

The Citizen Science Soil Health Project:

Helping you PROVE you are improving your Soil Health



The Citizen Science Soil Health

**Project: A FREE annual
Soil Health Test
every year
for 10 years**

The first one's free.

**SOIL
HEALTH
TEST**



Haney Soil Test



$$\begin{aligned} & \text{Soil Respiration}/10 \\ + & \text{ Water-Extractable Organic Carbon}/50 \\ + & \text{ Water-Extractable Organic Nitrogen}/10 \\ \hline = & \text{ Soil Health Score} \end{aligned}$$

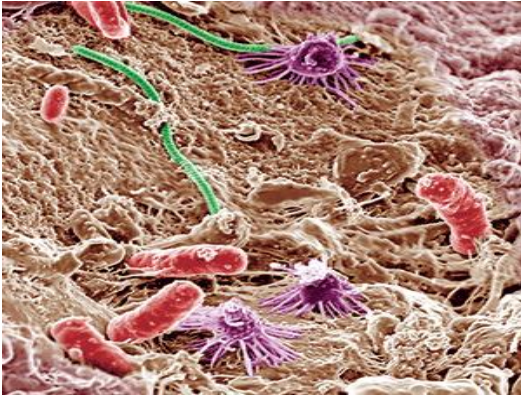
Haney Soil Test

Number of Soil Microbes
+ Their Food
+ Nitrogen they produce

= **Soil Health Score**

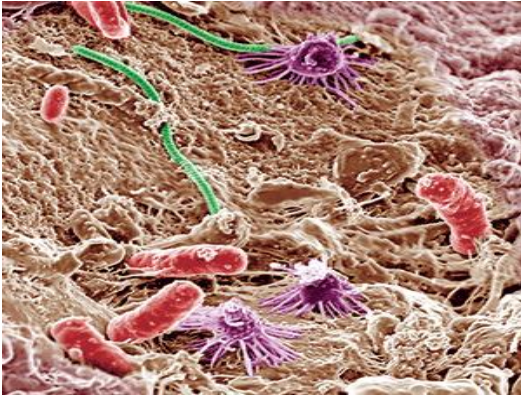


Healthy Soil



**LOTS of
Soil Microbes**

Healthy Soil

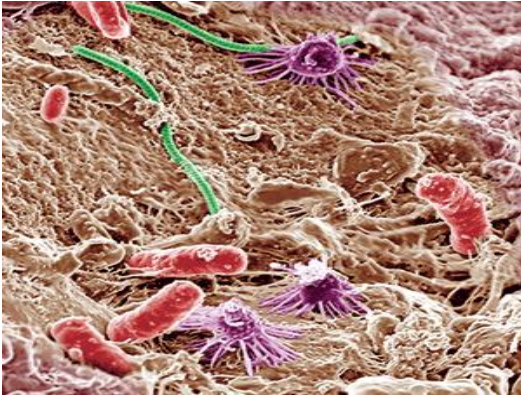


**LOTS of
Soil Microbes**



**LOTS of
Organic Matter**

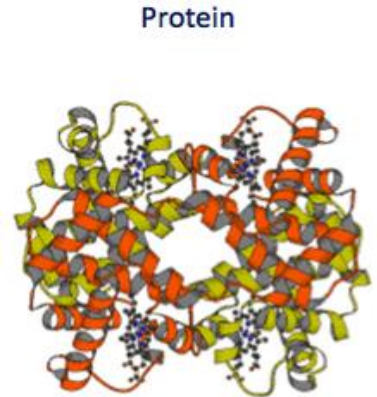
Healthy Soil



**LOTS of
Soil Microbes**

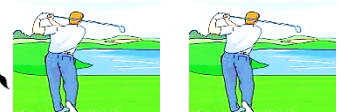
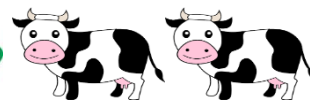
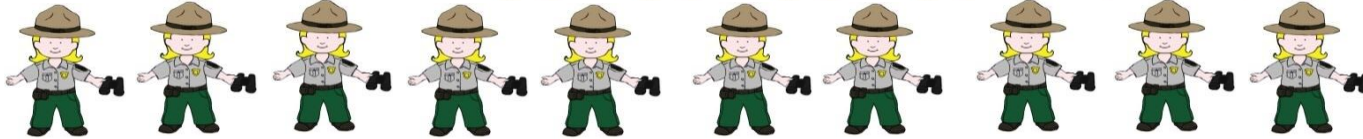


**LOTS of
Organic Matter**



**LOTS of
Nitrogen**

The Citizen Science Soil Health Project: 42 diverse growers



The Citizen Science Soil Health Project: A 10 year commitment

I think
**Reducing
tillage**
improves my
Soil Health.



