



**“Living Soil”—The Secret to
Healthy Food and Healthy You
(6 Jun 25)**

HUGE Topic!!!

- www.Libertytracefarm.com
- References “Books and Resources” Tab
- Slides “Living Soil” Tab
- Links Last Year’s Presentations (2024)
 - (Beginner & Advanced)

—Owen Gleiberman, *Entertainment Weekly*

A ROBERT KENNER FILM

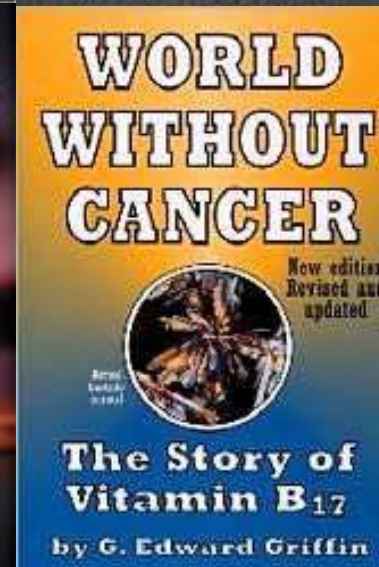
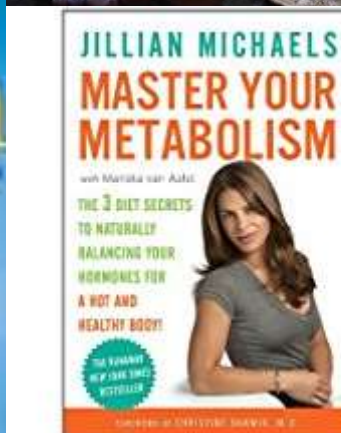
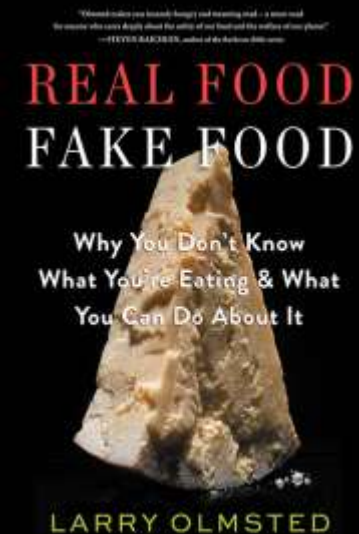
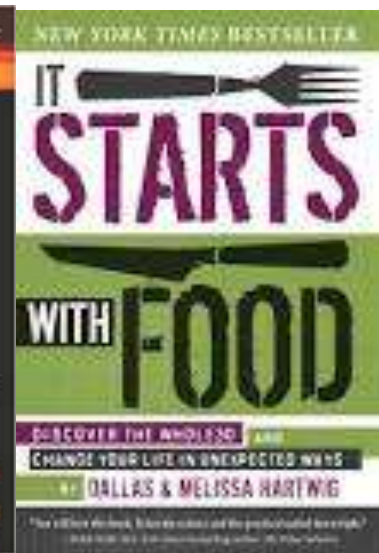
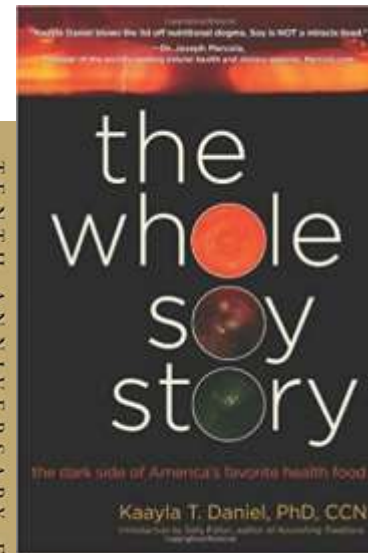
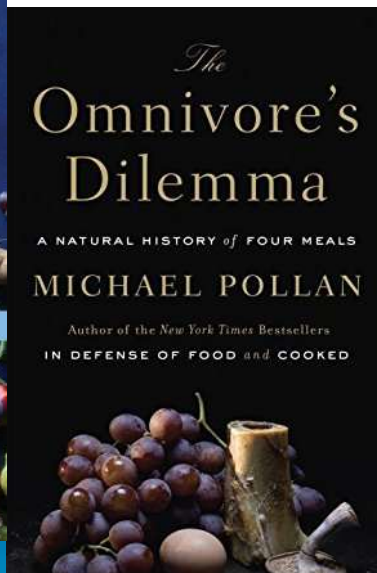
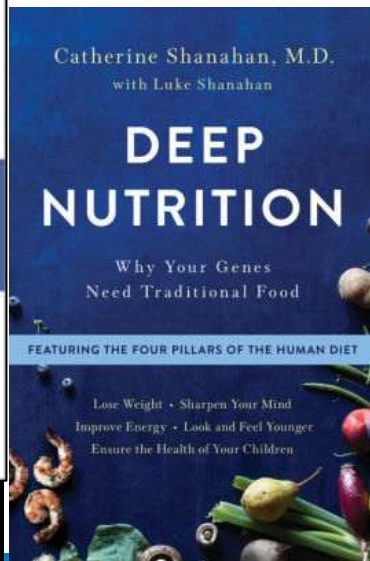
