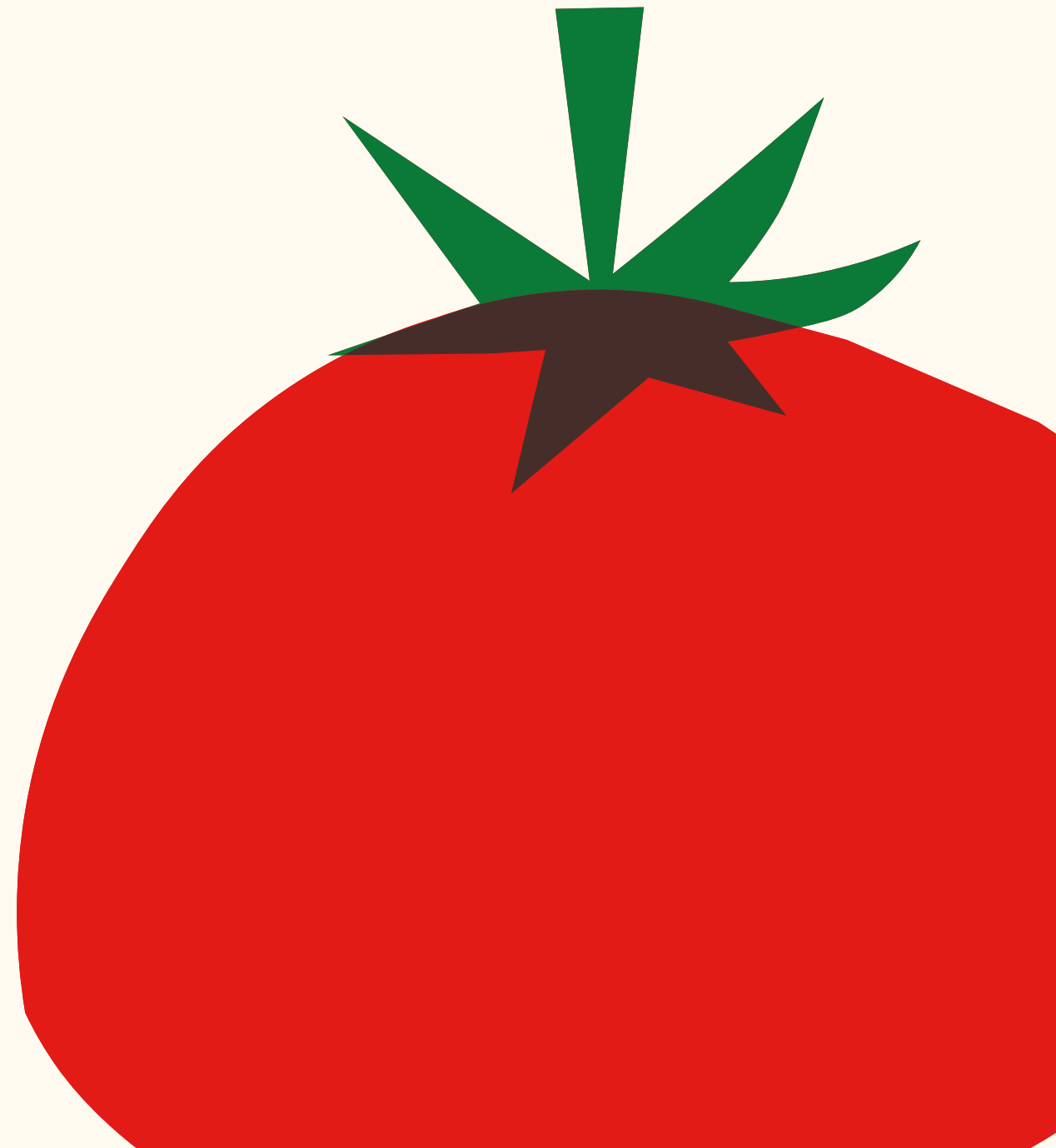
# FALSE

66% less productivity among employees eating unhealthy diets compared to regularly eating whole grains, fruits, and vegetables

