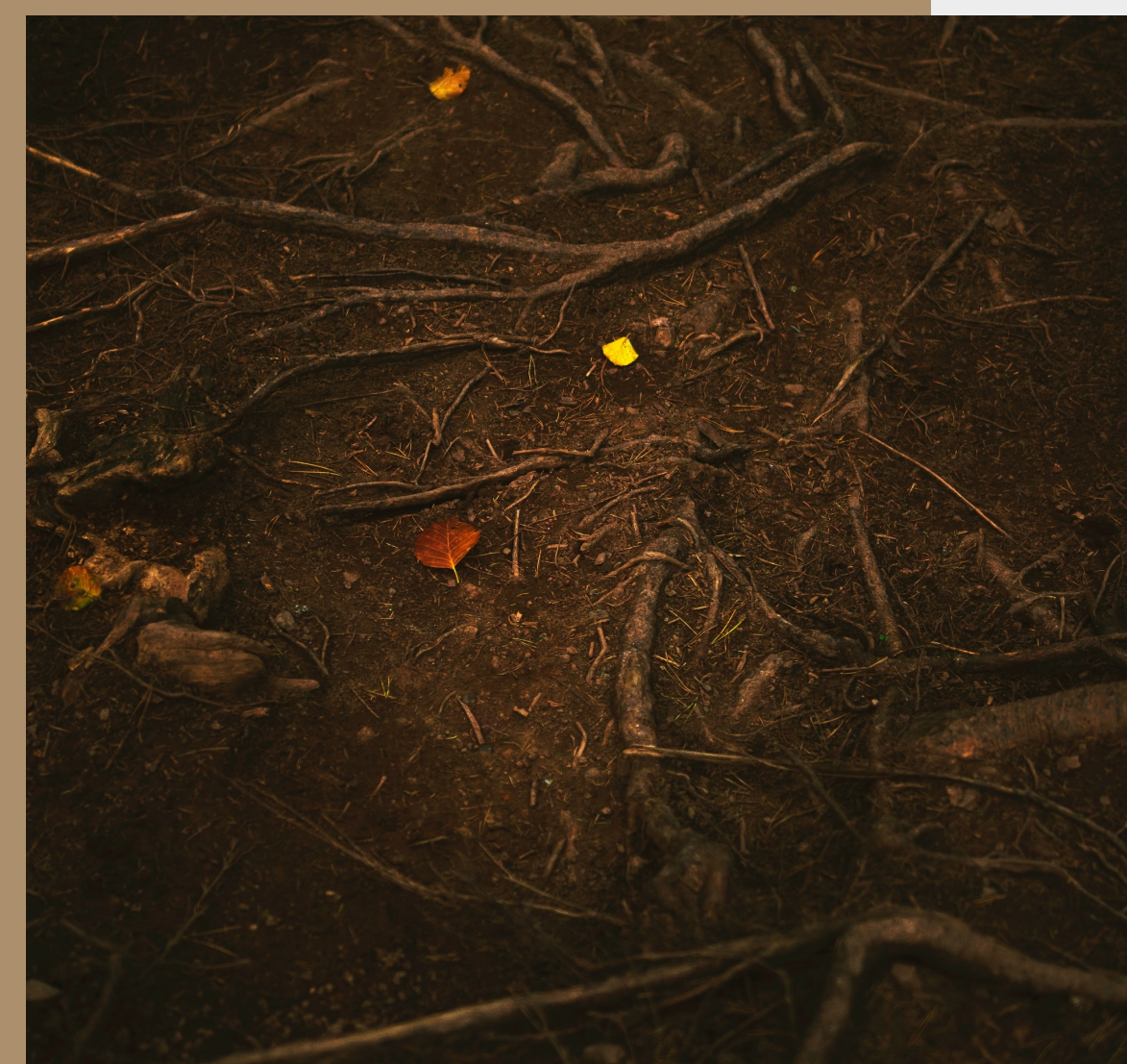


NEBRASKA FARMERS + RANCHERS CAN

REGENERATE SOIL GET PAID



A growing network of markets are paying farmers to provide carbon storage and other ecosystem services through the adoption of regenerative agriculture practices. Here we describe the markets and explain how farmers and ranchers can get involved - and get paid.