I think
**Improving
Drainage**
improves my
Soil Health.



I think
**Micro-
nutrients**
improve my
Soil Health.



I think
**Cover-
crops**
improve my
Soil Health.



I think
**Key-line
plowing**
improves my
Soil Health.

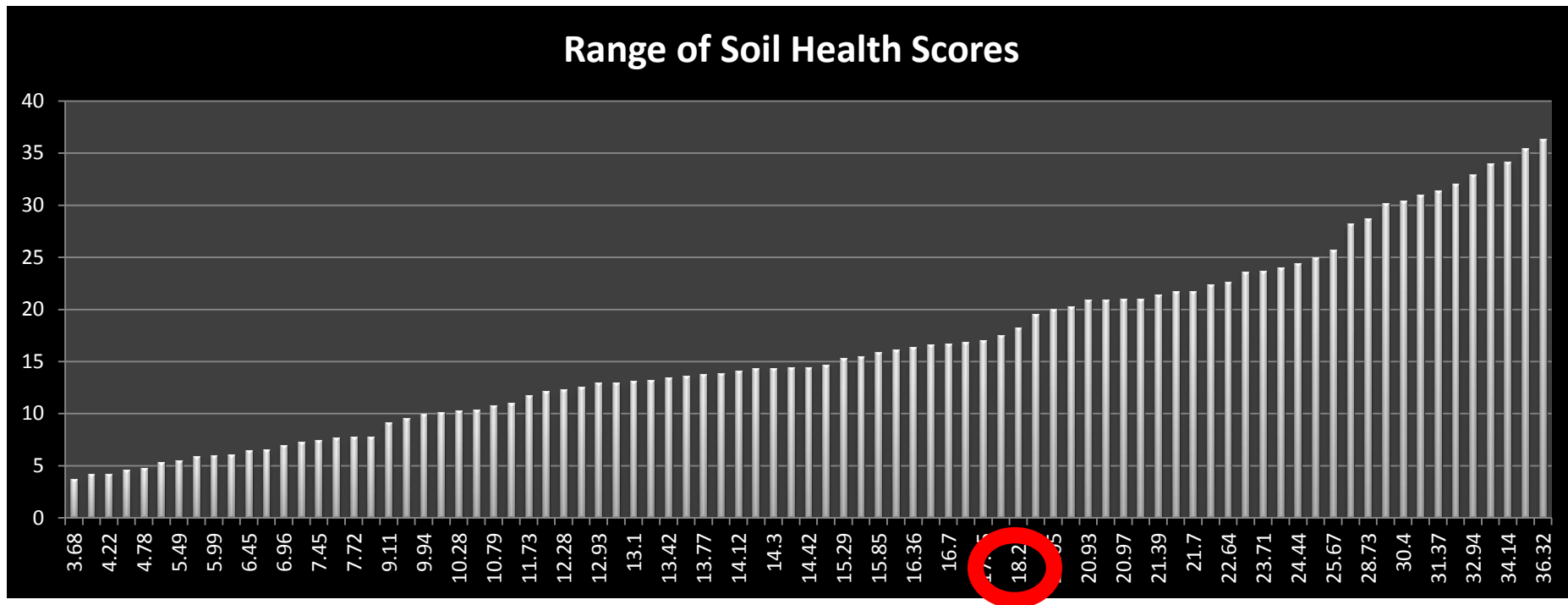


I think
Livestock
improves my
Soil Health.



Range of Soil Health Scores: 3 to 36

Median: 14.42



"In Colorado, a score greater than 18 is rarely attainable." Ward Laboratory

Organic or Conventional: Which has better Soil Health Scores?

