

150-YEAR RETROSPECT SOIL – FORAGES – FOOD

Don Lobb, P.Ag.(Hon)

Canadian Forage and Grassland Association
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SOIL MATTERS (UN-FAO)

95-97% of food relies on healthy soil

Of the total land area 37% can produce food:

- **25% is perennial forage and rangeland**
- **12% is cultivated crops**
- **20% of World's cultivated land was lost from agriculture 1960-2000 (40 years)**
- **In Canada, from 1971-2011 (40 years) we lost the equivalent of 7.5 kms x 5,000 kms of agricultural land to non-ag development**

HEALTHY SOIL

A FUNCTIONING ECOSYSTEM
THAT CAN PERSIST AND GROW
WHILE SUPPORTING PLANTS
ANIMALS AND PEOPLE

Healthy soil contributes to:

- clean air
- clean water
- reliable, sustainable food production

SOIL AGGREGATES

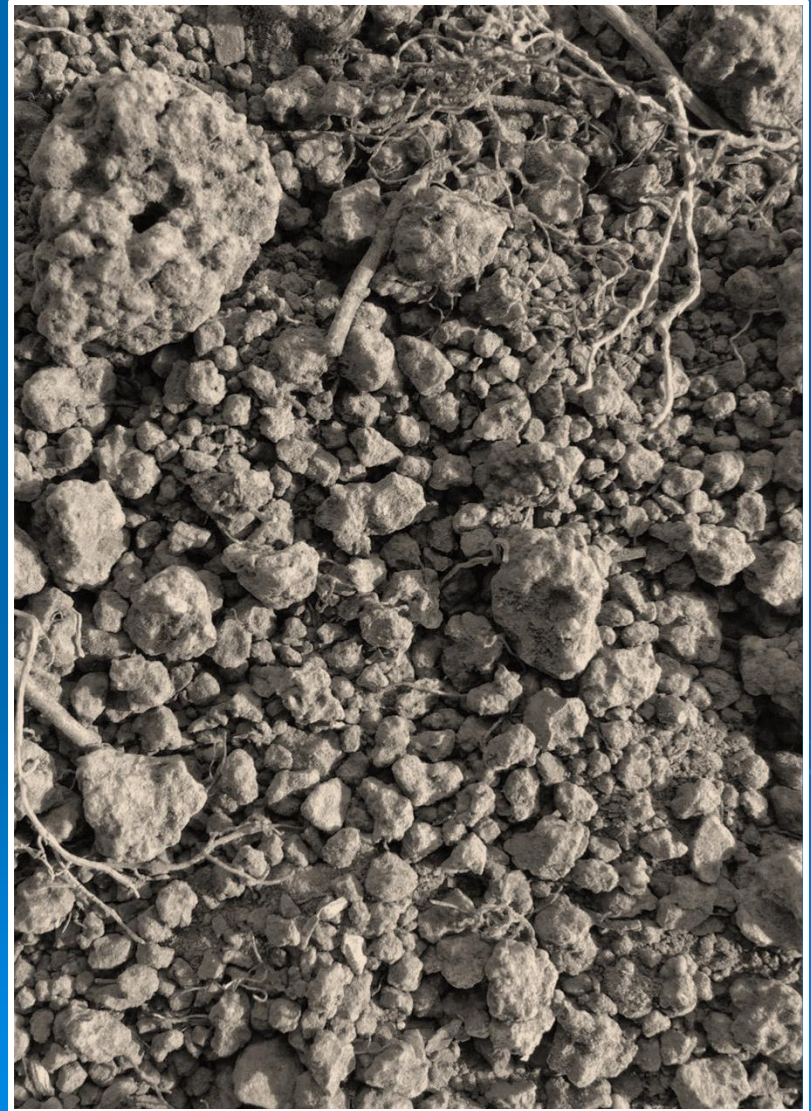
(A SOIL HEALTH INDICATOR)

REQUIRE:

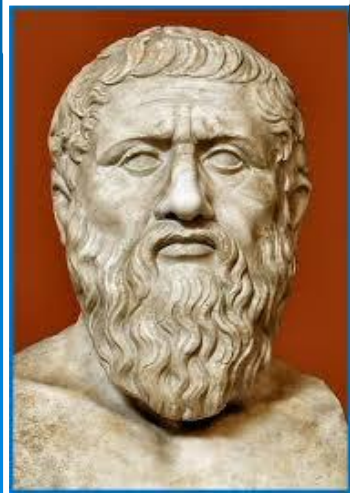
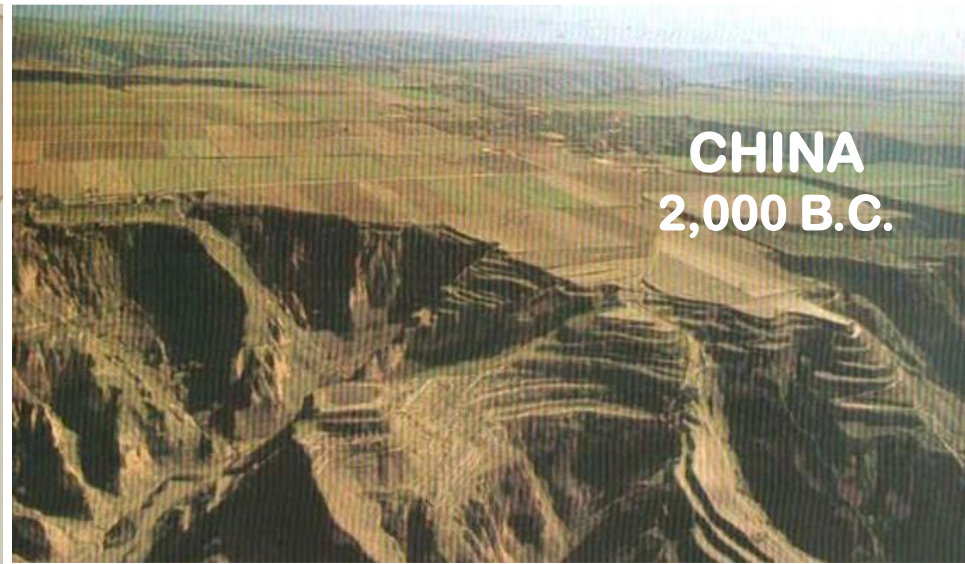
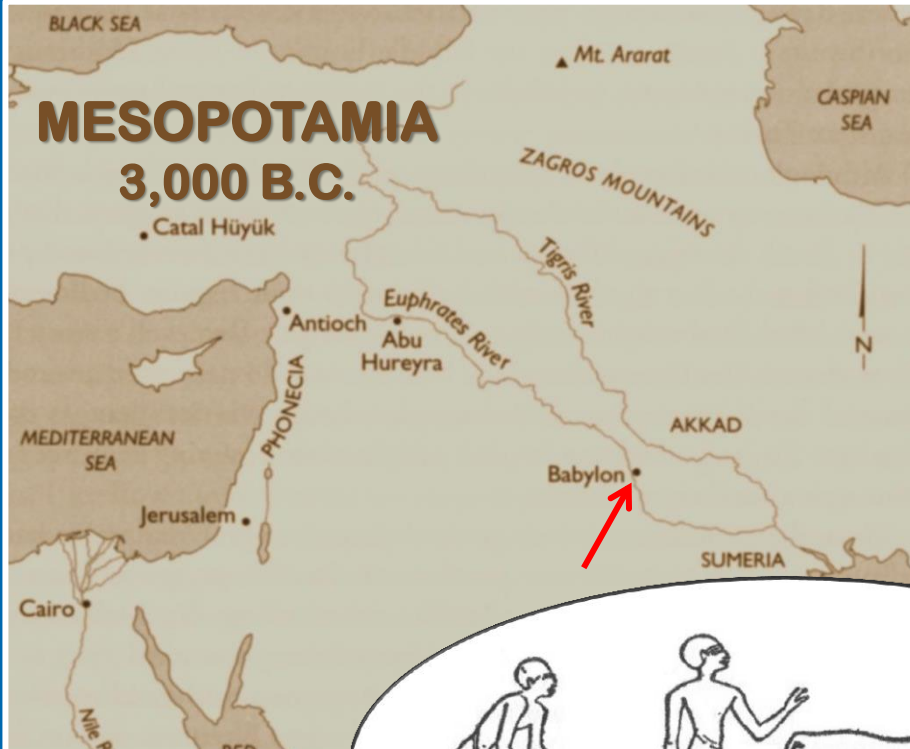
- Active soil biota
- Organic matter
- Water/air balance