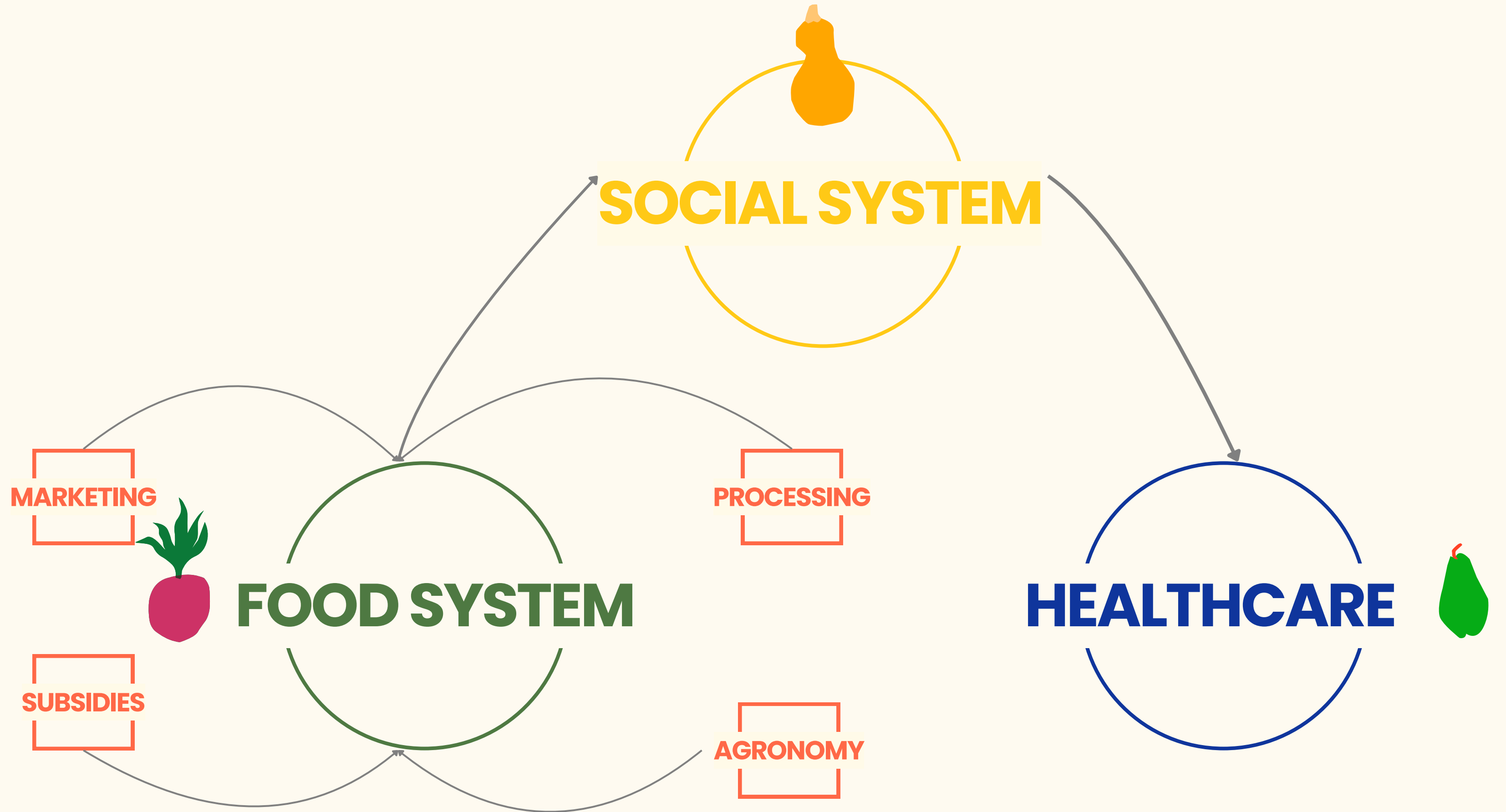
(Brigham Young University, 2012)