Conventional



Organic



Non-Farm



Median Soil Health Scores

Conventional

13.67

Organic

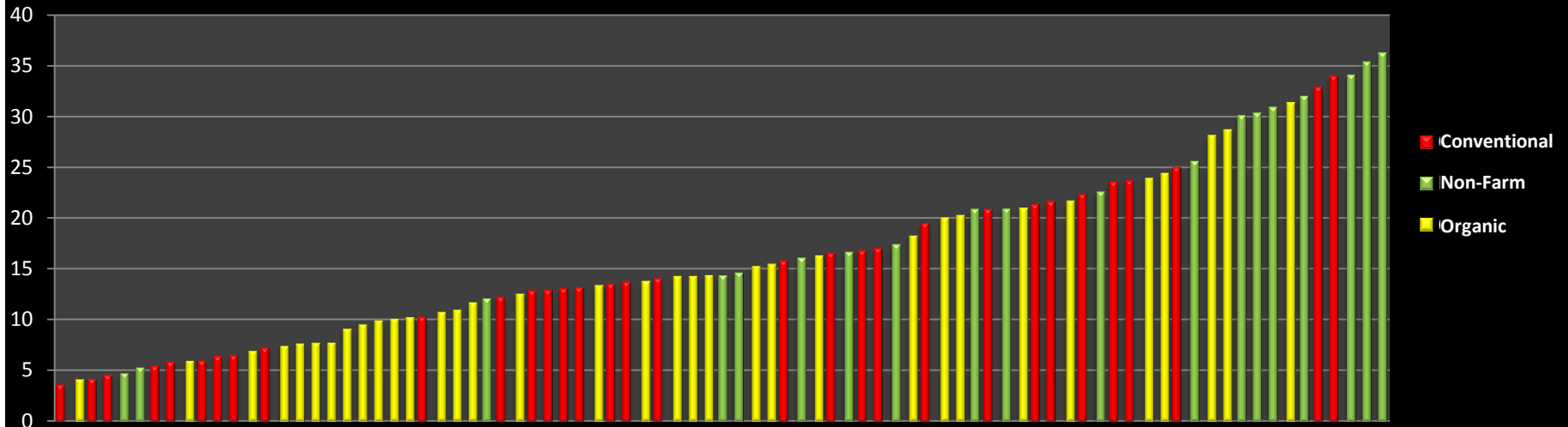
13.62

Non-Farm

20.97



Soil Health Scores of Conventional, Organic & Non-Farm





