

THE EDIBLE
SCHOOLYARD
PROJECT

THE INDIGENOUS ORIGINS OF
REGENERATIVE AGRICULTURE

Summary: In the lesson, [An Introduction to Regenerative Agriculture](#), students explored the meaning of the term “regenerative agriculture”. In this lesson, students will learn about the origins of regenerative agriculture, and how many modern-day sustainable farming practices, including regenerative agriculture, originated within Indigenous communities.

We suggest taking time with your class to acknowledge the Indigenous lands your program is situated on. In the “Reference” section of this lesson, you will find a list of resources for creating land acknowledgments and resources for discussing settler colonialism.

Teacher Notes:

- This lesson offers an important framing and extension to the lesson, [An Introduction to Regenerative Agriculture](#). We recommend starting with that lesson or briefly introducing students to the concepts of regenerative agriculture.
- This lesson also asks students to compare and contrast their observations of Indigenous agricultural practices to those used in industrial agriculture. If students are unfamiliar with industrial agriculture, we recommend integrating a short activity on industrial agriculture.



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Teacher Notes Continued:

- The “READ” section of this lesson may feel a little dense to some students if they aren’t offered support. We suggest the following strategies for supporting students to engage fully with the text:
 - Instruct students to find a quiet place to sit and encourage them to observe their surroundings before and after they read. This helps them engage with their surroundings in a different way and can also support their engagement with the text.
 - Assign sections of the reading as a [jigsaw](#): Assign small groups a different topic each, and then have groups report back to one another after they have finished reading with their topic in mind.
 - Remind students that the [Talk to the Text](#) or [T4 strategy](#) can be used when reading texts to help track their thoughts, questions, and reactions to a text. In these strategies, students write notes and ask questions in the margins, underline words, and use symbols to react to the text.
 - Read the article aloud and have students take notes as they listen. It might be helpful to stop frequently as you read to write down keywords, phrases, or ideas on chart paper. Take your time through the reading and ask your students for their thoughts along the way.
- Consider modeling one or more of the Indigenous agricultural practices from the lesson in your classroom garden. If you already are using one of these practices, make connections between your gardening techniques and their roots in Indigenous agriculture. Try starting this lesson with an observation of that gardening technique as an introduction to the subject matter. If you do not yet use one of these practices in the garden, you might decide to plan and implement one of them as a class.
- The “OPTIONAL” section of this lesson offers some great ways to integrate research and analysis into the lesson as well as suggests ways students can share what they have learned.
- This lesson is primary text based. Check out the lesson, [Making Sense of What You Read](#) for helpful suggestions for textual analysis.
- You may notice that the term “Indigenous” is capitalized throughout this and other lessons in the curriculum. Learn more about our decision to use “Indigenous” instead of “indigenous” [here](#).
- This lesson was developed for Edible Schoolyard Project’s [Understanding Organic](#) curriculum and is part of the extension inquiries.



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READ: Regenerative agriculture is not a new invention. In fact, Indigenous people have long been farming in sustainable and reciprocal ways. Indigenous agricultural practices are often tailored to the specific climate, region, and local species to work with the natural rhythms of the earth. In the following activity, you will learn more about four practices that regenerative agriculture promotes and that originate in Indigenous traditions.

READ: Read the following text, which is an introduction to the article [The Indigenous Origins of Regenerative Agriculture](#) (National Farmers Union, 2020). As you read, make note of any words or ideas you aren't familiar with.

“Long before the arrival of Europeans, Indigenous populations protected local ecosystems and preserved biodiversity through land management and farming practices. European settlers did not arrive at an ‘untouched land,’ an idea known as the ‘pristine myth’ of the early Americas. Charles Mann, the author of “1491: New Revelations of the Americas Before Columbus,” notes how the pristine land myth obscures the reality that Indigenous Americans actively shaped the environment around them. As we rethink American history, we can thank Indigenous Americans for advancing practices that define sustainable agriculture and land stewardship” (National Farmers Union, 2020)

DISCUSS: Do a Think-Pair-Share with a partner. Discuss the following questions based on the paragraph you just read.

- What is the ‘pristine myth’? Why is it called a “myth”? What does it cover up, or hide from view?
- What questions do you have after reading this paragraph?