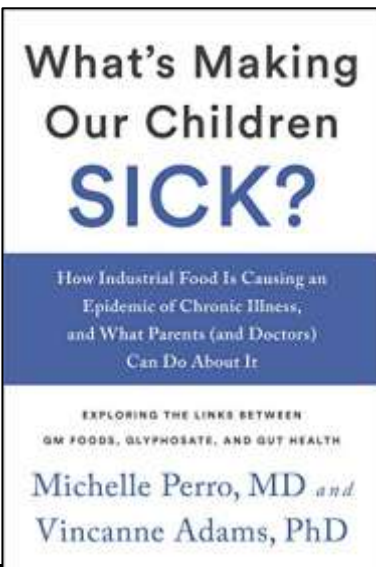
ANIMATED REGION: OUTSPRINT WITH AN RIVER ROAD ENTERTAINMENT PRODUCTION. PRODUCED BY ROBERT FENNER. TONY JONES, MARIA ADLER, AND ROBERT
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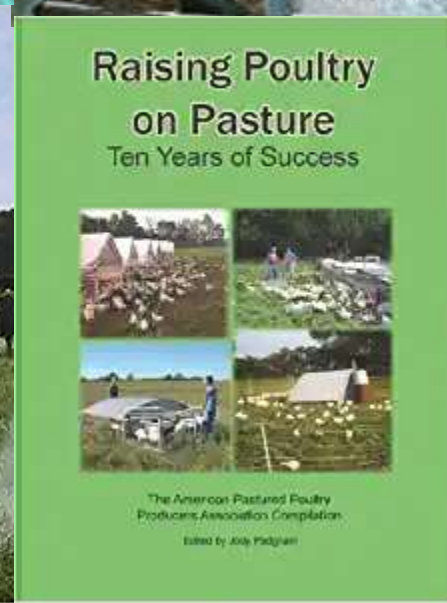
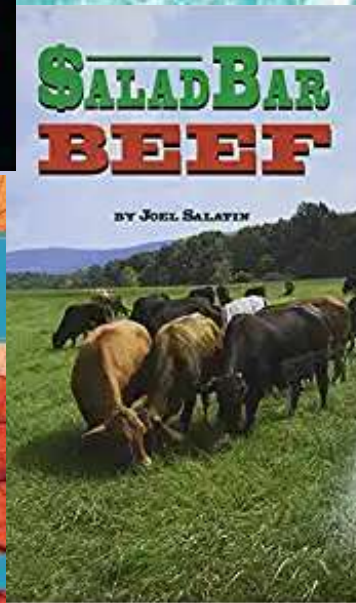
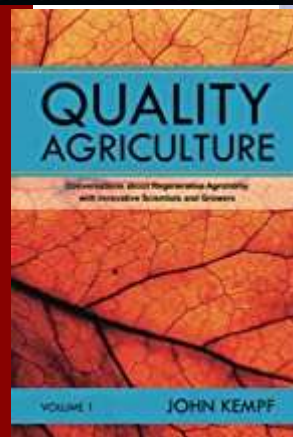
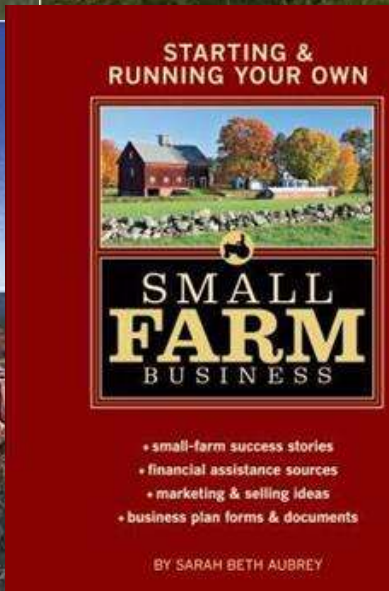
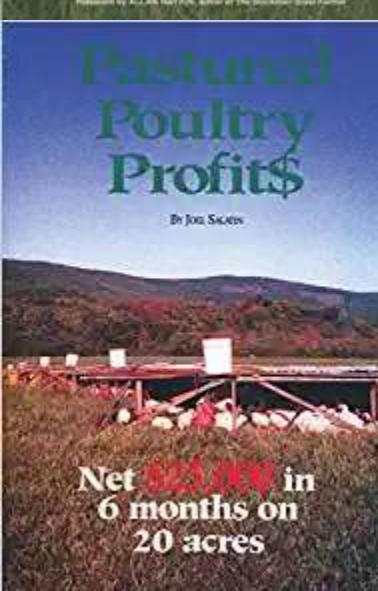
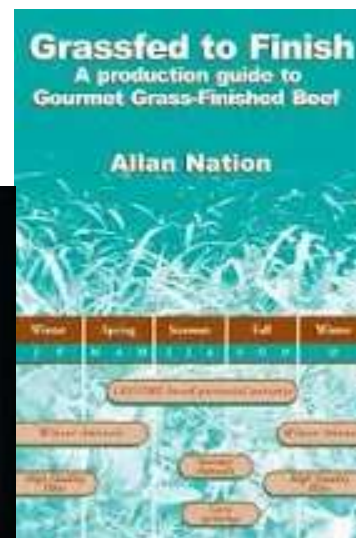
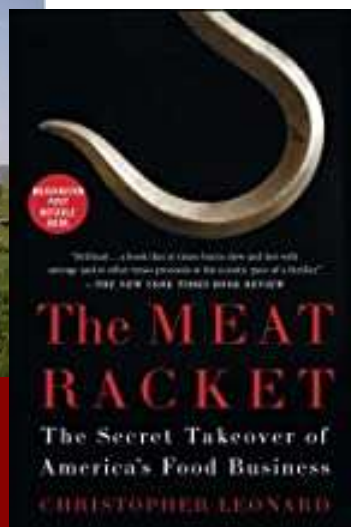
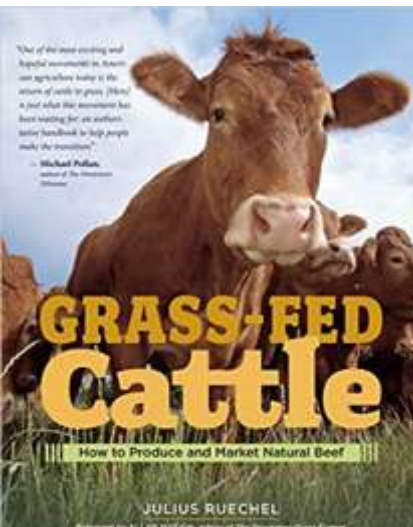
Joel Salatin—Polyface Farm