Median Soil Health Scores

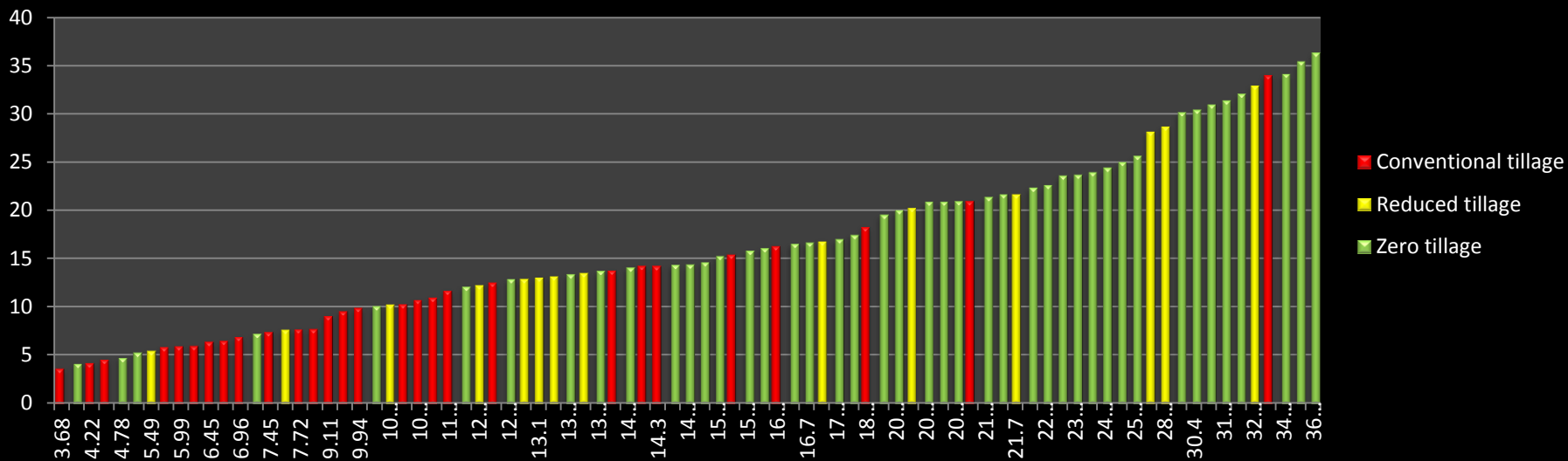
Conventional tillage 9.76

Reduced tillage 13.39

Zero tillage 20.05



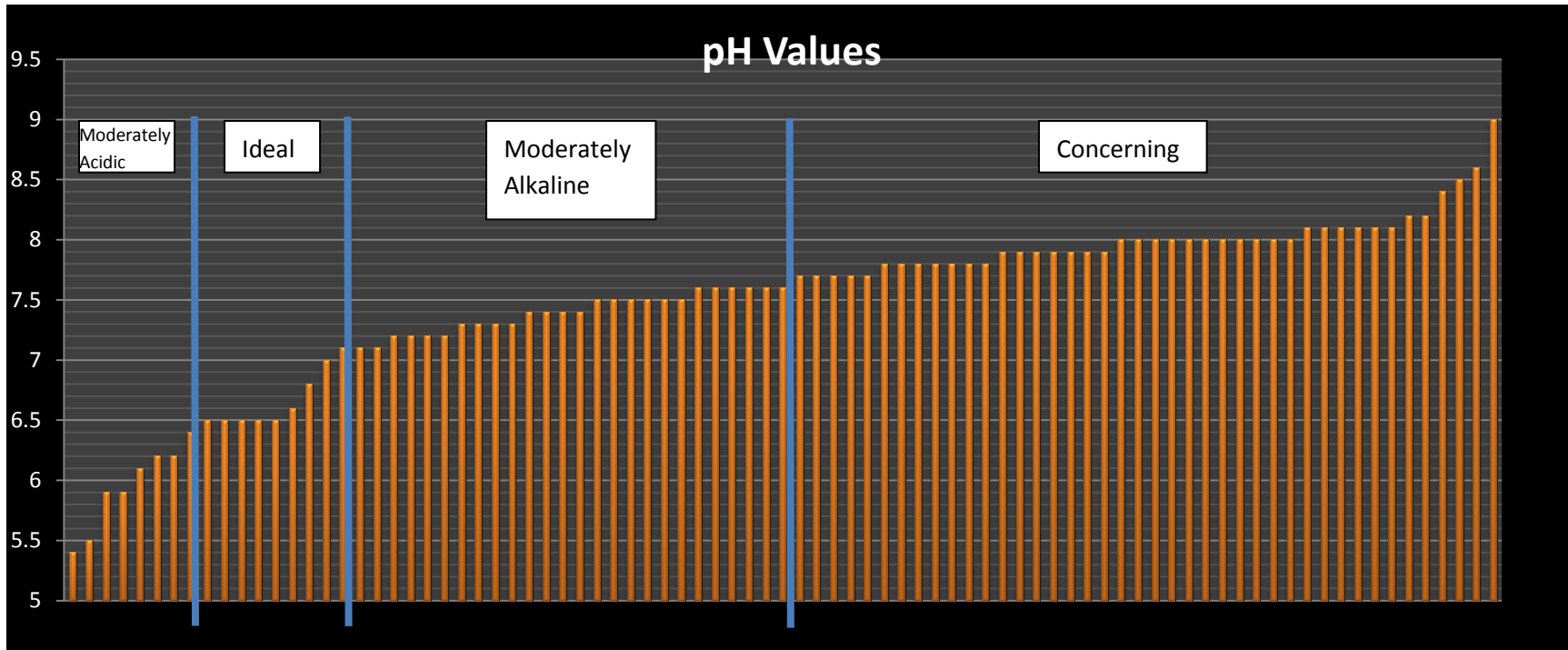
Soil Health Scores of Conventional, Reduced and Zero Tillage