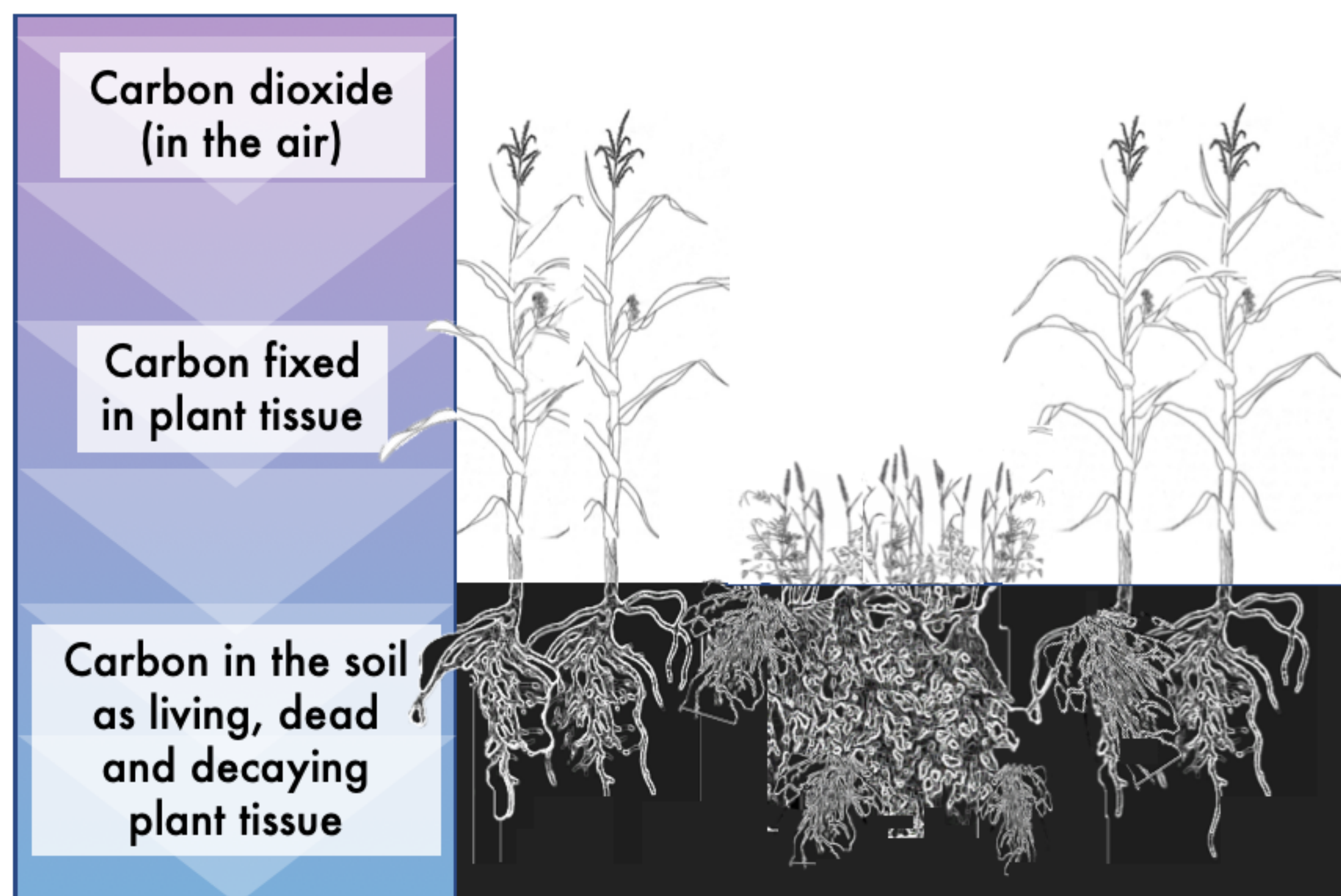
Practices that restore and sustain cropland soil function include use of cover crops, grazing cover crops, conversion to no-till, precision nutrient management, and diverse crop rotations. Beneficial rangeland practices include rotational grazing, converting marginal cropland into rangeland, and avoiding rangeland conversion.

Practitioners can evaluate the impacts of these practices through changes in soil carbon, due to its multidimensional contributions to beneficial soil function, including nutrient retention, erosion mitigation, and resilience to extreme weather.

Producers who adopt practices that accumulate soil carbon therefore provide value both on and beyond their farms and ranches. In response to growing public awareness of this value, various market-based incentive structures, so-called “ecosystem services” or “carbon” markets, are emerging to pay farmers, ranchers, and landowners for adopting soil health practices.