PROVIDE:

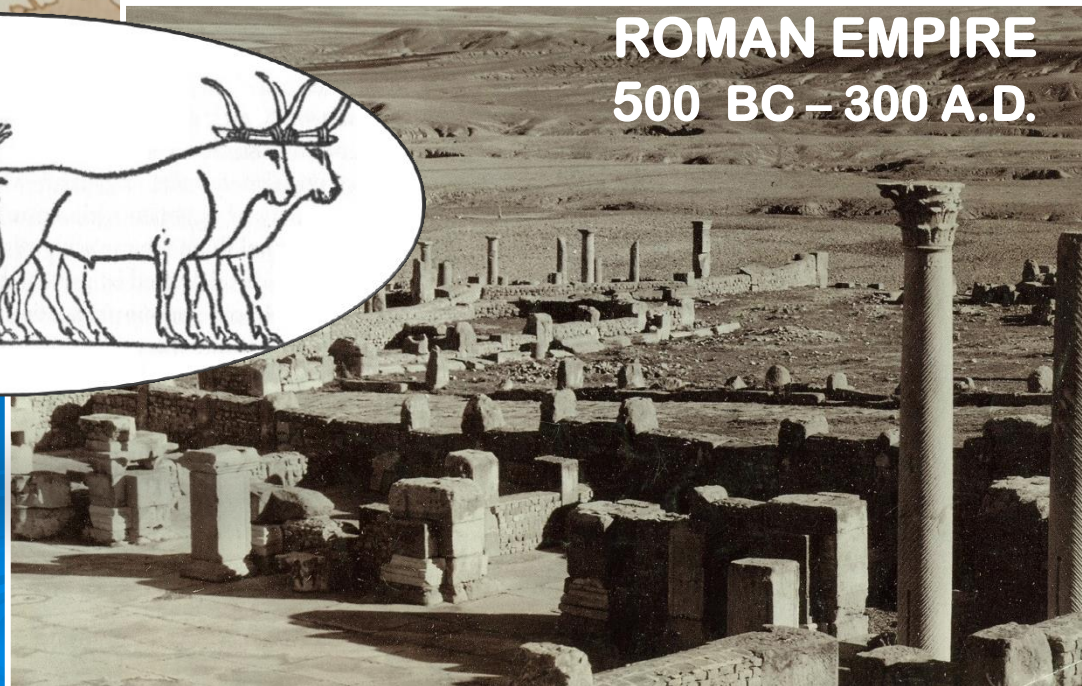
- Soil stability
- Soil Strength
- Water infiltration
/ storage



HISTORY LESSONS



GREECE
Plato
427-347 B.C.