2008 and Every Day Since...



Let's Start a Farm!



Hmmm..."Blinders" Came Off!

- "Diseases" never heard of as a kid
 - Obesity, Autism, Alzheimers, Parkinsons, Dementia, Diabetes, Cancer, Leaky Gut Syndrome, Irritable Bowel Syndrome, Celiac, Crohn's, Autoimmune Illnesses, Restless Leg Syndrome, Chronic Dry Eye, etc, etc.
- 50% Pharmaceutical Ads
 - "Talk to my doctor about this drug"

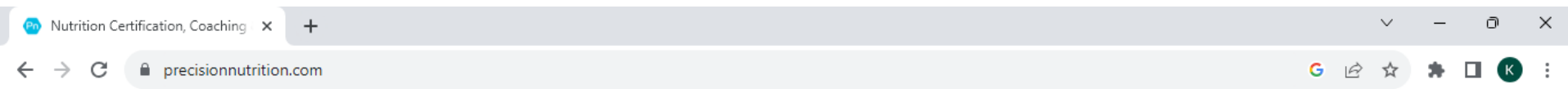


We're Not Healthy

- 2017: 75% of our youth 17-24 unqualified to join military
- 1965: 4% of our population had a chronic disease
 - Today 46% of our children have a chronic disease
- 2006: MS only state above 30% obesity--today 41 states
- US spent \$4.9 Trillion on healthcare in 2023
 - We spent \$3.65 Trillion in 2018 (+34%)
 - 6x times Defense Budget (\$842 Billion in 2024)
 - We spent \$4.1 Trillion on WWII (today's dollars)
- What's a Trillion?? (\$1M/day for 2740 years!!!!)



Health/Nutrition Coach



1-to-1 Coaching Certifications Resources and Articles

Precision Nutrition is the home of the world's top nutrition coaches.

Transforming lives and certifying professionals since 2005.



The New York Times

THE
HUFFINGTON
POST

Women'sHealth.



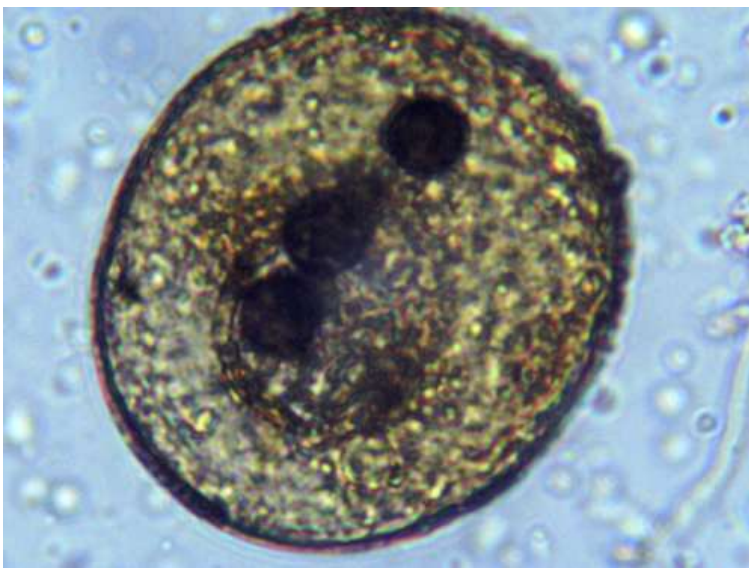
TIME





Dr. Elaine Ingham (PhD in 1981)

- Soilfoodweb School
 - Fundamental Courses
 - Certified Lab-Tech
 - Consultant Training Program
 - Microbiome
 - Make biological amendments
 - Microscopy
 - Turn dirt to soil



