

“Gardening in the Apocalypse”

Intro:

Squash doesn't grow in a vacuum.... therefore we need to foster, create and nourish a holistic ecosystem in order to feed ourselves and our community. How we do this in the midst of the collapse of our plant, animal and social systems due to climate change?

A framework that has been helpful for me to conceptualize what that holistic ecosystem might look like is the the wisdom of our indigenous elders and their view of the world as the interconnected-ness of all things: or as the Lakota say, Aho Mitakuye Oyasin - all my relations

The concept of Interbeing from the Buddhist Monk, Thích Nhất Hạnh has also been helpful. One way he explains interbeing is:

“Interbeing: If you are a poet, you will see clearly that there is a cloud floating in this sheet of paper. Without a cloud, there will be no rain; without rain, the trees cannot grow; and without trees, we cannot make paper. The cloud is essential for the paper to exist. If the cloud is not here, the sheet of paper cannot be here either. So we can say that the cloud and the paper inter-are. “Interbeing” is a word that is not in the dictionary yet, but if we combine the prefix “inter-” with the verb “to be,” we have a new verb, inter-be. Without a cloud and the sheet of paper inter-are.

If we look into this sheet of paper even more deeply, we can see the sunshine in it. If the sunshine is not there, the forest cannot grow. In fact, nothing can grow. Even we cannot grow without sunshine. And so, we know that the sunshine is also in this sheet of paper. The paper and the sunshine inter-are. And if we continue to look, we can see the logger who cut the tree and brought it to the mill to be transformed into paper. And we see the wheat. We know the logger cannot exist without his daily bread, and therefore the wheat that became his bread is also in this sheet of paper. And the logger's father and mother are in it too. When we look in this way, we see that without all of these things, this sheet of paper cannot exist.

Looking even more deeply, we can see we are in it too. This is not difficult to see, because when we look at a sheet of paper, the sheet of paper is part of our perception. Your mind is in here and mine is also. So we can say that everything is in here with this sheet of paper. You cannot point out one thing that is not here-time, space, the earth, the rain, the minerals in the soil, the sunshine, the cloud, the river, the heat. Everything co-exists with this sheet of paper. That is why I think the word inter-be should be in the dictionary. “To be” is to inter-be. You cannot just be by yourself alone. You have to inter-be with every other thing. This sheet of paper is, because everything else is.

Suppose we try to return one of the elements to its source. Suppose we return the sunshine to the sun. Do you think that this sheet of paper will be possible? No, without sunshine nothing can be. And if we return the logger to his mother, then we have no sheet of paper either. The fact is that this sheet of paper is made up only of “non-paper elements.” And if we return these non-paper elements to their sources, then there can be no paper at all. Without “non-paper elements,” like mind, logger, sunshine and so on, there will be no paper. As thin as this sheet of paper is, it contains everything in the universe in it.”

— Thích Nhất Hạnh

So how do interconnectedness and interbeing relate to gardening in the apocalypse?

On one level it is deeply knowing that these are the foundations of how good gardens and nature itself work today but will also be essential to facing the numerous threats in our future. We have to

abandon our concept of dominion over nature and awaken to the fact that nature is inseparable from us.

These times demand that we look beyond a 3 sisters garden and instead at an All Sisters garden - one that nurtures the birds, bees, biodiversity, the microbiome and each other.

Problems:

1. Extinction- (ecosystem collapse) birds, bees, bats, beneficial insects, plants, trees
 - 3 billion (1/3) birds lost already in N Amer since 1970- a further 2/3 at risk
 - Bees: last winter alone we lost 40% of the honeybees in N America (from Neonicotinoids and mites). 4000 Native bees are even more important to pollination and the few studies that have been done show sharp decline (especially bumblebees and major impacts from Neonicotinoid pesticides.
 - tree death (aspen and piñon) heat and environmental stress leads to susceptibility to insect damage and disease
 - Pollinators are responsible for one of every three bites of food we take, according to the U.S. Agriculture Department.

2. Biodiversity- 94% of diversity of US food crops lost due to factory farming in the last 80 years.
 - evil seed companies threaten food and seed traditions that have sustained us for thousands of years
 - grain - there used to be hundreds of grain mills in NM as we were the bread basket of the west.
 - has led to nutrition and taste loss and threat to food security.