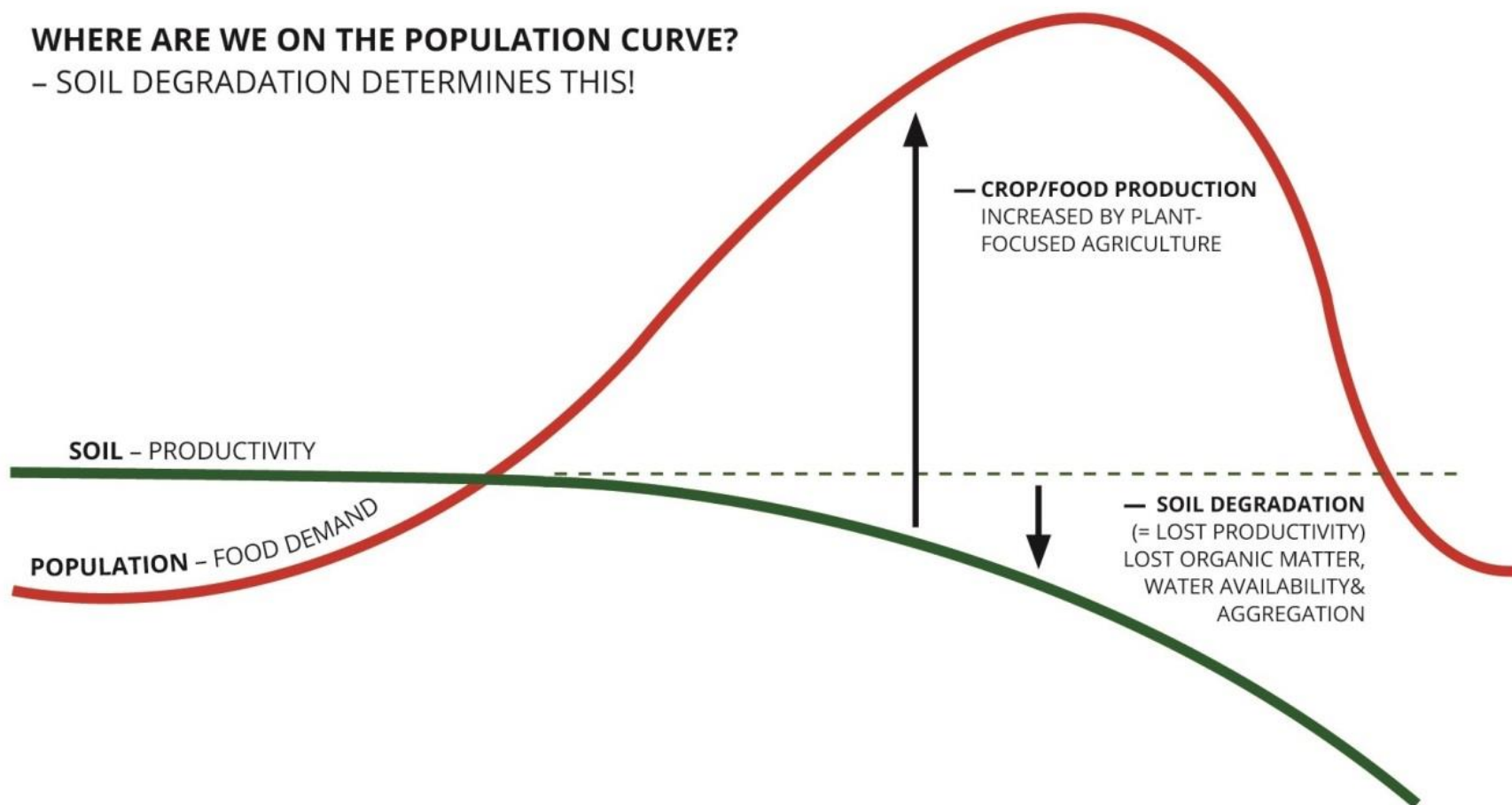
ROMAN EMPIRE
500 BC – 300 A.D.

HISTORICAL OUTCOME OF SOIL DEGRADATION

AN ILLUSTRATION – D.W. LOBB, 2017

WHERE ARE WE ON THE POPULATION CURVE?

– SOIL DEGRADATION DETERMINES THIS!



