

Simplified Bioreactor Composting

Converting Your Waste into Plant Superfood with Fungal Dominant
Compost the Easy Way

www.homefoodsystems.com



Who Is Jack Spirko – The “Redneck Hippy Duck Farmer”

- Well known podcaster – The Survival Podcast
 - 2 Time Podcast of the Year Award Winner
 - 15 years running with 3400 plus episodes
 - Cover everything involving resilient lifestyle design
- Well known Permaculture Teacher and Speaker
 - Spoke at all 3 Permaculture Voices Conferences
 - Taught many workshops involving permaculture
 - Worked in the field with Mark Sheppard
 - Spoke along side Joel Salatin, Allan Savory, Elaine Ingham, Toby Hemmenway, Paul Stamets, Geoff Lawton, Curtis Stone, Matt Powers, Steven Risner, et al.
- Primary Systems I work with
 - Ducks, Geese and other Poultry
 - Aquatics/Aquaponics
 - Annual Gardens & Perennials



My Philosophy of Soil Fertility in 3 Words

- Build – Compost
- Increase – Cover Crops
- Hold - Biochar

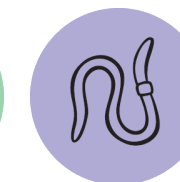


Today We Discuss Bioreactor Compost



The Original Johnson-Su Method & Issues for the Average person

- Very large/tall systems
- Involves welding
- Requires soaking material in batches (may be)
- Was designed with agriculture in mind not back yard gardens
- Most homesteaders won't have enough material to fill one (2.3 CuYd)
- Uses drip tubing and spray emitters
- Removes pipes on the 2nd day



My First Bioreactor – I didn't Know to Call it That

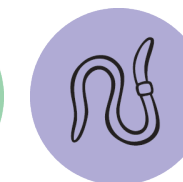
These Images are from 2009

- Good for continuous compost
- Good if you can't do my pit method
- Worked out differently from my original plan
- This is actually very close to the official Johnson-Su method



How I Compost Today

- My feed stock is mostly duck coop straw and wood chips
- I also infuse it with a lot of aquatic vegetation and other kickers
- It takes about a year to get the best compost with this method
- We use 3ft “goat fence”, weed blocker and maintain ground contact
- We soak in layers as we build them – this is a lot less work
- Our design/system is made with homesteaders/gardeners in mind
- It will work with any good feed stock C/N ratio about 85/15
- We never turn it and never let it go dry
- Worms are part of the process
- Pipes removed about 1 week into the process



