



# Introduction to Soil Health

Presenter Name

Date

Location

# Objectives

1. Define soil health and discuss why different words in the definition are important
2. List the primary functions of soil and impact on the environment or ecosystem
3. Describe importance of soil health in ag & society





Wikipedia

**“If we are bold in our thinking, courageous in accepting new ideas, and willing to work with instead of against our land, we shall find in conservation farming an avenue to the greatest food production the world has ever known...”**

**-Hugh Hammond Bennett  
September 18, 1943**





# What Functions Would We Like our Soil to Provide?

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- Produce food, feed, fiber, biofuels & medicine
- Capture, filter, and store water
- Cycle and recycle nutrients
- Resilience to drought, flood & temp extremes
- Protect plants from pathogens and stress
- Detoxify pollutants
- Store C and moderate release of gases
- Resist erosive forces

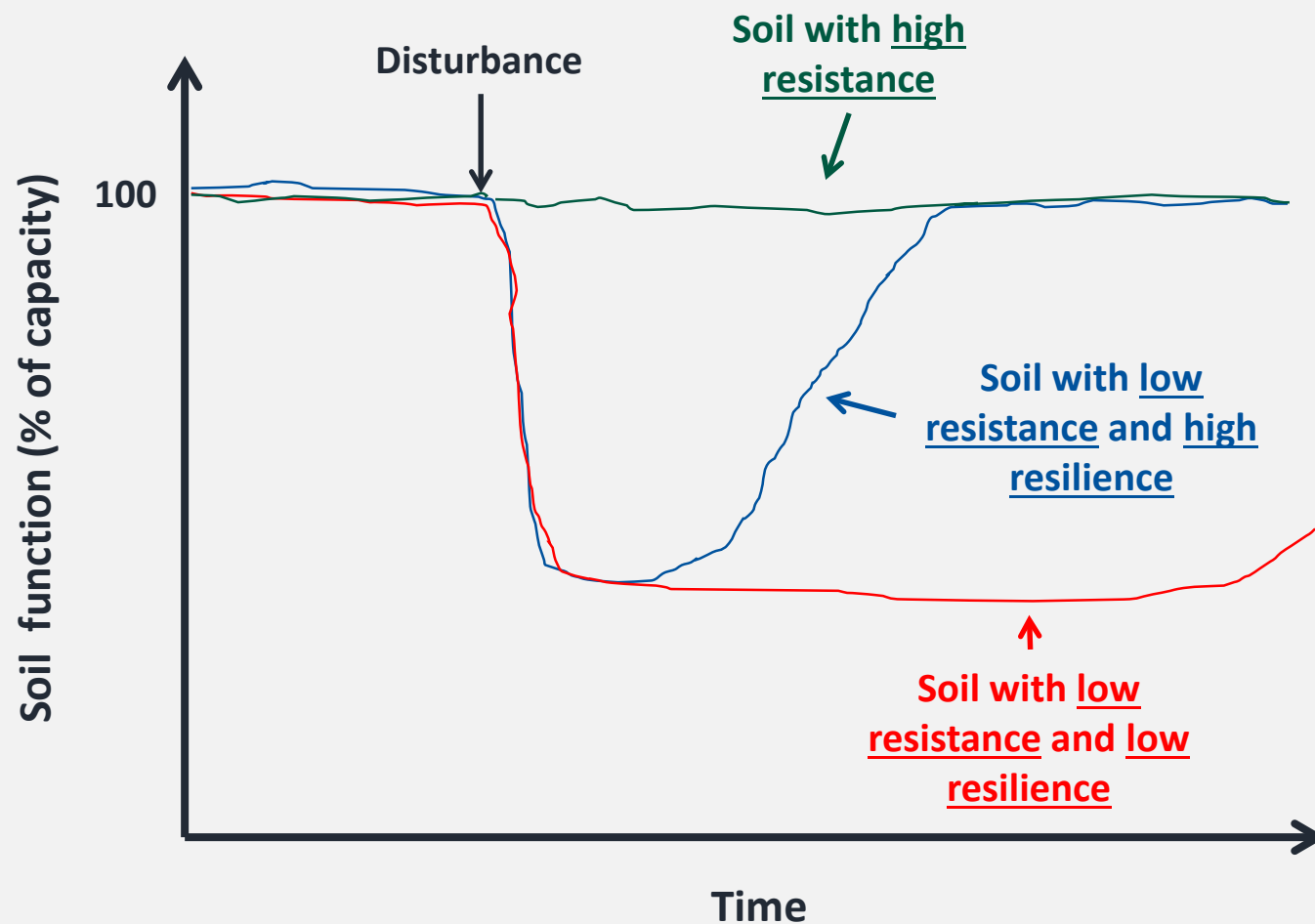


# How does NRCS Define Soil Health?

*The continued capacity of the soil to function as a vital living ecosystem that sustains plants, animal and humans.*