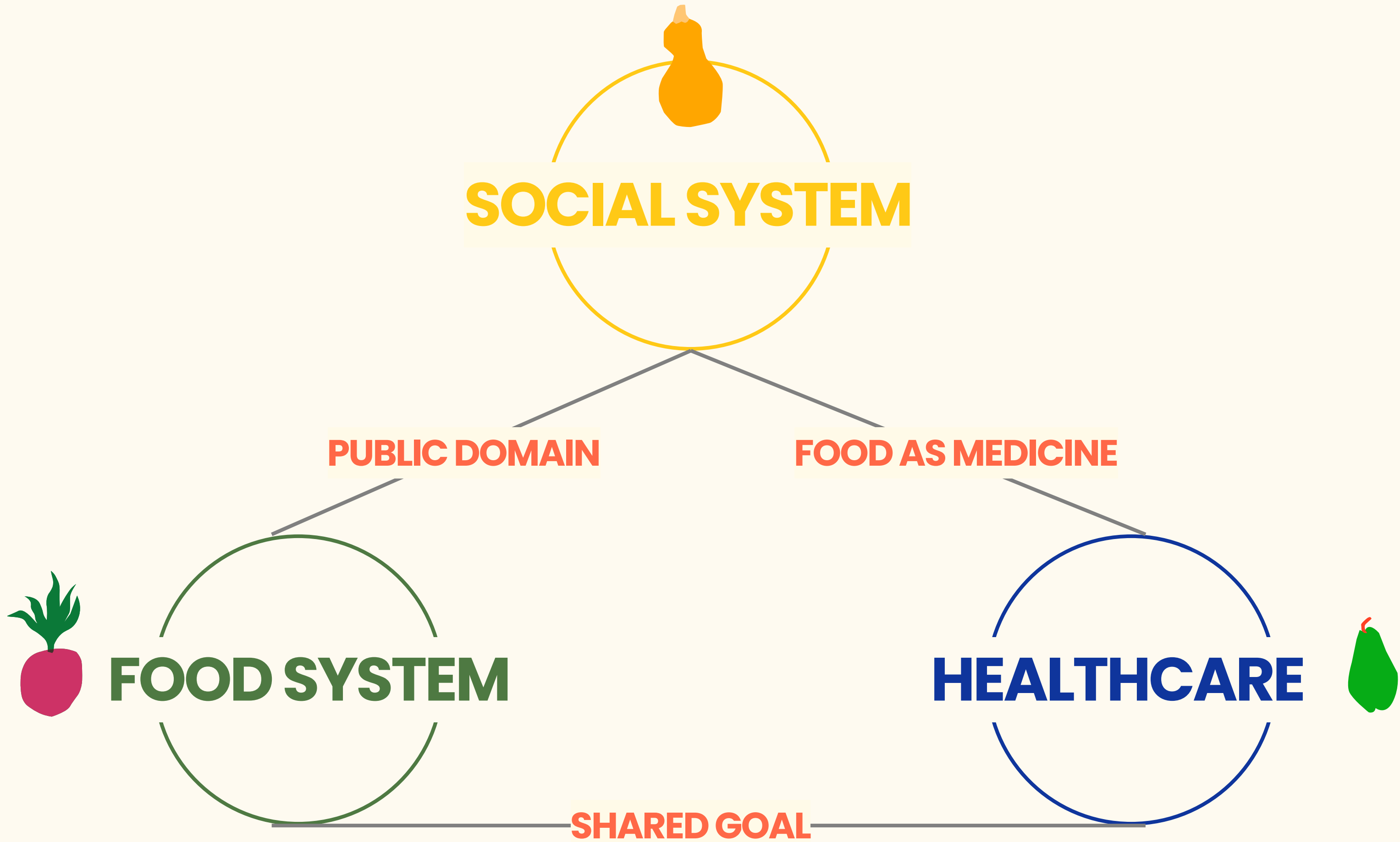


# ALL HEALTH STARTS IN THE SOIL

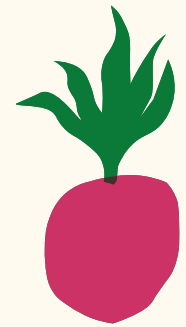


THE DISCONNECTION STORY





THE INTERCONNECTION SYSTEM



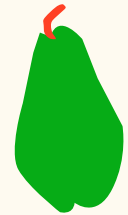
**FOOD SYSTEM**



**SOCIAL SYSTEM**



**HEALTHCARE**



**PREMIUM MARKET**







Fresh Ventures is a talent and **venture builder** on a mission to **transform the food system**. Building new, steward-owned ventures. Addressing neglected but critical challenges