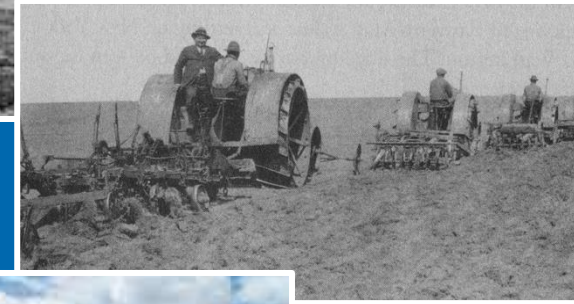
150-YEAR RETROSPECT

THE COST OF HIGH GRAIN PRICES

1870s – Post Civil War



1920s – Post WWI



1970s – Soviet Crop Failure



2010 – Ethanol From Grain



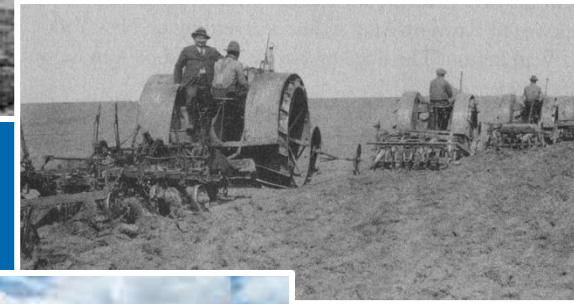
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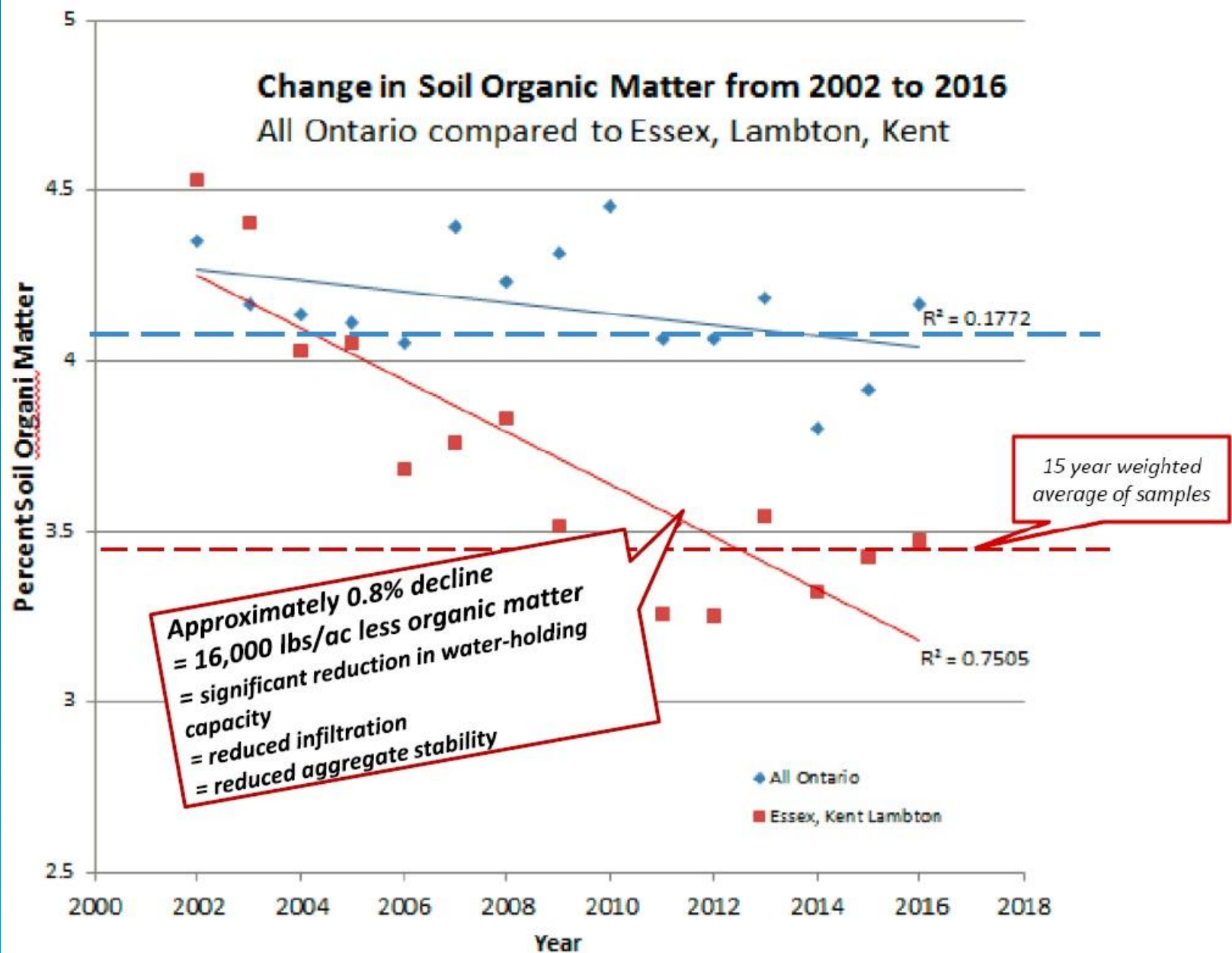
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**OM data courtesy of Jack Legg, SGS Agri-Food Labs,
compiled by Christine Brown, OMAFRA Jan 2017**



