

THE SOIL IS ALIVE: VIDEO

DIGGING IN: FACILITATING DIALOGUE AND ACTION

KEY THEMES AND TERMS

Soil health; micro-organisms; fungal networks; overcultivation; inter-plant communication; morphic resonance.

CATALYZING CONNECTIONS

DECODING QUESTIONS

- *Description:* What do you see/hear/feel while watching the video?
- *Personal Connection:* How can you connect Dianne's and Fernando's experiences to your personal experience or stories in your family?
- *Common Themes:* What are the social issues/themes that emerge from our personal stories? Is there a common issue that is shared among us?
- *Social Analysis:* How did this come to be? What are the historical and social processes that created this situation?
- *Planning for Action:* What can be done? How does this inspire me to change my actions?

SPECIFIC QUESTIONS

- In what ways is the soil alive?
- What does Dianne think is wrong with the conventional approaches to agriculture?
- What are the possible solutions to this problem?

HANDS-ON ACTIVITIES

Try this hands-on experiment: bring in a pot of soil, and have everyone put their hands in the soil. What do you feel? What do you understand about what is in the soil? What does it make you think of? When you were growing up, how did you think about "soil"? What memories does interacting with the soil invoke?

Take some soil in a container. Add Hydrogen Peroxide. Observe the reaction. This is one way to test the soil; if it creates a lot of bubbles, you know that it is really alive.

In her 1990 article, [Culture and Agriculture](#), Joyce Nelson traces the evolution of our popular understanding of soil as dirt, suggesting that the introduction of agro-chemicals through the Green Revolution in the first half of the 20th century had

to convince farmers that chemicals were “clean” while soil and natural compost like manure was “dirty”. How do these notions of what is “clean” and what is “dirty” permeate our dominant perceptions of food?

INTERGENERATIONAL AND INTERCULTURAL DIALOGUE

This video is an intergenerational and intercultural conversation between a 73-year-old rural Canadian woman and a 42-year-old Mexican urban professional farmer. In 2001, Fernando Garcia sought out opportunities to learn from organic farmers in Ontario, and became an intern with Dianne Kretschmar. For four months he immersed himself in the daily activity of Grenville Farm. For Dianne, the relationship with Fernando was magical: “There was quite a difference in our ages, like huge, I could be his mother, but we were like soul mates. We just hit it off, and that is a marvelous experience.”

What made it possible for Fernando and Dianne to form such a close relationship? What did they learn from each other? What might be the differences between their agricultural practices in rural Ontario and urban Mexico?

Dianne suggests that “Indigenous peoples must have had practices that maintained healthy soils because they produced good crops for generation after generation after generation.” In our Legacies exchange, Dianne told us “I’m a university-educated, science-educated...it’s important for me to learn how Indigenous people understand the natural world – Ryan, Fulvio, and Fernando have been teaching me; scientists in the west need to switch our brain a bit, and when we switch our brain, we’ll accept different ways of thinking, ways more in harmony with nature.”

Listen to this video clip of Tuscarora knowledge keeper [Rick Hill on a Haudenosaunee view of the soil](#). What perspective does Rick Hill offer us as he describes the way he has learned to understand Mother Earth? How does his perspective relate to the cultural perspectives in your community or in your area?

Listen to Sm’hayetsk Teresa Ryan, of the Urban Forestry Department at the University of British Columbia, [speaking at Bioneers 2017](#). She describes her collaborative research with Suzanne Simard, and focuses on fungal networks from the perspective of Indigenous scientific knowledges. At 20 minutes, she claims that the so-called new understanding of fungal networks has denied the Indigenous knowledge of these relationships over millennia.

Why do you think this happens? How does she distinguish between western and Indigenous cosmologies or world views? Do you think these worldviews are compatible? What does she mean by “reciprocity” of different life forms?

INDIVIDUAL AND COLLECTIVE ACTION

Dianne, an organic farmer with over thirty years experience, admits that she still has a lot to learn, and is fascinated by the work of Suzanne Simard, a scientist who has proved using carbon isotopes that the birch and douglas fir have a symbiotic relationship through fungus. So, Dianne concludes, “fungus is the internet of the forest and of the garden.” Listen to Simard’s [TED talk](#), and discuss what barriers there might be to our understanding of this symbiotic relationship.