- Korean Natural Farming—Chris Trump
- **Biology is most important ingredient**
 - N, P, K not enough...plants need all nutrients
 - Plant “blood” 1:30 dilution of sea water



Periodic Table of the Elements

The periodic table is organized into groups and periods. The groups are labeled at the top: 1A, 2A, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100, 101, 102, 103, 104, 105, 106, 107, 108, 109, 110, 111, 112, 113, 114, 115, 116, 117, 118, 119, 120, 121, 122, 123, 124, 125, 126, 127, 128, 129, 130, 131, 132, 133, 134, 135, 136, 137, 138, 139, 140, 141, 142, 143, 144, 145, 146, 147, 148, 149, 150, 151, 152, 153, 154, 155, 156, 157, 158, 159, 160, 161, 162, 163, 164, 165, 166, 167, 168, 169, 170, 171, 172, 173, 174, 175, 176, 177, 178, 179, 180, 181, 182, 183, 184, 185, 186, 187, 188, 189, 190, 191, 192, 193, 194, 195, 196, 197, 198, 199, 200, 201, 202, 203, 204, 205, 206, 207, 208, 209, 210, 211, 212, 213, 214, 215, 216, 217, 218, 219, 220, 221, 222, 223, 224, 225, 226, 227, 228, 229, 230, 231, 232, 233, 234, 235, 236, 237, 238, 239, 240, 241, 242, 243, 244, 245, 246, 247, 248, 249, 250, 251, 252, 253, 254, 255, 256, 257, 258, 259, 260, 261, 262, 263, 264, 265, 266, 267, 268, 269, 270, 271, 272, 273, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 285, 286, 287, 288, 289, 290, 291, 292, 293, 294, 295, 296, 297, 298, 299, 300, 301, 302, 303, 304, 305, 306, 307, 308, 309, 310, 311, 312, 313, 314, 315, 316, 317, 318, 319, 320, 321, 322, 323, 324, 325, 326, 327, 328, 329, 330, 331, 332, 333, 334, 335, 336, 337, 338, 339, 340, 341, 342, 343, 344, 345, 346, 347, 348, 349, 350, 351, 352, 353, 354, 355, 356, 357, 358, 359, 360, 361, 362, 363, 364, 365, 366, 367, 368, 369, 370, 371, 372, 373, 374, 375, 376, 377, 378, 379, 380, 381, 382, 383, 384, 385, 386, 387, 388, 389, 390, 391, 392, 393, 394, 395, 396, 397, 398, 399, 400, 401, 402, 403, 404, 405, 406, 407, 408, 409, 410, 411, 412, 413, 414, 415, 416, 417, 418, 419, 420, 421, 422, 423, 424, 425, 426, 427, 428, 429, 430, 431, 432, 433, 434, 435, 436, 437, 438, 439, 440, 441, 442, 443, 444, 445, 446, 447, 448, 449, 450, 451, 452, 453, 454, 455, 456, 457, 458, 459, 460, 461, 462, 463, 464, 465, 466, 467, 468, 469, 470, 471, 472, 473, 474, 475, 476, 477, 478, 479, 480, 481, 482, 483, 484, 485, 486, 487, 488, 489, 490, 491, 492, 493, 494, 495, 496, 497, 498, 499, 500, 501, 502, 503, 504, 505, 506, 507, 508, 509, 510, 511, 512, 513, 514, 515, 516, 517, 518, 519, 520, 521, 522, 523, 524, 525, 526, 527, 528, 529, 530, 531, 532, 533, 534, 535, 536, 537, 538, 539, 540, 541, 542, 543, 544, 545, 546, 547, 548, 549, 550, 551, 552, 553, 554, 555, 556, 557, 558, 559, 560, 561, 562, 563, 564, 565, 566, 567, 568, 569, 570, 571, 572, 573, 574, 575, 576, 577, 578, 579, 580, 581, 582, 583, 584, 585, 586, 587, 588, 589, 590, 591, 592, 593, 594, 595, 596, 597, 598, 599, 600, 601, 602, 603, 604, 605, 606, 607, 608, 609, 610, 611, 612, 613, 614, 615, 616, 617, 618, 619, 620, 621, 622, 623, 624, 625, 626, 627, 628, 629, 630, 631, 632, 633, 634, 635, 636, 637, 638, 639, 640, 641, 642, 643, 644, 645, 646, 647, 648, 649, 650, 651, 652, 653, 654, 655, 656, 657, 658, 659, 660, 661, 662, 663, 664, 665, 666, 667, 668, 669, 670, 671, 672, 673, 674, 675, 676, 677, 678, 679, 680, 681, 682, 683, 684, 685, 686, 687, 688, 689, 690, 691, 692, 693, 694, 695, 696, 697, 698, 699, 700, 701, 702, 703, 704, 705, 706, 707, 708, 709, 710, 711, 712, 713, 714, 715, 716, 717, 718, 719, 720, 721, 722, 723, 724, 725, 726, 727, 728, 729, 730, 731, 732, 733, 734, 735, 736, 737, 738, 739, 740, 741, 742, 743, 744, 745, 746, 747, 748, 749, 750, 751, 752, 753, 754, 755, 756, 757, 758, 759, 760, 761, 762, 763, 764, 765, 766, 767, 768, 769, 770, 771, 772, 773, 774, 775, 776, 777, 778, 779, 780, 781, 782, 783, 784, 785, 786, 787, 788, 789, 790, 791, 792, 793, 794, 795, 796, 797, 798, 799, 800, 801, 802, 803, 804, 805, 806, 807, 808, 809, 810, 811, 812, 813, 814, 8

