Tending the Soil to Tend the Plants

Lessons from regenerative agriculture for California native plants

San Gabriel Mts. Chapter, CNPS October 28, 2021

Look below links list for draft seed list.
Las Pilitas mycorrhizae/frankia 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

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

***Dirt, Growing a Revolution, The Hidden Half of Nature*,** David Montgomery
https://www.youtube.com/watch?v=FZ22IV2tDvs

***Dirt to Soil*,** Gabe Brown, the video/slide quality isn't perfect in this particular youtube, but very understandable and I like this talk to start with. All his talks are great.
https://www.youtube.com/watch?v=ExXwGkJ1oGI

Dr. Christine Jones video showing net farm income, also recommend her talks:
Living Carbon Pathway, Quorum Sensing in the Microbiome, The Nitrogen Solution, the Phosphorus Paradox, find her at http://amazingcarbon.com/
https://youtu.be/NqV1b4ps-sE

Jena Experiment, there is a cute, short youtube also:
http://the-jena-experiment.de/

Dr. James White, Endophytes, Rhizophagy (Plants eat bacteria!): is also informed by study below:Paungfoo-Lonhienne C et al. 2010. *Turning theTable: 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

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, but the outcome is surprising.
https://youtu.be/nNMdWnfjs8s

Dust bowl land changes: I was going to put in more about this, but I didn't – mostly why tillage stops rain and see below. https://news.unl.edu/newsrooms/today/article/land-cover-changes-likely-intensified-dust-bowl-drought/ Trees make rain: rabbit-proof fence photo: https://www.eol.ucar.edu/content/bufex-article-nyt https://www.learningfromnature.com.au/drought-proof-increasing-rainfall/

Root Derived Carbon Sequestration image
https://ecosoil.co.za/soil-health-principles/soil-building-process/

Films about regenerative agriculture:
Carbon Cowboys (available on youtube)
https://carboncowboys.org/films-top
Kiss the Ground, Netflix
https://kisstheground.com/

Answers to questions:

1) Any mulch that hasn't been composted with manure is ok. I like shredded Redwood for fire zones. In theory, fungal compost (google Johnson-Su) may work, but is intended for row crops

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!** 16 is probably better.

Easiest choice: TPF Rainbow Mix, or a mix of the following. This list is also based on availability of larger qtys. of seed.

Eschscholzia californica
Bromus carinatus (a short-lived perennial grass or you can put in any perennial grass from pots)
Phacelia distans, or ***P. tanacetifolia, P.ciliata***
Acmispon glaber
***Amsinkia* sp.**
Linum lewisii
Clarkia unguiculata
Layia platyglossa or any
***Gilia* sp.**
Achillea millefolium
***Delphinum* sp.**
***Lathyrus* sp.**
***Penstemon* sp.**
Lupines, but in smaller qtys.