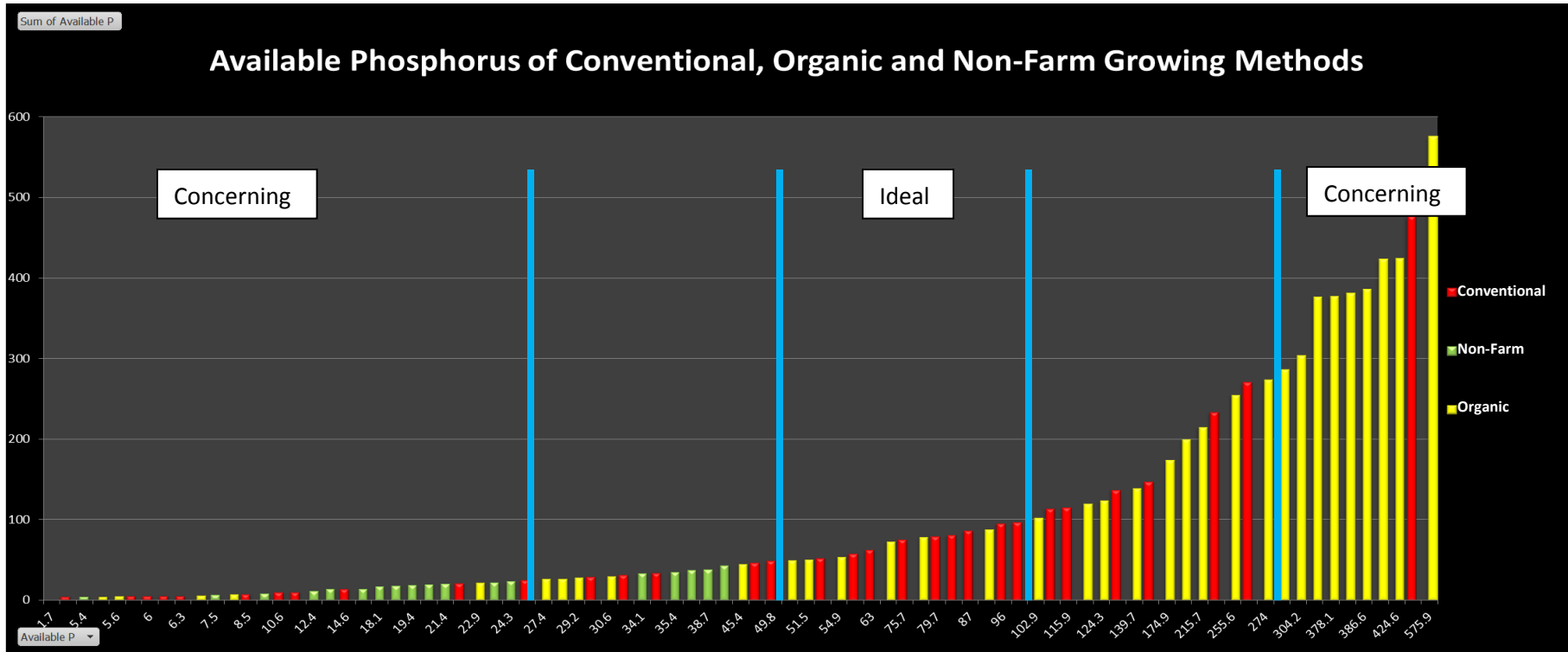
Irrigation improves Soil Health Scores

Tillage	Irrigated	Dryland
Zero Tillage	20.94	17.26
Reduced Tillage	15.21	7.88
Conventional Tillage	9.94	6.53

(Almost) Everyone Struggles with pH.



↑↑ Phosphorus = ↓↓ Water Quality



The Citizen Science Soil Health Project:

Want to join?

Call or email Elizabeth Black!

303-449-7532 Elizabeth@ ElizabethBlackArt.com



2019 Annual Meeting & Class