HOW.

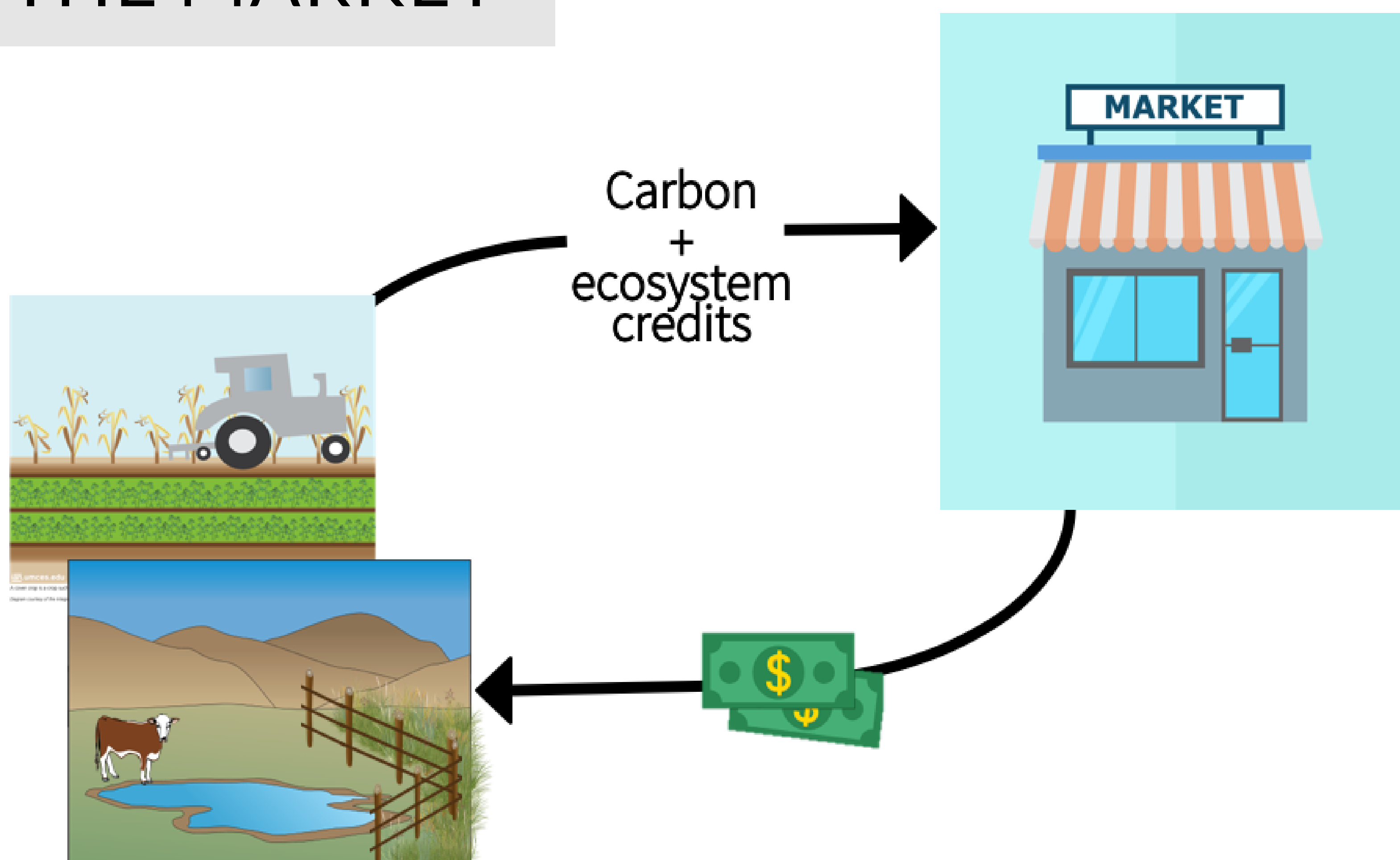
THE SCIENCE



The storage of soil carbon and generation of other ecosystem services can be amplified **in croplands** through cover crops, grazing cover crops, conversion to no-till, precision nutrient management, and diverse crop rotations.

The generation of these benefits can be achieved **in rangelands** with rotational grazing, converting marginal cropland into rangeland, and avoiding rangeland conversion.

THE MARKET



Markets are emerging to **pay farmers, ranchers, and landowners** for the carbon and other ecosystem services benefits generated by adopting regenerative agriculture practices.