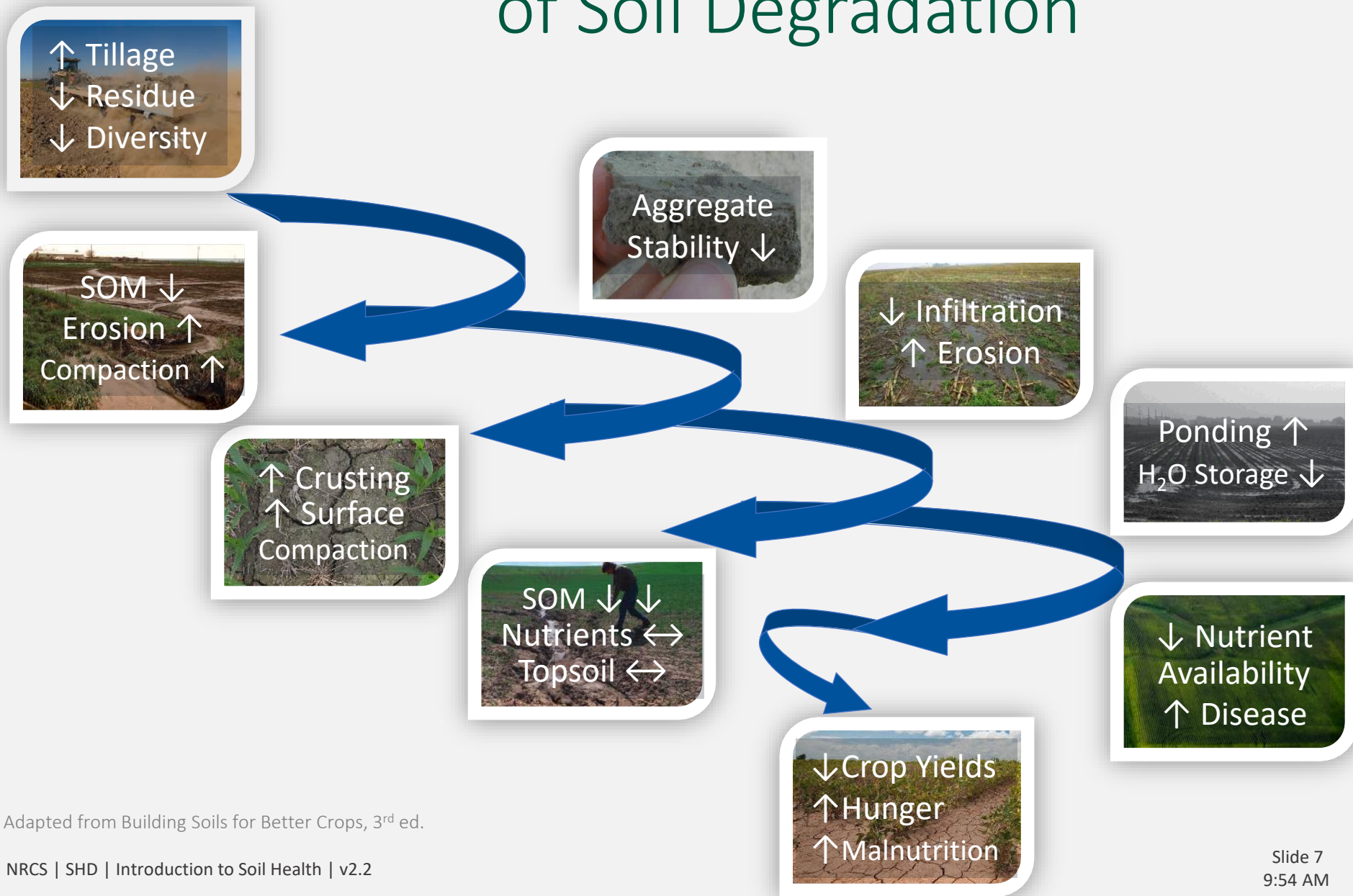


# Soil Health and Function



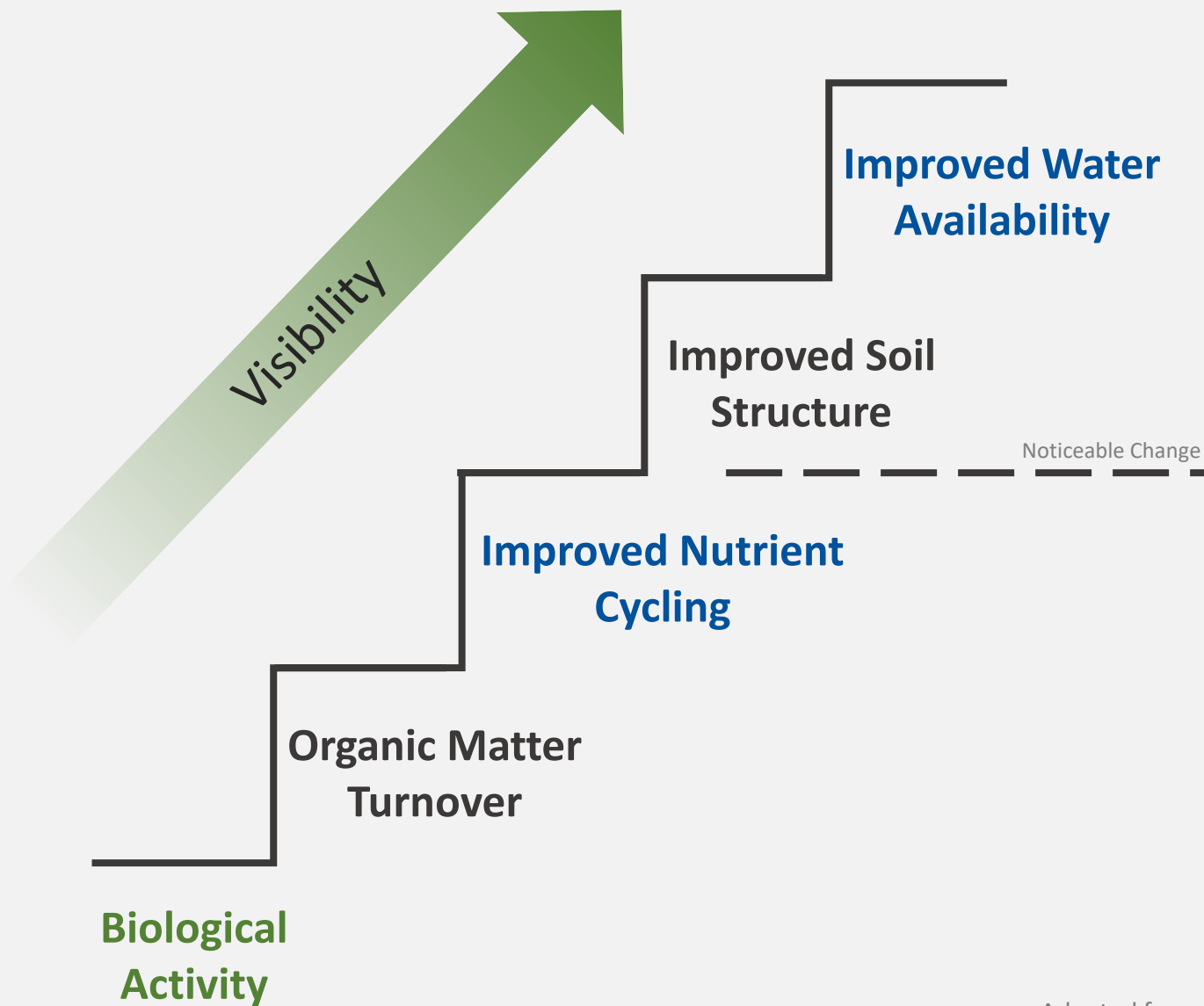
Adapted from Brady & Weil, 2008

# Downward Spiral of Soil Degradation



Adapted from Building Soils for Better Crops, 3<sup>rd</sup> ed.