CHOOSE: Select one of the following topics to explore further and read the section on that topic. Spend some time with the text and use [Says Who? Chart](#) to respond to the text with your thoughts, feelings, and responses.

- Water Management (page 4)
- Permaculture (page 5)
- Intercropping and Polycultures (page 6)
- Agroforestry (page 7)

ANSWER: Write or share with a classmate, your responses to the following questions:

- What topic did you choose?
- What are your initial thoughts, questions, feelings?
- Based on the article, summarize the agriculture method that you read about.
- (Optional question, if you have already learned about regenerative agriculture).
 - Now that you have learned about some of the Indigenous agricultural origins of regenerative agriculture, have your thoughts on regenerative agriculture shifted? Explain.

DISCUSS: Write your responses or discuss the following questions:

- What stands out to you about Indigenous agricultural practices? What questions do you have?
- What are the goals of Indigenous agriculture? How do they compare to the goals of industrial agriculture? What about organic agriculture?
- Did learning about this form of agriculture influence your ideas about farming and organic? Explain.

OPTIONAL: Extend your learning by conducting some research and teaching your classmates about the information you learned. Create a poster, video, or powerpoint that teaches your peers about the topic that you researched. In your presentation, include:

- A definition of your regenerative agriculture method
- A clear explanation of how the method you researched supports the land
- Two examples of how this method has been used and by whom
- Two other things that you found interesting or confusing

ADDITIONAL READING: Want to learn more about decolonizing regenerative agriculture? Read this [interview](#) from A-dae Romero-Briones (Cochiti/Kiowa) who is the Director of Programs: Agriculture and Food Systems for the [First Nations Development Institute](#).

References:

Jigsaw: Developing Community and Disseminating Knowledge (n.d). *Facing History*. Retrieved from <https://www.facinghistory.org/resource-library/teaching-strategies/jigsaw-developing-community-and-disseminating-knowledge>.

The Indigenous Origins of Regenerative Agriculture (2020, October 20). *National Farmers Union*. Retrieved from <https://nfu.org/2020/10/12/the-indigenous-origins-of-regenerative-agriculture/>

Mangan, A. (n.d). Decolonizing Regenerative Agriculture: An Indigenous Perspective. *Bioneers*. Retrieved from <https://bioneers.org/decolonizing-regenerative-agriculture-indigenous-perspective/>

Resources:

- [Native Land Digital](#) provides a searchable database for Territory acknowledgement as well as provides resources for learning more about land acknowledgments
- [Starting from the Heart: Going Beyond Land Acknowledgement](#). The Elementary Teachers' Federation of Ontario (ETFO) have put together a curriculum that engages teachers with creating land acknowledgements and lessons to do with your students.
- [This resource](#) compiled by the Native Governance Center provides important considerations when doing land acknowledgments.
- Learning for Justice's article, [What Is Settler-Colonialism?](#) Includes resources for discussing settler-colonialism.

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WATER MANAGEMENT [STUDENT READING]

Directions: Spend some time with the following text and use [Says Who? Chart](#) to respond to the text with your thoughts, feelings, and questions. You can also highlight sections that intrigue you and circle ideas or words that are confusing.

“The modern sustainable agriculture movement prioritizes water management and climate-specific adaptations using many pre-colonial practices. For example, Indigenous communities in more humid climates planted the Three Sisters on mounds of soil, which drains the soil of excess moisture. Today, mounds are still used as a way to preserve soil and reduce erosion.

In contrast, the Hohokam tribe in Arizona dug and maintained canals as an irrigation system to facilitate farming in a relatively arid climate. Similarly, the Pueblo peoples used light dams to prevent deep ruts and gullies from forming and redirect the water for agricultural and other purposes. Farmers in dry regions continue use these and other Indigenous practices in order to overcome environmental challenges and preserve natural resources.”

Heim, T (2020, October 20). The Indigenous Origins of Regenerative Agriculture. *National Farmers Union*. Retrieved from <https://nfu.org/2020/10/12/the-indigenous-origins-of-regenerative-agriculture/>



PERMACULTURE [STUDENT READING]

Directions: Spend some time with the following text and use [Says Who? Chart](#) to respond to the text with your thoughts, feelings, and questions. You can also highlight sections that intrigue you and circle ideas or words that are confusing.