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HarvestCare's mission is to establish feasible '*Food is Medicine*' models in vulnerable neighborhoods to



**regenerate health**



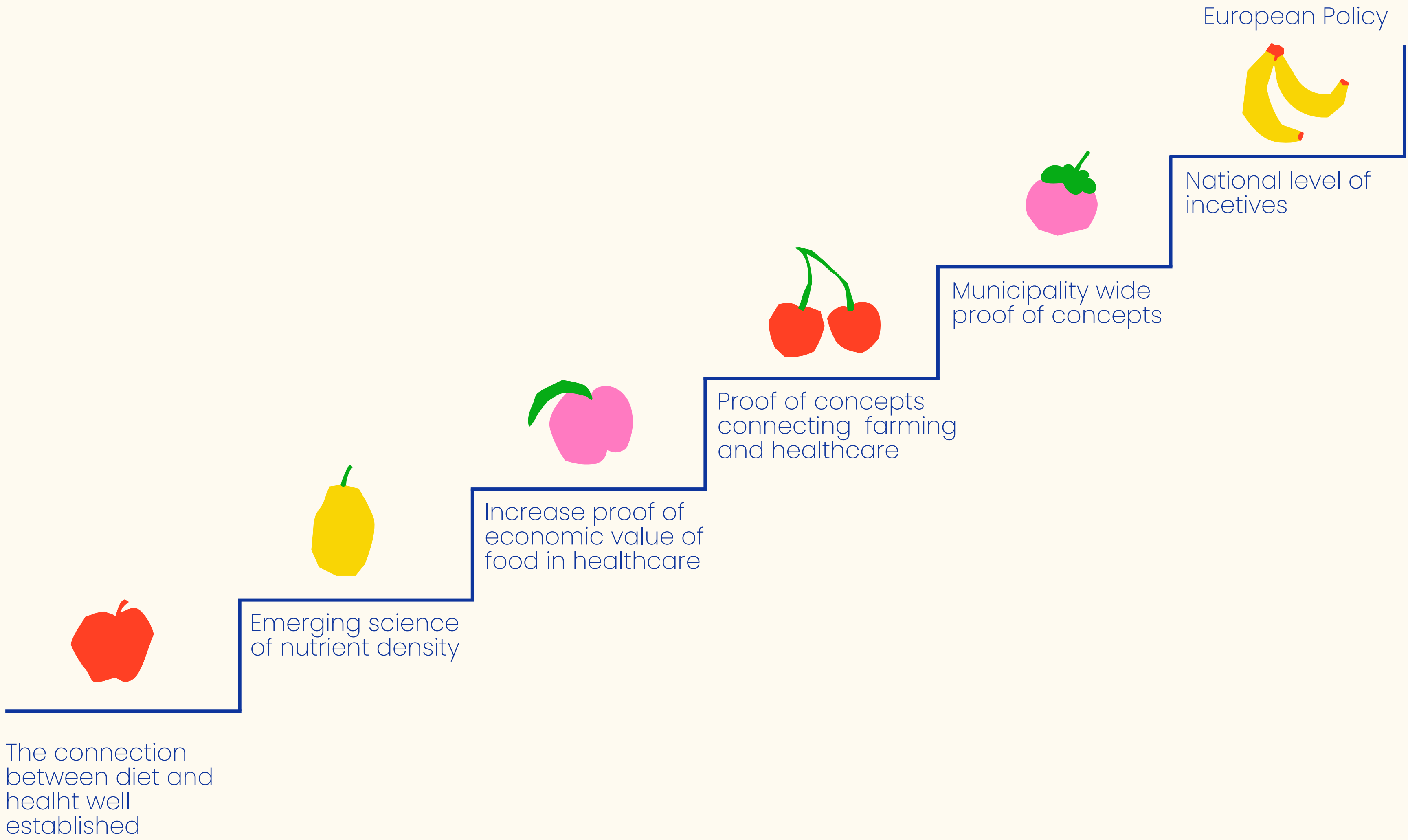
**increase social mobility**



**create demand for regenerative produce via healthcare**

**incentives**

WHERE WE ARE NOW



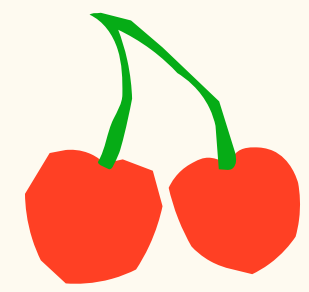
European Policy



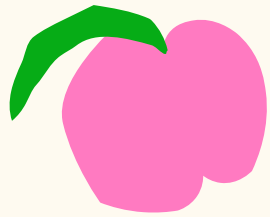