GRASS / LEGUME BENEFITS

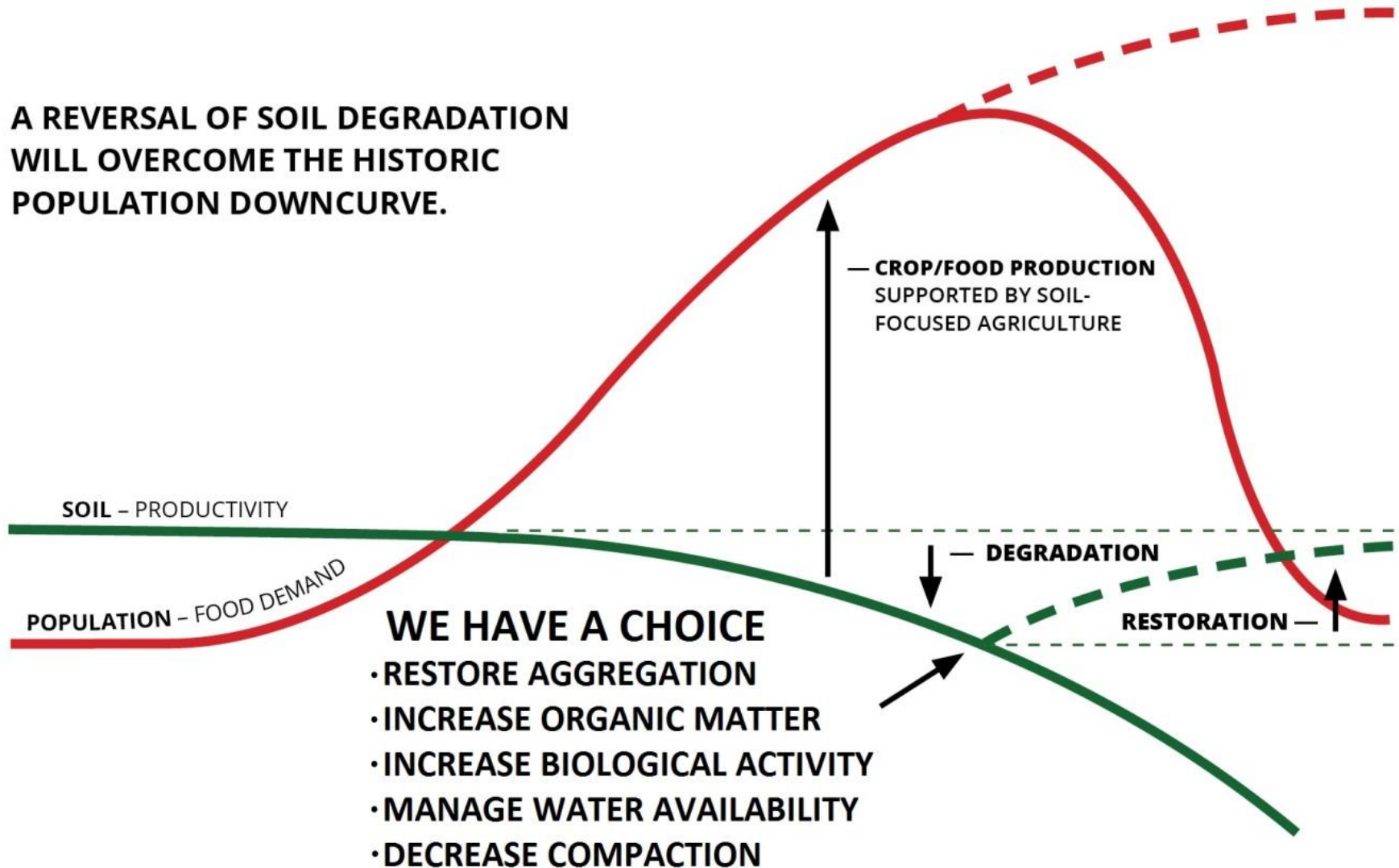
- Soil protection and sustainable use of fragile soil
- Improves health of highly productive soil