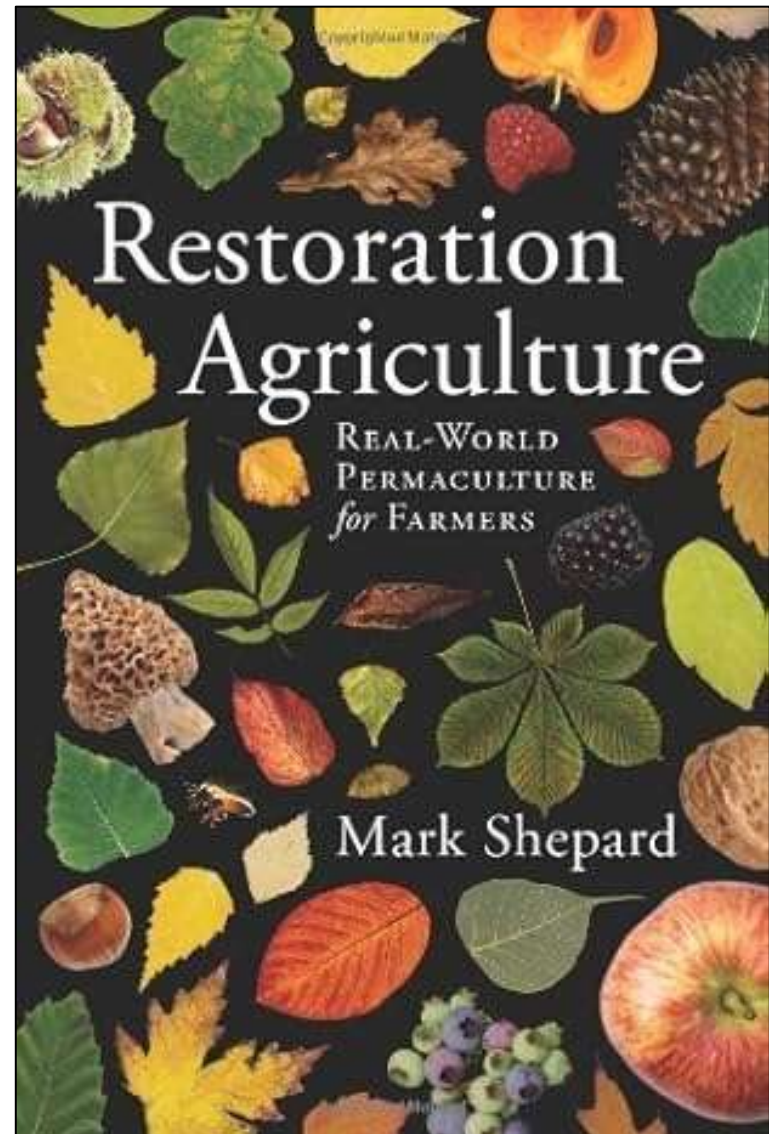
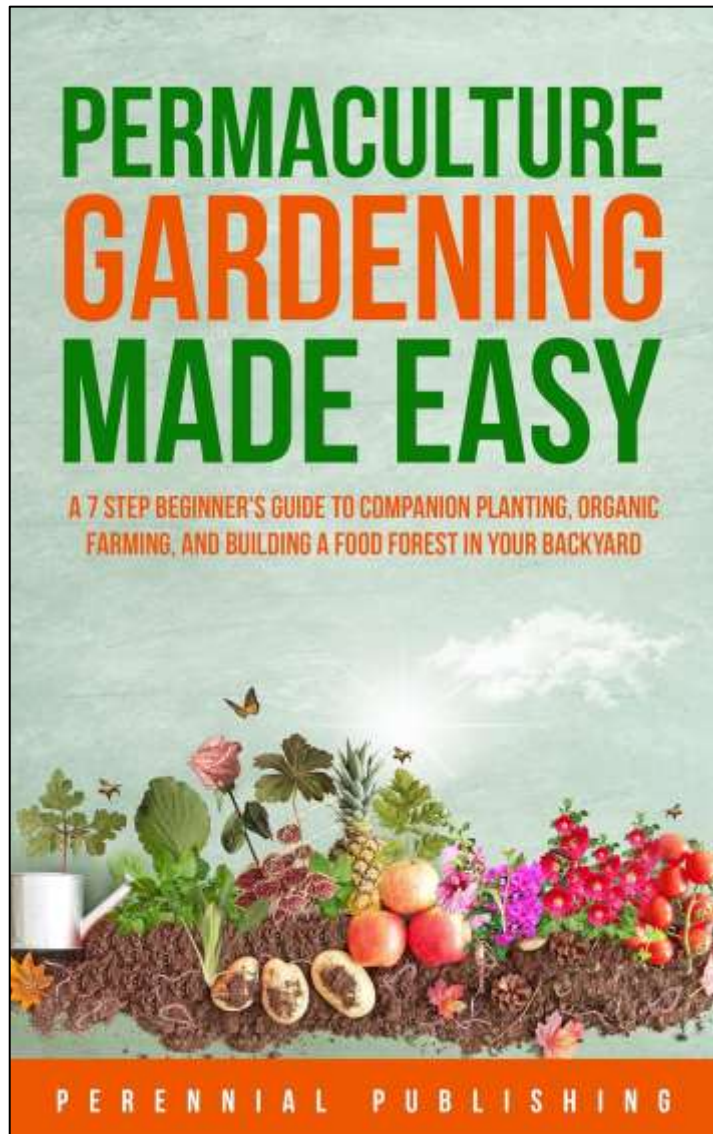