WHAT.

Farmers, ranchers, and landowners can generate income by "selling" carbon and ecosystem credits that result from soil health practice adoption.



BEFORE YOUR START

When you engage with any of the entities in the ecosystem services or carbon market space, **it is important to understand the terms of the transaction.** You can get starting by **asking the following questions:**

- Who owns the data associated with the carbon or ecosystem credit? If it's not me, what are the ways in which it could be used?
- If you need historical farm information, who owns that data? If it's not me, what are the ways in which it could be used?
- How are carbon or ecosystem credits validated? Will there be an auditing process that involves soil sampling and if so, what does sampling regime look like?
- If for some reason my practices lead to no gain, or even a loss, of carbon or ecosystem credits, will I be at risk for losing payments or even making payments back to the market?
- What is the payment schedule, and how much could the estimated payments change over time?
- What is the revenue model? And what is the fee structure?
- Is there true price discovery?*

*Footnote describing true price discovery

What type of players are out there?



Markets

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Buyers

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Verifiers

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Auditors

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ABOUT THE MARKETS

Below is a summary of a few players in the ecosystem and carbon market space. Many are new, and most operate differently from one another. We recommend thoroughly vetting any company before formally engaging with them. You can start by asking the questions listed on page 3.

NORI

- Nori is a **buyer and marketplace** for carbon, meaning the buy directly from farmers and handle verification and selling to ensure farmers are paid.
- They credit a variety of mostly row crop practices, including adoption of perennial crops, reduced tillage, cover crops, and more.
- Find their pilot project at nori.com/for-growers

Ecosystem Services Market Consortium (ESMC)

- ESMC is a **buyer and marketplace** for carbon, water quality and quantity, and greenhouse gas emissions credits.
- They credit a variety of range and cropland practices. The protocols are still under development.
- Producers interested in ESMC pilots can reach out at ecosystems-services-market.org/contact/

IndigoAg

- IndigoAg is a **buyer** of carbon credits through standing purchase orders.
- They credit a variety of row crop practices, including adoption of perennial crops, reduced tillage, cover crops, and more.
- Learn more at indigoag.com/for-growers



Regen Network

- Regen is a **buyer** and **verifier** for ecosystem services credits.
- They plan to credit perennial crops adoption, reduced tillage, cover crops, rotational grazing, riparian protection, and buffer strip adoption.
- Regen is soliciting farmer advisors and future enrollees: regen.network/farmers_signup.html

Verified Carbon Standard (VCS)

- VCS provides **verification** and **assessment** for carbon credits.
- They credit a variety of practices including manure management, avoided conversion of rangelands, rotational grazing, fire management, and fertilizer management.
- Producers are unlikely to work directly with VCS but can find more at verra.org

ABOUT THE MARKETS

Below is a summary of a few players in the ecosystem and carbon market space. Many are new, and most operate differently from one another. We recommend thoroughly vetting any company before formally engaging with them. You can start by asking the questions listed on page 3.

Alberta Emission Offset System (AEOS)

- AEOS is a **verifier** and **registry** of carbon credits.
- They credit nutrient and tillage management on annual cropland, management of enteric methane from cattle, manure management, and milk and protein production efficiency.
- Producers do not interface directly with AEOS but can learn more at csaregistries.ca

American Carbon Registry (ACR)

- ACR is a **verifier** and **registry** of carbon credits.
- They credit avoided conversion of grasslands, fertilizer and manure management in crop and range lands, water efficiency (currently midsouth only) and residue management (currently CA only).
- Producers do not interface directly with ACR but can learn more at americancarbonregistry.org

California Cap & Trade

- CA Cap & Trade is a **marketplace** for carbon credits.
- Credited practices include rice management and manure and livestock management.
- Producers do not interface directly with CA Cap and Trade but can learn about their protocols at arb.ca.gov/cc/capandtrade/offsets/offsets.htm

United Nation's Paris Agreement

- Article 6 of the Paris Agreement includes creation of a new **marketplace** to facilitate carbon credit buying and selling.
- The protocols and practices credited are to be determined.
- To learn more go to [/iccwbo.org/media-wall/news-speeches/article-6-important/](https://www.iccwbo.org/media-wall/news-speeches/article-6-important/)



DRAFT

PREPARED IN SPRING 2020 BY THE ECOSYSTEM SERVICES COMMITTEE OF THE NEBRASKA HEALTHY SOILS TASK FORCE

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