SOIL RESTORATION CHANGES THE PATH OF HISTORY

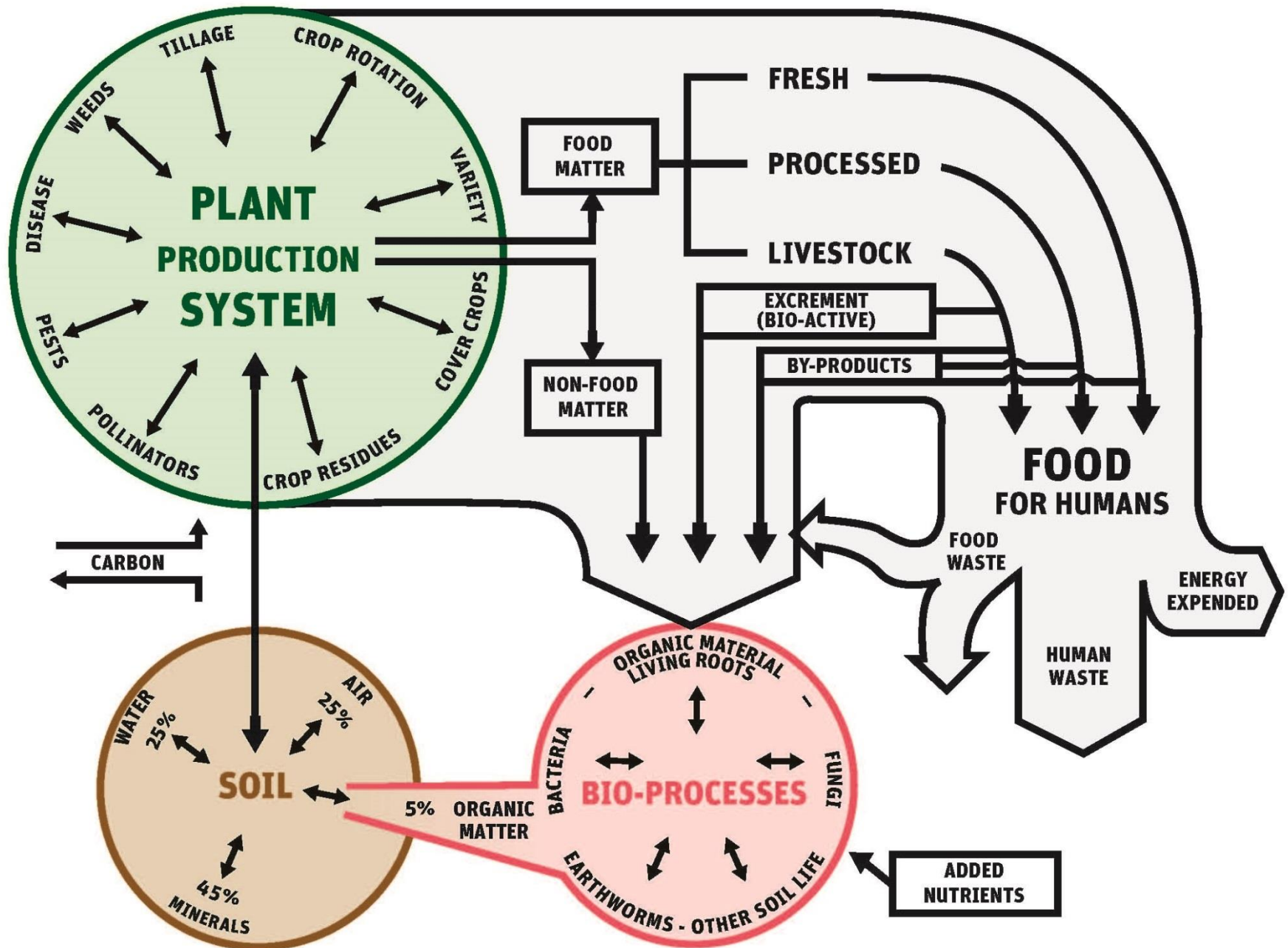
AN ILLUSTRATION – D.W. LOBB, 2017

**A REVERSAL OF SOIL DEGRADATION
WILL OVERCOME THE HISTORIC
POPULATION DOWNCURVE.**



THE AGRI-FOOD ECOSYSTEM

D. W. LOBB
2017



Choices today determine
our **LEGACY** for
tomorrow