Geoff Lawton's

Permaculture Design Certification



Permaculture for the Homesteader



Objectives

- Our #1 Lesson Learned (So Far)
- Review Soil & Nutrient Density
- Principles of Building Healthy Soil
 - Detailed examples Garden & Pasture

Grounded in a Quote

- “When you start to question where your food comes from, you begin to question everything.”

Joel Salatin



#1 Lesson: Be Skeptical

- *How Do You Know That to Be True?*
- “Without data, you’re just another person with an opinion” (W. Edward Deming)
- But, be open minded!!!



“Physical” Science

- Proof's in the light



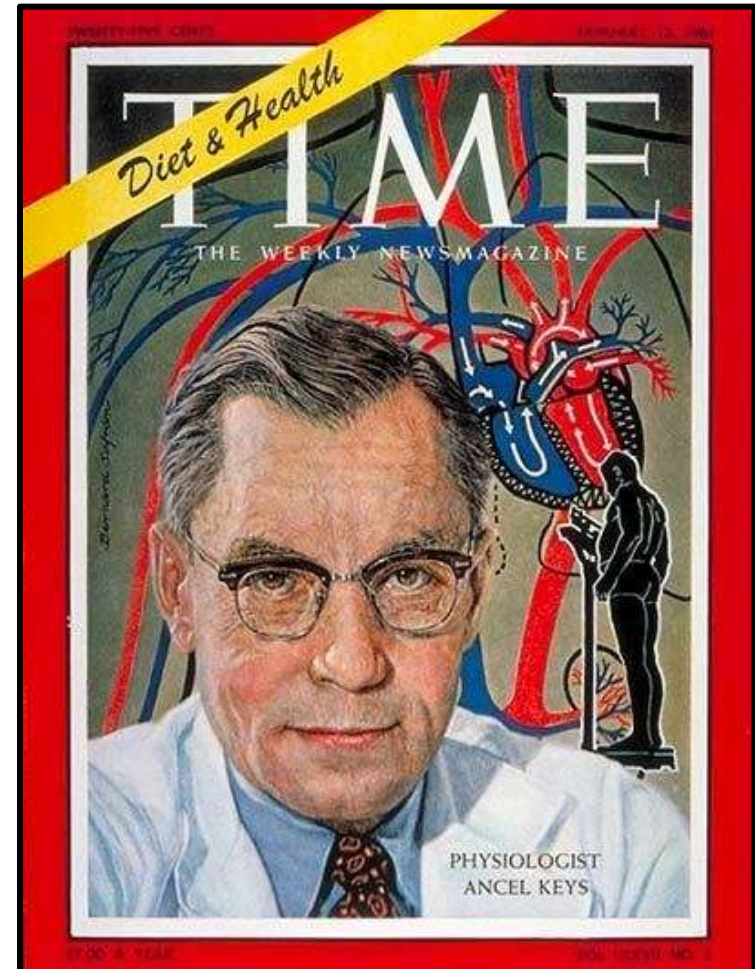
You're Entering "Nature"

- Nature—infinite, interconnected variables & “miracles” are normal
- Holistic Generalist vs Expert