National level of incentives



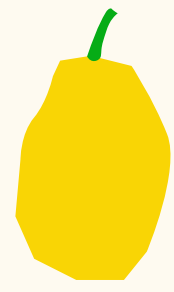
Municipality wide proof of concepts



Proof of concepts connecting farming and healthcare



Increase proof of economic value of food in healthcare



Emerging science of nutrient density



The connection between diet and health well established

INSPIRATION FROM USA



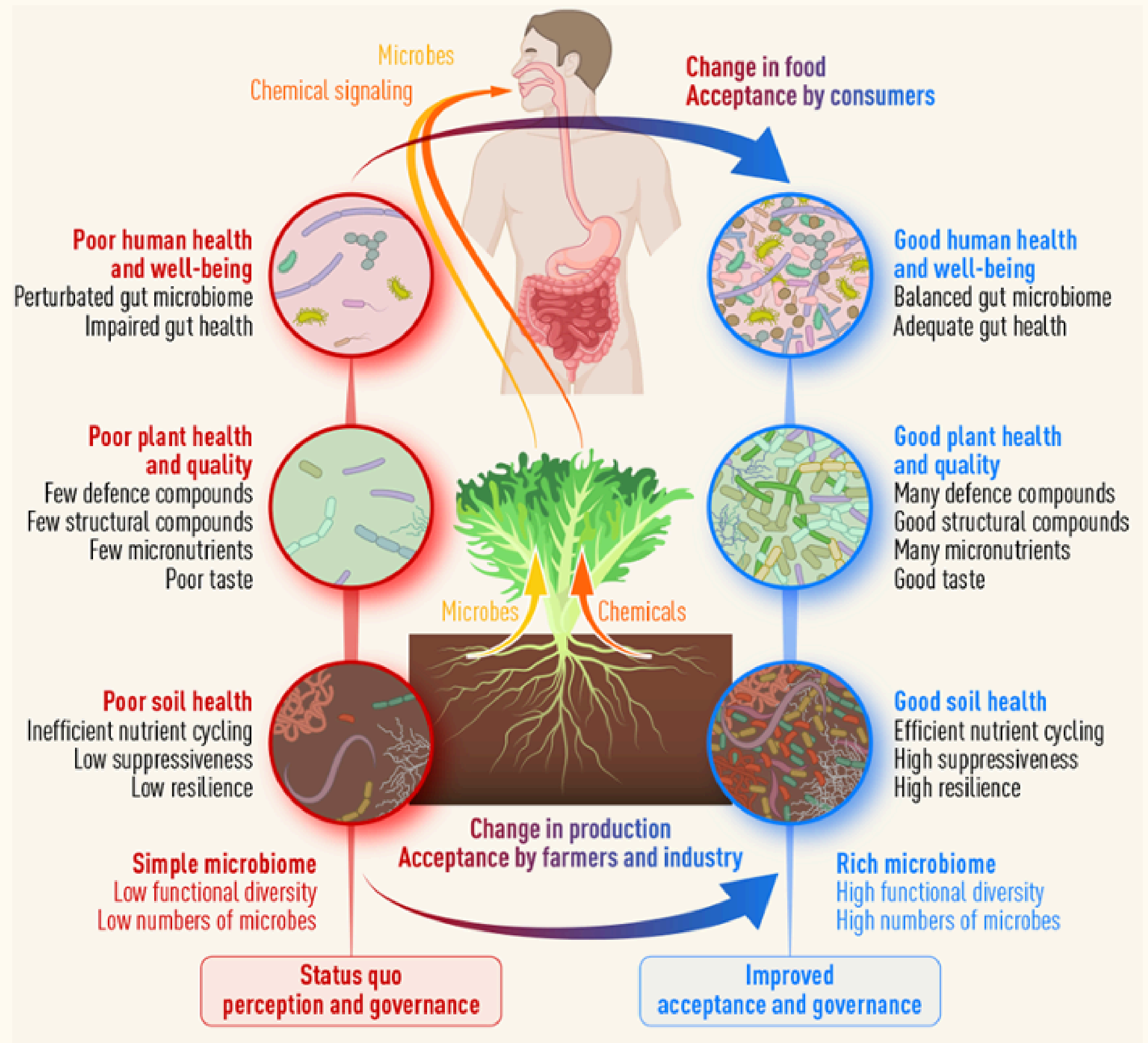
**FRESH**<sub>R</sub>  
OKLAHOMA<sub>X</sub>