“Permaculture refers to agricultural systems that are sustainable and mimic natural patterns while allowing for production. The core of permaculture is working with, as opposed to against, natural forces and having a deep understanding of the local environment. By planting species that accumulated or ‘fixed’ nitrogen and other vital nutrients to the soil, Native Americans overcame a main limiting factor in plant growth. Indigenous populations in the Northeast and Midwest planted legumes, a nitrogen-fixing crop, a practice that is now used to reduce dependence on fertilizers and improve soil health.”

Heim, T (2020, October 20). The Indigenous Origins of Regenerative Agriculture. National Farmers Union. Retrieved from <https://nfu.org/2020/10/12/the-indigenous-origins-of-regenerative-agriculture/>



INTERCROPPING AND POLY CULTURES

[STUDENT READING]

Directions: Spend some time with the following text and use [Says Who? Chart](#) to respond to the text with your thoughts, feelings, and questions. You can also highlight sections that intrigue you and circle ideas or words that are confusing.

“Diverse farming systems are central to today’s regenerative agriculture movement – but the concept is far from new. For hundreds of years, Indigenous Americans have planted more than one crop together in a practice known as intercropping. Intercropping is based on synergy in which the physical aspects of each plant complement one another and improve each other’s health and growth. A combination of corn, beans, and squash known as the ‘Three Sisters’ was cultivated extensively by the Iroquois in the Northeast. In this system, the corn stalks provide a natural trellis for the beans to grow on, which in turn help the corn grow by adding nitrogen to the soil. At the same time, the squash vines act as a “living mulch” that maintains soil moisture and prevents weeds from growing. Successful intercropping relies on growing crops that complement one another and minimally compete for resources. When done correctly, this practice can improve crop productivity, crop yield stability over time, and overall soil health. Intercropping can also help manage pests naturally, reducing weeds, insects, and diseases. The principles of intercropping can also be applied to cover crops, so as to improve soil health, sequester carbon, and bolster biodiversity year-round. Polycultures, or planting different species of plants in the same area in a way that imitates nature, has similar benefits to intercropping. Research by Dr. Jane Mt. Pleasant, an agronomist at Cornell University of Tuscarora descent, showed how intercropping was a highly productive and advantageous system for reasons other than technological necessity. Other studies on the ‘Three Sisters’ system in the Northeast have shown how polycultures are more efficient at using nutrients, light, and water than monocultures.”

Heim, T (2020, October 20). The Indigenous Origins of Regenerative Agriculture. *National Farmers Union*. Retrieved from <https://nfu.org/2020/10/12/the-indigenous-origins-of-regenerative-agriculture/>



AGROFORESTRY [STUDENT READING]

Directions: Spend some time with the following text and use [Says Who? Chart](#) to respond to the text with your thoughts, feelings, and questions. You can also highlight sections that intrigue you and circle ideas or words that are confusing.

“Indigenous Americans practiced agroforestry, or the management of trees, crops, and animals together in a way that benefits all three. Silviculture, the management of tree growth and forest composition, was practiced in the prehistoric Eastern Woodlands and to foster wildlife populations and improve hunting. Along those same lines, Native Americans also grazed animals among trees using a practice now known as silvopasture. Both of these methods can improve forest health, increase soil carbon sequestration, provide shade for animals, and expand habitat for wildlife.

Across the Americas, Indigenous populations used controlled fires to manage forests. Over time, trees would grow back in a process known as environmental succession, shifting nutrients from the soil to an organic form. The grasslands of the Midwest and Southwest resulted from swidden agriculture which involves selectively burning forests to use ash as a fertilizer for crops and promote regeneration over time. This practice resulted in the forests that emerged after colonial practices removed Indigenous populations from their land; to this day, those forests cover land in Wisconsin, Illinois, and the Texas Hill Country.”

Heim, T (2020, October 20). The Indigenous Origins of Regenerative Agriculture. *National Farmers Union*. Retrieved from <https://nfu.org/2020/10/12/the-indigenous-origins-of-regenerative-agriculture/>