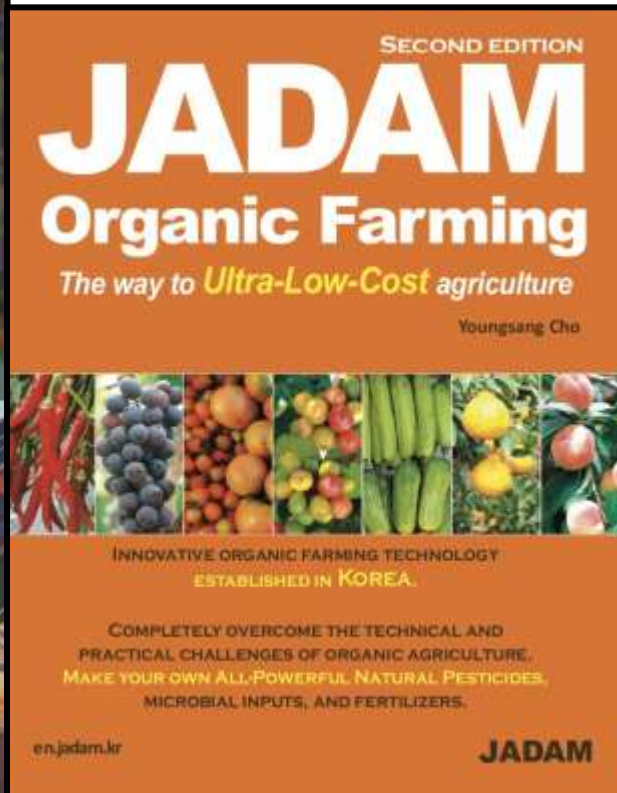
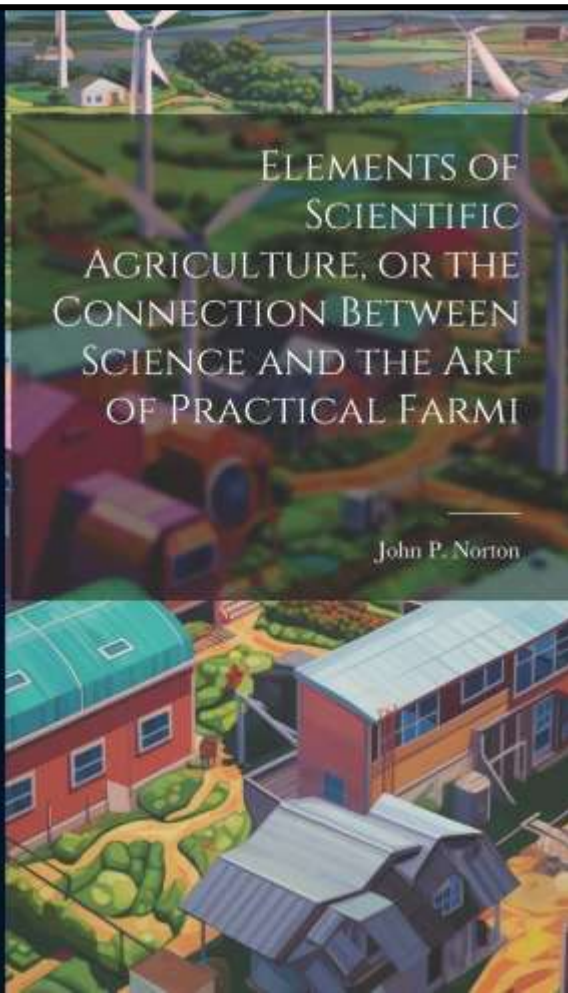


Hmmm—"No Fat/Low Fat"

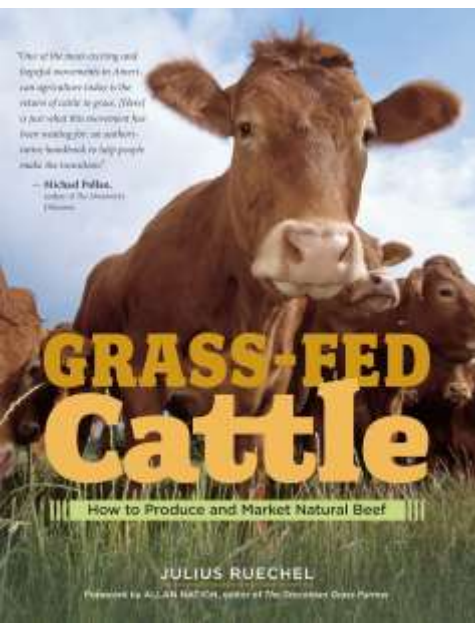
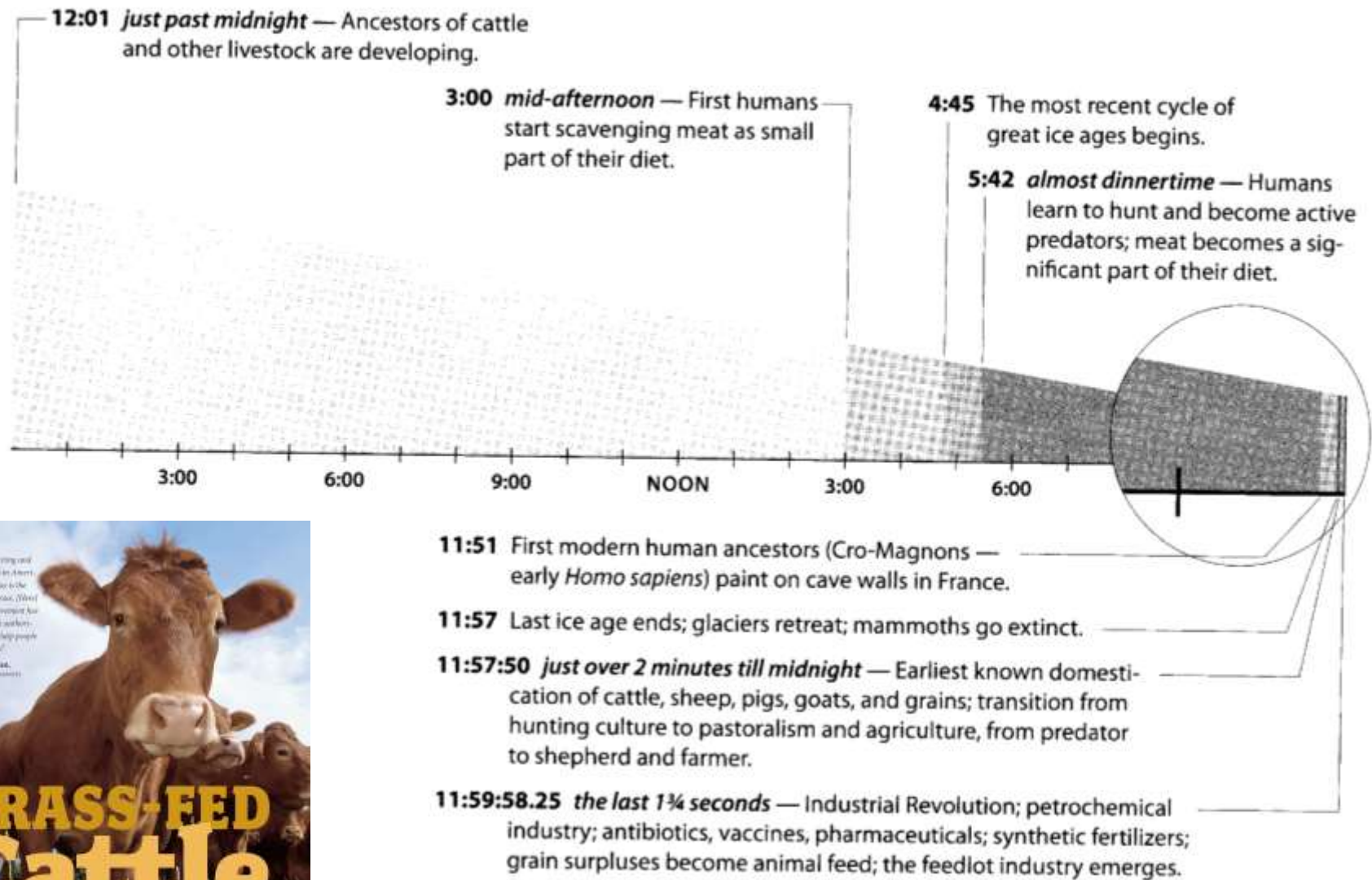
- OMG—FAT & CHOLESTEROL!!
- No butter—Margarine!
- No egg yolks—Eggbeaters!
- No whole milk—Skim!
- No animal fats—Veg Oils
- Low Fat Carbs!!



