
Tending the Soil to Tend the Plants
LASMM. Chapter of CNPS March 8, 2022

References and Suggested reading/watching

Videos noted are generally from no-till conferences*

Las Pilitas mycorrhizae pages:

Qverview: <https://www.laspilitas.com/classes/classnot.htm>

Mycorrhizae: <https://www.laspilitas.com/easy/easyroots.htm>

Oak mycorrhizae: <https://www.laspilitas.com/classes/mycorrih.htm>

Frankia & natives: <https://www.laspilitas.com/classes/Frankia.html>

<https://www.laspilitas.com/advanced/nitrogen-fixing-roots.html>

San Onofre Restoration:

http://www.landandwater.com/features/vol42no4/vol42no4_1.html

also Reifner et al. 1998 (includes work by Tree of Life)

Other Inspirations:

David Montgomery, Gabe Brown, Dr. Christine Jones, Dr. Kris Nichols, Ray Archuleta, Dr. Jill Clapperton, Dr. Dwayne Beck, Jay Fuhrer, Dr. James White, Jena Experiment

Suggested Reading:

Finding The Mother Tree, Suzanne Simard, and *Entangled Life*, Merlin Sheldrake

Suggested Videos:

Dirt, Growing a Revolution, The Hidden Half of Nature, David Montgomery

<https://www.youtube.com/watch?v=FZ22IV2tDvs>

Dr. Christine Jones video *Community Tipping Points*, also recommend her talks on youtube listed below, as her concepts form much of the basis for this talk: <https://youtu.be/NqV1b4ps-sE>

The Living Carbon Pathway, https://www.youtube.com/watch?v=C3_w_Gp1mLM (soil starts at 11:00)

Quorum Sensing in the Microbiome, The Nitrogen Solution, The Phosphorus Paradox, find her articles at <http://amazingcarbon.com>

Ray Archuleta video (Living Web Farms) showing slake test no-till vs organic tilled; recommend this series. I did not screen capture the organic vs. no-till: seeing is believing. Ray explains complex concepts in plain english. Some of his videos show live carbon emissions during spring.

<https://youtu.be/nNMdWnfs8s>

Dirt to Soil, Gabe Brown, the quality isn't perfect in the following youtube, but it is very understandable

<https://www.youtube.com/watch?v=ExXwGkJ1oGI>

Dr. Kristine Nichols video Soil Biology Builds Resilience in Organic Systems

https://youtu.be/hC9mGS_gIRk . Technical but comprehensive video by the scientist who took the original pictures of glomalin and other.

Jena Experiment:

<http://the-jena-experiment.de/>

Dr. James White, Endophytes, Rhizophagy (Plant roots eat bacteria!); his work is also informed by this study: Paungfoo-Lonhienne C et al. 2010.

Turning the Table: Plants Consume Microbes as a Source of Nutrients.

PLoS ONE 5(7): e11915, doi:10.1371/journal.pone.0011915

https://youtu.be/yMr3_tGeAu8

<https://microbiometer.com/wp-content/uploads/2021/03/White-Rhizophagy-Conference-Slides-SoilandNutritionConferenceNov52020-reduced.pdf>

Plant-Soil Interactions in Temperate Cropping Systems: Ehrman-Ritz, 2014, 1+1=3 figure

<https://paperity.org/p/35497291/plant-soil-interactions-in-temperate-multi-cropping-production-systems>

Xiaochi Zhou, Fletcher H. Passow, Joseph Rudek, Joseph C. Von Fisher, Steven P. Hamburg, John D. Albertson. "Estimation of methane emissions from the U.S. ammonia fertilizer industry using a mobile sensing approach." *Elem Sci Anth*, 2019; 7 (1): 19 DOI: [10.1525/elementa.358](https://doi.org/10.1525/elementa.358)

Cosme, Fernandez, Van de Heijden, Corne, Pietese, "Non-Mycorrhizal Plants: The Exceptions that Prove the Rule," *Trends Plant Sci* <https://pubmed.ncbi.nlm.nih.gov/29753631/>

Madison M. Dipman , Wallace M. Meyer III, "Type conversion from native California sage scrub to non-native grassland accelerates decomposition processes," 2019

Root Derived Carbon Sequestration vs. Litter Derived imag

<https://ecosoil.co.za/soil-health-principles/soil-building-process/>

Films about regenerative agriculture, the first is about regenerative grazing:

Carbon Cowboys (available on youtube)

<https://carboncowboys.org/films-top>

Kiss the Ground, Netflix

<https://kisstheground.com/>

*Video Enhancer for Firefox helps with speeding up videos precisely

Answers to questions:

1) Any mulch that hasn't been composted with manure is ok. I like shredded Redwood for fire zones per Greg Rubin.

2) **Draft list** of what to plant as seed with your planted natives from pots for SoCal, to be revised.

The goal is to get at least 8 families (not just 8 genera) **into the mix!** More families is better.

Easiest choice: **TPF Rainbow Mix, TPF Blue and Gold Mix**. This list is also based on availability of larger qtys. of seed. Another option is to base the mix on S&S Seeds **Native Erosion Control Mix**, then add flowers of choice.

Draft List of Plants to Seed

after planting your native transplants (or before, if you have to wait)

Achillea millefolium

Acmispon glaber

Amsinkia sp.

Bromus carinatus 'Cucamonga' or any of the needlegrasses, or *Melica* sp.

Clarkia unguiculata or *C. amoena* (S. F. valley)

Cryptantha sp.

Eschscholzia californica or any *Eschscholzia*

Gilia capitata or *G. tricolor*

Lathyrus sp.

Layia platyglossa or other *Layia* (or a different choice from the Asteraceae)

Linum lewisii

Lupinus sp., in small quantities

Phacelia distans, or *P. tanacetifolia*, *P. ciliata*

Penstemon sp.