The Entire Point is Fungal Dominant – “Low PH” & Low Salt Compost

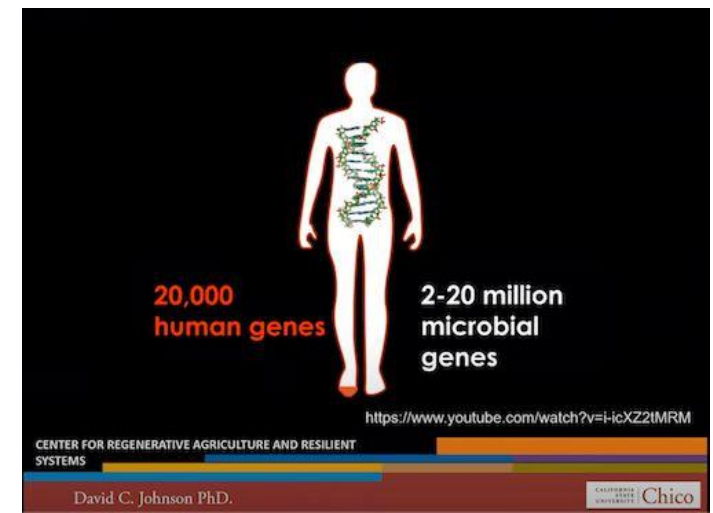
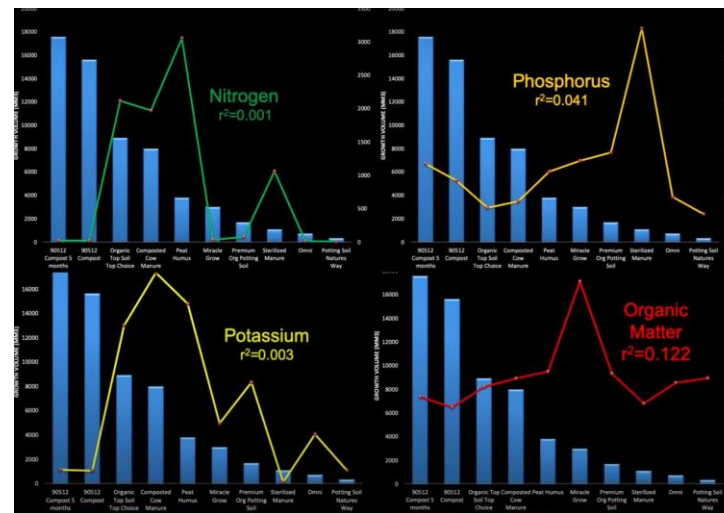
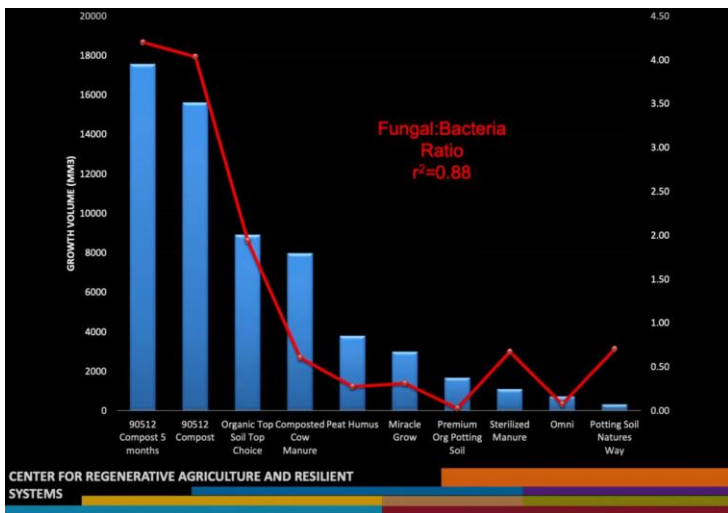
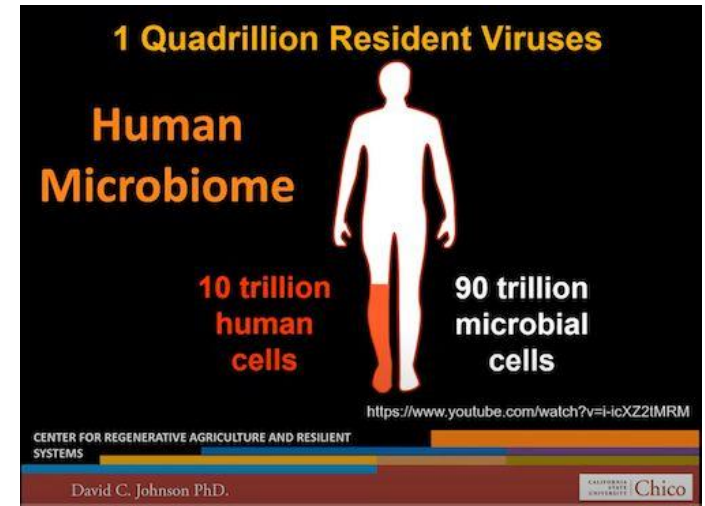
- Low Disturbance
- Aerobic Conditions
- Moisture and Temp Control
- Carbon Rich Materials
- Longer Composting Times
- PH Levels are Neutral to Slightly Acidic
 - (6.0-7.5 vs. 7.5-8.5)
- Microbial Diversity (everything that works is IMO?)
- Fungal hyphae are the highway (logistics and coms) of the soil