3. Microbiome- Soil is a living complex organism and is being lost to tillage, chemicals and mis/ over use
 - Each year, an estimated 24 billion tonnes of fertile soil are lost due to erosion. That's 3.4 tonnes lost every year for every person on the planet.
 - Soils store more than 4000 billion tonnes of carbon. By way of comparison, the forests store 360 billion tonnes of carbon as woody biomass, and the atmosphere more than 800 billion tonnes in the form of carbon dioxide.
 - pesticides and herbicides kill vital microorganisms and with persistent herbicides - contaminate manure and poison land for over 50 years.

Solutions: feed and nurture the:

Birds (hummingbirds for pollination)

- provide water
- plant sunflowers (and hummingbird flowers - tulip shapes)
- let plants go to seed
- create habitat

Bees (bats, butterflies, moths, beneficial insects)

- grow native flowering plants in clusters, spring, summer and fall blooms
- native bees not the same as honey bees and the natives pollinate 93% of crops,
- habitat (overwintering and wild, unmanicured spaces) and water
- plant flowers with your vegetables (Integrated Pest Management- IPM)

Biodiversity

- seed saving and exchanges (SF Public Library, Seed School thru Rocky Mountain Seed Alliance,

- Landrace species
- regenerative agriculture: no monoculture or tillage. 108 species needed for healthy diversity - grasses, forbs and flowers. Always use cover crops (no naked soil) for building biomass, adding nutrients and feeding fungi and bacteria in the soil.
- grasses sequester carbon, stabilize and aerate soil (Blue Grama grass has 6 ft roots)

Microbiome

- Soil is our most important crop
- Composting is a moral imperative
- regenerative agriculture - sustainability is not enough, we need to build soil

“Regenerative Agriculture describes farming and grazing practices that, among other benefits, reverse climate change by rebuilding soil organic matter and restoring degraded soil biodiversity – resulting in both carbon drawdown and improving the water cycle.”

- you feed fungi and bacteria in the soil, not plants (no off farm inputs- use compost and compost teas and cover crops)

Us

- Create and support strong local food network (farms, home gardens, community gardens) - it will take all of us.
- when eating seasonally isn't an option... we need to look at food preservation and greenhouses.
- microclimates drive what can be grown where. Amanda can grow different crops than I can and we are less than 2 miles from each other.
- animals and manure are an important part of the equation
- we need to eat native foodstuffs - cholla buds, nopales, native berries (choke cherries, service berries, sumac etc....)

Impediments and Opportunities - Discussion. Some potential topics:

- water
- availability/ accessibility - privilege as a barrier to buying organic food
- start up costs: shade needed, greenhouses, garden infrastructure etc...
- what we consider food - insects , larva etc....

Sources and resources:

Source Articles:

<https://www.wired.com/2015/04/youre-worrying-wrong-bees/>

https://www.santafenewmexican.com/news/local_news/early-new-mexico-had-hundreds-of-mills/article_682414b5-74d8-5dbc-b186-51e2ef8b06b5.html

<https://e360.yale.edu/digest/biodiversity-loss-is-endangering-food-security-un-warns>

<http://www.fao.org/3/i2043e/i2043e02a.pdf>

<https://www.globalagriculture.org/report-topics/soil-fertility-and-erosion.html>

Resources:

<https://rockymountainseeds.org>

<https://aces.nmsu.edu/county/santafe/>

<https://www.sfemg.org>

<https://www.facebook.com/pg/MadridCommunityGarden/community/>

<https://regenerationinternational.org/why-regenerative-agriculture/>

<https://www.soilfoodweb.com>

Ampersand, of course

<https://ampersandproject.org>

Very small sample of Books:

Books on regenerative agriculture: (Dirt to Soil is great)

<https://regenerationinternational.org/resources/>

Books by Masanobu Fukuoka: “One Straw Revolution” and “Sowing Seeds in the Desert”

“Braiding Sweetgrass” by Kimmerer

“Rainwater Harvesting for Dry Lands” Brad Lancaster.

<https://www.harvestingrainwater.com>

https://en.wikipedia.org/wiki/Elaine_Ingham

So many more.....

