

SUSTAINABLE AGRICULTURE

AN INFO ZINE

Inside this zine you'll find information about sustainable agriculture ranging from history and general examples to specific practices used by local farms.

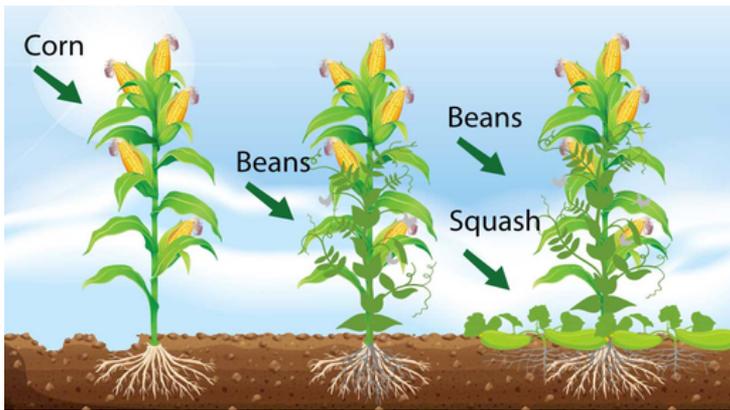


Sustainable agriculture, broadly defined, is the practice of farming and producing necessary resources without inhibiting the ability of future generations to do so through regenerative and harm reductive techniques.

In the wake of World War II, industrialized agriculture took off at a much greater scale which, while meeting increased demand, led to depletion of ecosystems and loss of crop and biodiversity.

Industrialized agriculture uses many fertilizers that contain harmful chemicals to surrounding ecosystems and human health. These fertilizers contain the elements nitrogen, phosphorus and potassium which contribute to a plethora of environmental problems. Under the lens of agriculture specifically, some of the harmful impacts of chemical fertilizers include soil acidification, groundwater runoff and leeching and harm to the root of plants, which contributes to the depletion of biodiversity.

An important aspect of sustainable agriculture is polyculture, which is the practice of planting different crops together rather than relying on a single crop (ie; corn). Polyculture is valuable because the presence of multiple crops together allows for richer, more nutrient dense soil which reduces the need for chemical fertilizer. Polyculture is also sometimes paired with crop rotation, the practice of planting different crops in the same location every year. This creates stronger, more productive soil, in addition to reducing the need for chemical fertilizers.



Planting corn, beans and squash together is known as "The Three Sisters" planting which is an Indigenous method of polyculture. The beans climb the stalk of the corn without hurting it and the squash covers the soil, keeping nutrients underground. The roots of the plants share these nutrients and the crops contribute to one another's growth. This is a very old, simpler example of polyculture.

The Lake Country Land School spans 160 acres of Land in Dunn County, Wisconsin. The Land School features a farmstead, forests, fields, ravines and ponds and is used by Lake Country School for junior high outdoor education. The land school also functions as a farm, housing animals and producing crop each year.

The Land School practices organic farming and aims to educate its students about the benefits and science behind the organic path. It values the importance of hands on work in terms of learning about the environment..



I spent a week at the Land School working with the farmers and a group of middle schoolers, hoping to learn more about their sustainable agriculture practices. Over the course of this week I helped the farm plant, fertilize, mulch, weed and much more and was able to learn a lot!

The biggest thing I took away from my time at the Land School was the importance of soil health. The head farmer, Andy, explained to me that organic farms put emphasis on soil health, rather than that of the plants because it has longer term benefits. This contrasts the typical methods of non-organic, less sustainable farms because they use chemicals to ensure the health, rapid growth and larger yield of crop rather than acknowledging the importance of the soils nutrients. Cultivating the health and nutrient density of the soil leads to stronger crop overall, in addition to the absence of chemicals being more environmentally friendly.

The Land School has several techniques to ensure the nutrient-dense soil they hold to such high importance. The first of these is planting cover crop, crop that is planted in soil when it's not being used to grow produce, such as clover. The root systems of cover crop bring more nutrients into the soil and hold it there, one of the most valuable being nitrogen. The presence of the cover crop keeps the underground ecosystem alive and versatile for when it's time to plant produce again. Additionally, mulching is very important for sustainable soil health. Mulching prevents small animals from digging up plants while they grow, an obvious benefit for farmers but also increases nutrients within soil. Mulch traps nutrients and water under the soil, reducing the amount that escapes over a growing and harvesting season.

The Women's Environmental Institute (WEI) is a nonprofit and Chisago County charity organization. It is a farm, retreat and environmental research center with the goal of educating about environmental and agricultural justice. WEI focuses on environmental and policy injustice specifically within its relevance to women, children and other communities most affected by injustice.

WEI played a leading role in helping Little Earth of United Tribes (LEOUT) create an urban farm in their residential site. This farm included one of the first hoop houses (greenhouse minus the artificial heat) in Minneapolis. WEI also trained a group of LEOUT women in urban farming and continues to germinate seeds for the urban farm to this day.

WEI has been a member of the fight for East Phillips Urban Farm since the beginning and continues to work towards the ultimate goal of a community urban farm and green zone to this day. When I visited in July 2023, Karen Clark, one of the leaders of WEI, was in daily meetings planning the next moves for East Phillips. Specifically, the activists with East Philips Urban Farm need to raise around \$50,000 to have the depot inspected and get the project rolling.

If you want to get involved, scan this QR to donate and learn more about East Philips Urban Farm.



During my stay I talked with Karen and Jacquelyn Zita about their sustainable organic farming practices. Since purchasing the land in 2006, one of WEI's biggest goals has been replenishing the soil. This is being done through cover cropping and rotation. Rotation is the simple practice of planting new crop on soil every year. For example, if radishes grew in the soil one year, broccoli may be planted the following year. This is beneficial to soil health because the variety of plants and specifically root systems allows for the cumulation of more nutrients and thus more biotic and abiotic factors living in it which leads to stronger, healthier soil.



Another practice that's important to WEI is composting. Composting is beneficial in sustainable agriculture because the chemical makeup of compost contains nutrients that can aide in the healing and fertility of depleted soil and restore carbon sequestration without the use of chemical fertilizers. Additionally, composting is a sustainable way to dispose of manure and old or unused crops. This redirection of waste to healing soil and providing nutrients is a prime example of the circular nature of sustainable agriculture.

It's easy to see some of what makes sustainable agriculture more environmentally conscious. Over my time working with these farms I've come to recognize the importance of soil health, biodiversity and relationships between species. Without crops there would be nothing to feed livestock, without livestock there would be less nutrients in compost, without compost the soil cannot yield as much abundance. Sustainable agriculture recognizes the present and potential symbiosis between everything living and not and aims to utilize the benefits this has in every context possible.

While sustainable agriculture isn't always easy, it's incredibly valuable in terms of environmental justice and reduction of climate harm from agriculture. Everyone has something to learn from the methods of sustainable agriculture and the relationships in the natural world. While it's not in the hands of the individual to solve climate change, it's still important to pay attention to where your food comes from and what goes into it. Sustainable agriculture is the future of food!