A Few Problems We are Trying to Solve

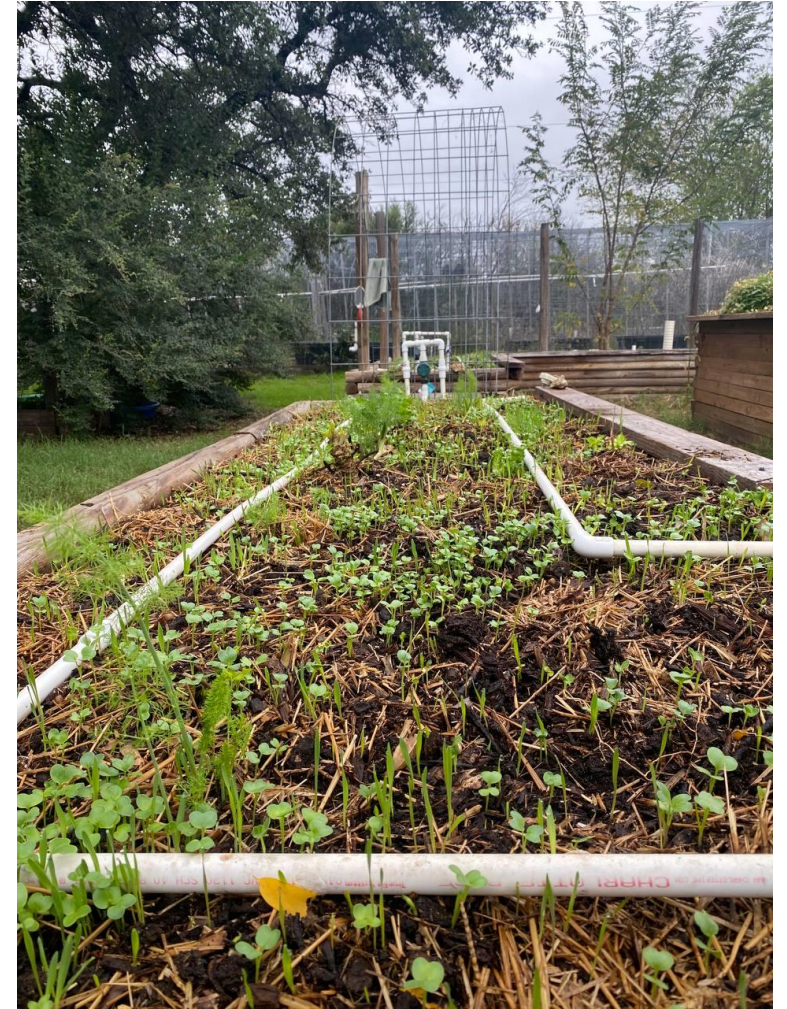
- Soil Loss – thickness of 1 pc of paper over 1 acre is a ton
- Phosphorus – most Ag soil has at least 40 years locked up
- N/P are only 10-30% effective at applied rates
- F:B ratios are completely Bacterial dominant (ag soils should be 1:1)
- Human and soil health are equally in decline

Fix the Biology and the Chemistry will Fix Itself
Everything that Really Works is IMO



Using Finished Compost

- Strait on the garden at .25-2 inches (even a “dusting” 400 lb to the acre)
- Soak, Strain and Apply (Why an “extract” vs. a tea)
 - Foliar or Drench (both is best IMHO)
- Make a slurry and inoculate seeds before planting
- Screen and mix with biochar or perlite for potting soil
 - I add minerals, rock dust, kelp meal etc when I do this
- Make “root zone inoculant balls” for mid season or sick plants
- Sell it (obtain a yield)



Be Fearless & Make Compost

Remember Nature is Undefeated



You can Find My Full Course at HomeFoodSystems.com

- 6 Chapters (8 hours) all with Exams
- Student study guide
- 2 Hour Bonus video
- Certification upon completion
- Full list of materials all “off the shelf”
- Where/how to get feed stock
- Why most compost fails, not why you think
- Total cost is only 40 bucks (our flagship course)

Also Check out My Podcast at tspc.co
Contact me at jack@thesurvivalpodcast.com
Put TSPC in the Subject Line