# Soil Aggradation Climb



Adapted from Hatfield *et.al.*



# Characteristics of Soil Function Loss



Lynn Betts, USDA-NRCS



Lynn Betts, USDA-NRCS



Bob Nichols, USDA



University of Tennessee



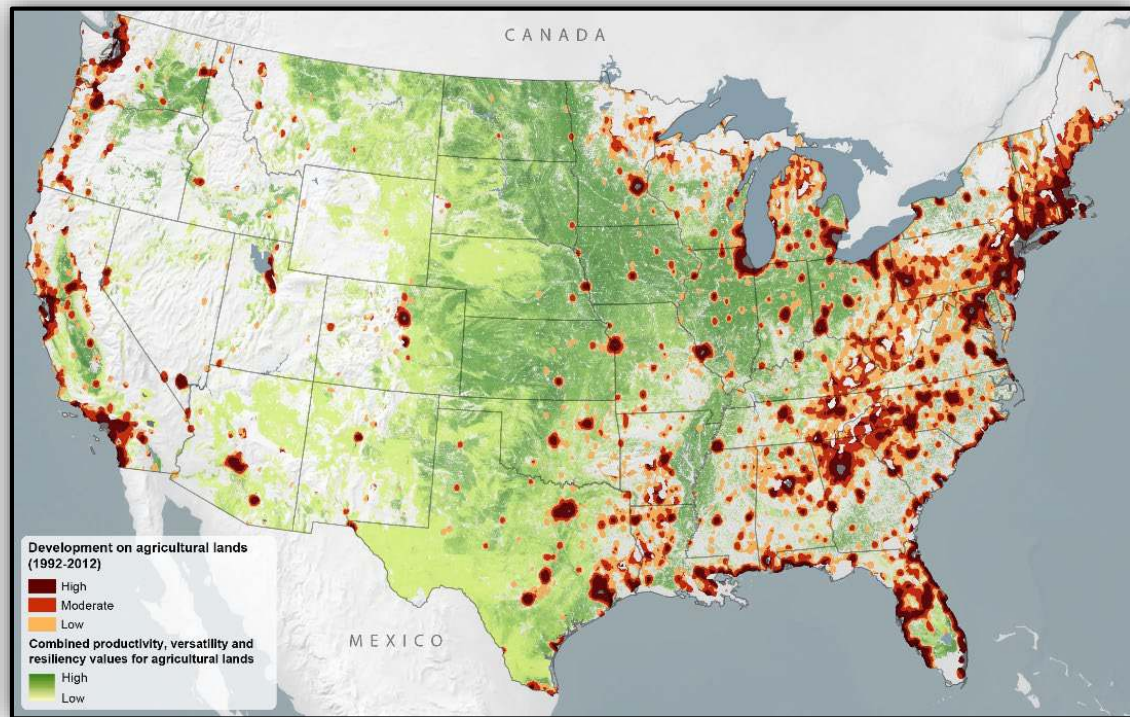
Inflation Solutions



Case IH

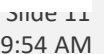
# Producing More on Fewer Acres – Development Pressure

- Between 1992 and 2012, nearly 31 million acres lost
- 11 million were best farmland acres in the nation
- 62% of all development was on farmland



