



# Why Carbon?

Why not...



# Tim Palmer Truro, Iowa



# Atmospheric CO<sub>2</sub> is rising

- + The global average **atmospheric carbon dioxide** in 2019 was 409.8 parts per million (ppm for short), with a range of uncertainty of plus or minus 0.1 ppm. **Carbon dioxide** levels today are higher than at any point in at least the past 800,000 years. In fact, the last time the atmospheric CO<sub>2</sub> amounts were this high was more than 3 million years ago, when temperature was 2°–3°C (3.6°–5.4°F) higher than during the pre-industrial era, and sea level was 15–25 meters (50–80 feet) higher than today.
- + Rebecca Lindsey, NOAA Aug 14, 2020



# Why Agriculture?



**How many  
acres are we  
talking about?**

2017 Census of Ag  
reported on 279M  
acres

No-till acres  
reported @104M  
acres

# **Studies show that even surface tillage releases CO<sub>2</sub>**

- + Conversion to no-till on all acres would reduce emissions
- + The growing cash crop would store carbon
- + Adding a cover-crop would store carbon between cash crops
- + Reducing CO<sub>2</sub> levels has value
- + Storing carbon has value





# Why Forestry?



**Of aprox 750M  
acres of  
forests in the  
US, 56% is  
privately  
owned**

Trees also remove CO<sub>2</sub> from the atmosphere during photosynthesis.

Wood is approximately 50% carbon.

Burning wood releases the carbon (wildfire, slash/burn).

Harvesting retains the carbon long-term in wood products.





# **Privately owned pasture and grazing lands**

Account for 27% of US 48 states total acreage



# What is the market value of Carbon?

Current prices in the \$20 per ton range

Companies are interested in Scope 1, Scope 3

Carbon Sequestration must meet rigorous standards of measurement, reporting and verification (MRV protocol)





# Soil Health = Stored Carbon

- + Soil organic carbon is a component of soil organic matter. Organic matter is primarily made up of carbon (58%), with the remaining mass consisting of water and other nutrients such as nitrogen and potassium. Carbon is the largest and easiest component of organic matter to measure and as a result SOC is typically measured and reported in a standard soil test.
- + Healing soil has a multitude of benefits associated with higher soil carbon

# Conservation effects of soil health

As soils heal, the capability of the soil itself helps mitigate flooding rain events. Higher OM allows for more water storage...

Reduced runoff (flooding)

Less soil movement(erosion)

Better water quality



# **Value of sequestered carbon to producers**

Higher OM levels in the soil can reduce ag inputs

Soil health practices like cover crops can feed livestock, add organic N( grazing waste, legume crops)

Of course, the value of the carbon to outside markets

# What are some of the issues?

For many, dealing with different management practices is stressful.

Understanding the value of soil health to production means engagement with policy makers that may rely on archaic information still available,

**Persistence**



# Persistence

How do we fill the market demand for credits that can disappear with the drop of a plow?

Full benefits of soil health and stored carbon must factor time to mature.

Set-aside programs like CRP can have added value based on carbon stored over time plus other benefits.

# How can SWCDs be involved?

- + Only relationship with all landowners
- + Bring other partners to local discussions
- + Use current practices as a launching pad to soil health



# What are the goals of NACD Climate Action Task Force?



ESMC process answered many questions of how, what if, etc, to start the conversation.



Bring under utilized or unused friends to the table



Add partners that have not had a relationship with NACD



Develop short , medium and long range goals for NACD to support funding and programming for CDs



## **What now?**

Education

Develop pilots to bundle producers and practices for incentive payments- (ag/urban/forestry)

# Climate Smart Ag and Forestry



EQIP.pdf

# Education...

+ **Start**

+ **to finish**





**Questions?**