Dianne is a curious and humble farmer who recognizes what we don’t know and is willing to try different approaches. Her son Dan introduced her to [Japanese paper pot planting](#). She is also experimenting using Heliotropic fungus spawn with new wood chips, a practice of Hungarian farmers, to create mycelium, which she will apply to the pathways in her garden. In this short video clip, you can hear her explain the [process of creating mycelium](#) that she is experimenting with.

DIGGING DEEPER: RESOURCES FOR FURTHER RESEARCH AND ACTION

VIDEO

Streckenbach, Rosch, Marcus Illgenstein, and Maik Lochmann.(2012). [“Let’s Talk About Soil - English.”](#) Institute for Advanced Sustainability Studies. [Vimeo Video]

Talas, Annamaria, and Simon Nasht, dirs. (2018, April 15). [The kingdom: How fungi made our world - The nature of things: Science, Wildlife and Technology.](#) CBCnews.

Tölke, Guido, and Julia Dorde, dirs. (2016). Dorcon Film. [“Intelligent Trees.”](#) Dorcon Film. [Vimeo Video].

Climate One. [“Cow Poop as a Cause for Celebration.”](#) [YouTube Video]

Ingham, Elaine. (2019). [“Building Structure: Soil Food Web School.”](#) [YouTube Video]

Lois, Guido. [“Managing the Soil for Carbon is Good for the Climate - Whendee Silver: Bioneers.”](#) Bioneers. September 20, 2018. Video, 3:34.

Simard, Suzanne. [“How trees talk to each other.”](#) TEDSummit. June 2016. Video, 18:11.

MUSIC

aManOnaJourney. [To My Old Brown Earth - Pete Seeger.](#) November 30, 2012. Video, 3:41.

AUDIO

Lynch, L. (Host). (2020, August 16). [Is regenerative farming hope for a hotter planet?](#) [Audio podcast episode]. In *What On Earth with Laura Lynch*. CBC Radio.

Vaughan-Lee, Emmanuel. (2019, Oct. 11). [Reseeding the food system. An interview with Rowen White.](#) [Audio podcast episode]. Emergence Magazine.

BOOKS & ARTICLES

Argumedo, Alejandro. (2020, August 9). [Indigenous people hold the past and future of food in their hands.](#) *EcoWatch*.

- Farmers' Market of Nova Scotia. (2016, February 25). *A short guide to food and farming terms*. Farmers' Market of Nova Scotia.
- Fortier, Jean-Martin. (2014). *The market gardener: A successful grower's handbook for small-scale organic farming*. Gabriola, BC: New Society Publishers.
- Holliday, Michelle. (2020, August 4). *Regenerating the soil, cooling the planet and finding our way home*. Thrivable World.
- Lowenfels, J., & Lewis, W. (2010). *Teaming with microbes: The organic gardener's guide to the soil food web*. Portland & London: Timber Press.
- Nelson, J. (2016). *Culture and agriculture: The ultimate simulacrum*. *Border/Lines*, (18).
- Pankhurst, C., et al. (1997). *Biological indicators of soil health*. New York: CAB International.
- Phillips, Michael. (2017). *Mycorrhizal planet: How symbiotic fungi work with roots to support plant health and build soil fertility*. Chelsea Green Publishing.
- Simard, S. *Finding the Mother Tree: Discovering the Wisdom of the Forest*. Toronto: Penguin Random House, 2021.
- Soil Conservation Council of Canada. (n.d). *Reduced tillage helps reduce carbon dioxide levels*.
- Toland, A., Stratton, J., & Wessolek, G. (2018). *Field to palette: Dialogues on soil and art in the anthropocene*. CRC Press, Taylor & Francis Group.
- Vermes, Jason. (2018, April 6). *Fungi offers promise of medical cures, cleaner garbage and better beer*. *CBC News*.
- Wohlleben, P. (2016). *The hidden life of trees: What they feel, how they communicate – Discoveries from a secret world*. Greystone Books.
- Wohlleben, P. (2018). *The Weather Detective: Rediscovering Nature's Secret Signs*. Penguin Publishing Group.

ORGANIZATIONS & WEBSITES

- **Food and Agricultural Organization of the United Nations - Soil Science Societies**
- **Regeneration International**

- **Living Soil: A Universe Under Foot at The Nobel Conference 54**
- **The Market Gardener's Masterclass: Organic Farming Online Course With JM Fortier**
- **Farmers for Climate Solutions**

MOVIES

- **Kiss the Ground**
- **The Need To Grow**
- **Fantastic Fungi**