# Soil functions

Soils deliver ecosystem services that enable life on Earth

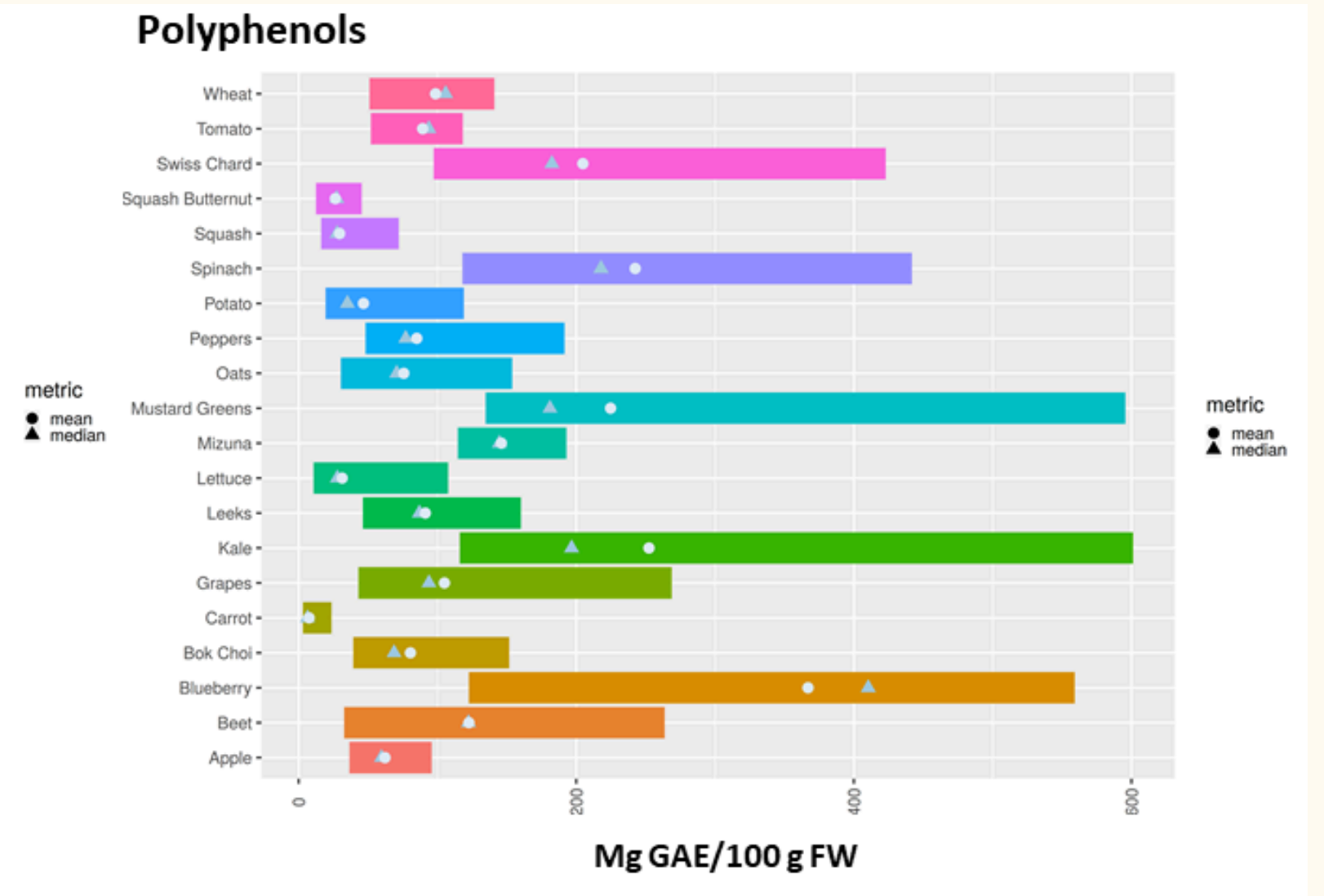
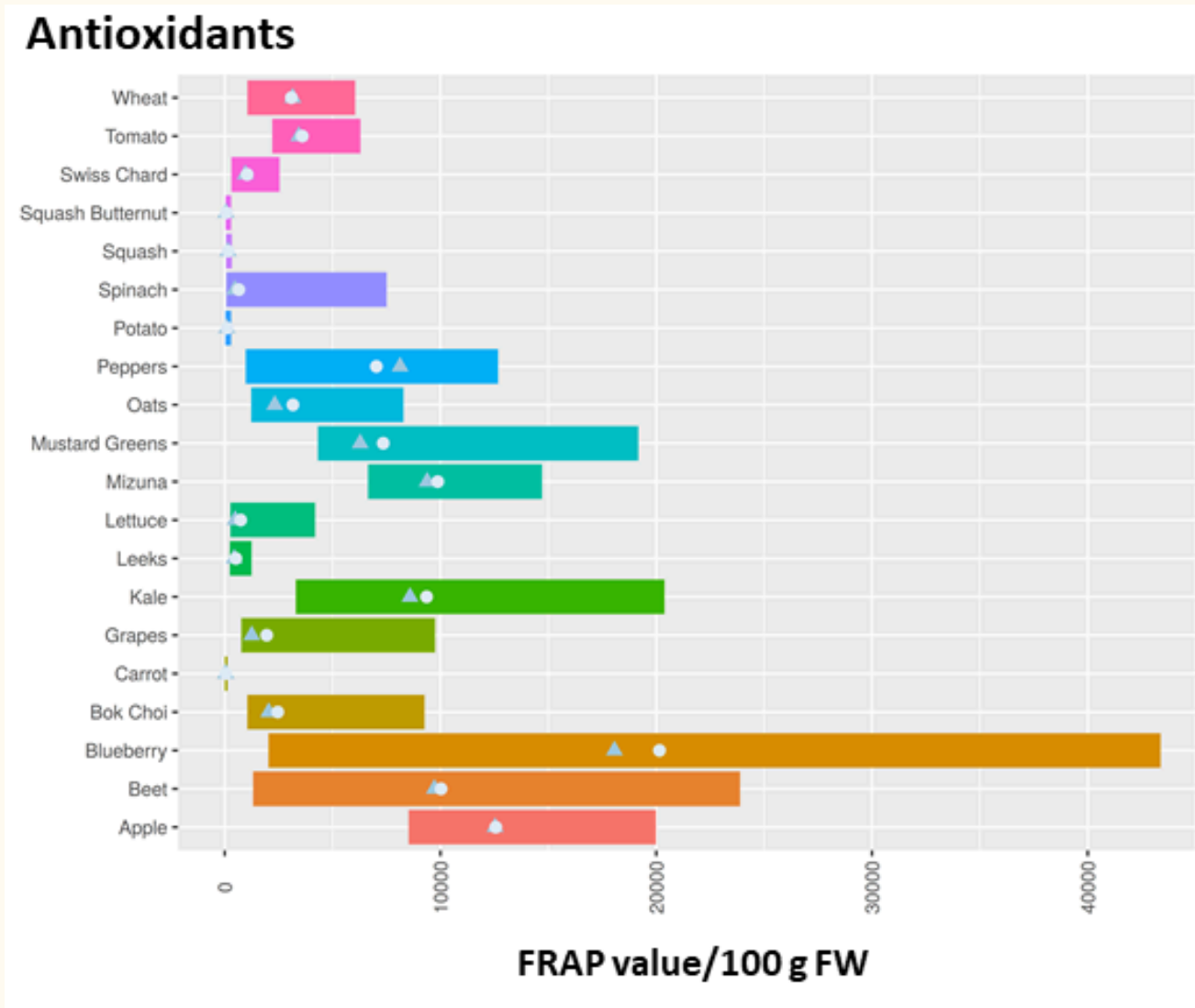