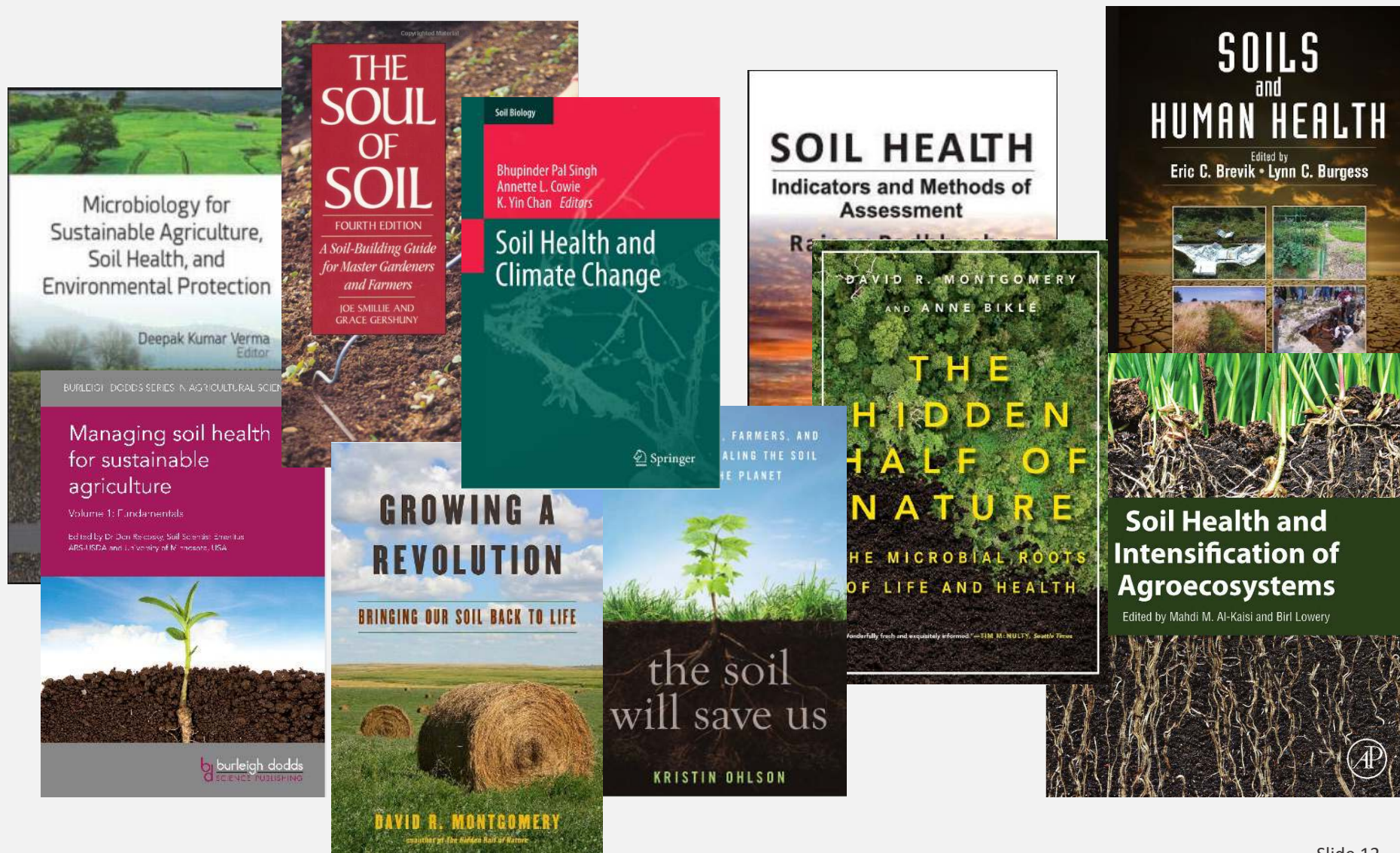
*Farms Under Threat, Farmland Trust, May, 2018*







# Current Books Promoting Soil Health





# Farmers are Catching the Vision of Improving Soil Function through Management \*\*\*