# Human health starts in soil health



# NUTRIENT DENSITY

THE NUMBER OF BENEFICIAL NUTRIENTS IN A FOOD PRODUCT IN PROPORTION TO E.G., ENERGY CONTENT, WEIGHT



# HEALTH – FARMING – SOCIAL CHANGE



REG/ORGANIC  
FARMERS



SHORT SUPPLY  
CHAINS



CHRONICALLY  
ILL PATINETS



SUPPORT FROM CHEFS,  
DOCTORS, DIETICIANS



STRUCTURAL  
FUNDING



PROVEN SCIENTIFICALLY  
(AGRONOMY / MEDICINE)





# Food Pharmacy





Programs designed to **increase access** to **healthy foods**, using **financial incentives**, such as **free produce**, supported by **health professionals**.

THE MODEL



**REG/ORGANIC FARMERS**

**SHORT SUPPLY CHAINS**



**CHRONICALLY ILL PATINETS**



**SUPPORT FROM CHEFS, DOCTORS, DIETICIANS**



**STRUCTURAL FUNDING**



**PROVEN SCIENTIFICALLY (AGRONOMY / MEDICINE)**



## MEDICAL RESERACH

- **Randomized control trial** (20 x 20)
- **Intervention:** 12 weeks organic whole food boxes, 2 healthcare workshops, 2 culinary medicine workshops, visits with dieticians
- **Control:** dietician visits
  
- **Measures:** baseline, 3 months, 6 months
- Hb1AC, cardiovascular risks management, productivity, life satisfaction (and more)

## AGRONOMIC RESERACH

- **9 organic farmers** delivering food to the program
- Tests on **carrots, potatoes, onions, green beans**
- **Test of:** interviewes with farmers about their practices, soil microbiome, food microbiome, nutrient density (vitamins, minerals, secondary metabolites)
  
- Tests done in August 2024
- First results in 2025

# OUTCOMES

## HbA1c

> **HbA1c** significantly decreased from **9.64% to 9.14%** (Bryce et al., 2021)

## BMI

> **BMI** decreased by **0.6 kg/m<sup>2</sup>** (Bhat et al., 2021)

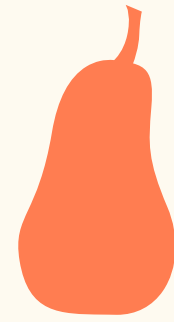
## Food Insecurity

> The odds of being **food insecure** **dropped by one-third** (Hager et al., 2023)

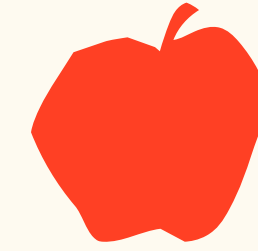
## Blood Pressure

> Among adults with **hypertension**, systolic and diastolic blood pressures declined by **-8.38 mm Hg** (-10.13 to -6.62) and **-4.94 mm Hg** (-5.96 to -3.92) (Hager et al., 2023)

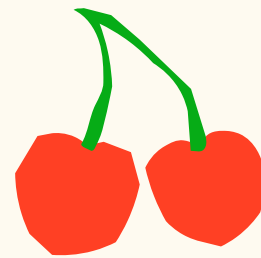




**PHASE 1 – PILOT**  
TIL FEB'25



**PHASE 2 – PILOT V2**  
with cost benefits measures  
TIL FEB'26



**PHASE 3 – STRUCTURAL  
FINANCIAL MODEL**  
TIL END'28



**PHASE 4 –  
REPLICATION**  
>29

THANK YOU!

## KNOWLEDGE PARTNERS



## FUNDERS



## QUESTIONS?

*Let's keep on talking!*  
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