Hmmm—"N-P-K Fertilizer"

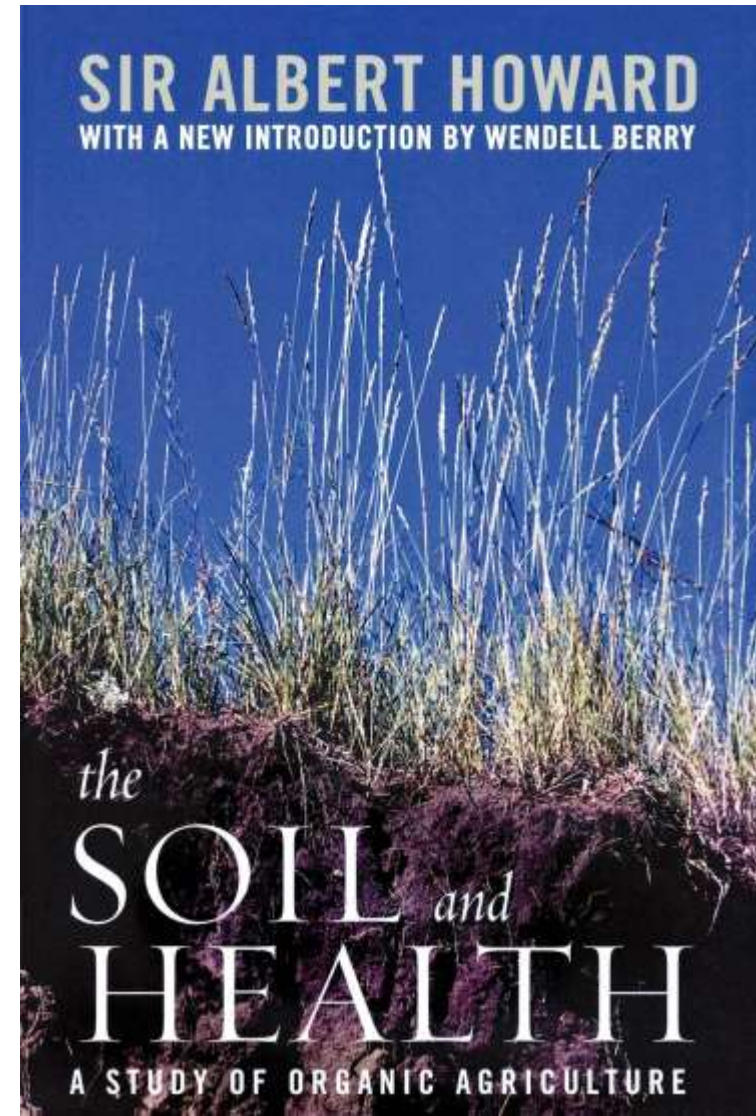


THE HISTORY OF MODERN LIVESTOCK COMPRESSED INTO 24 HOURS



Sir Albert Howard (1947)

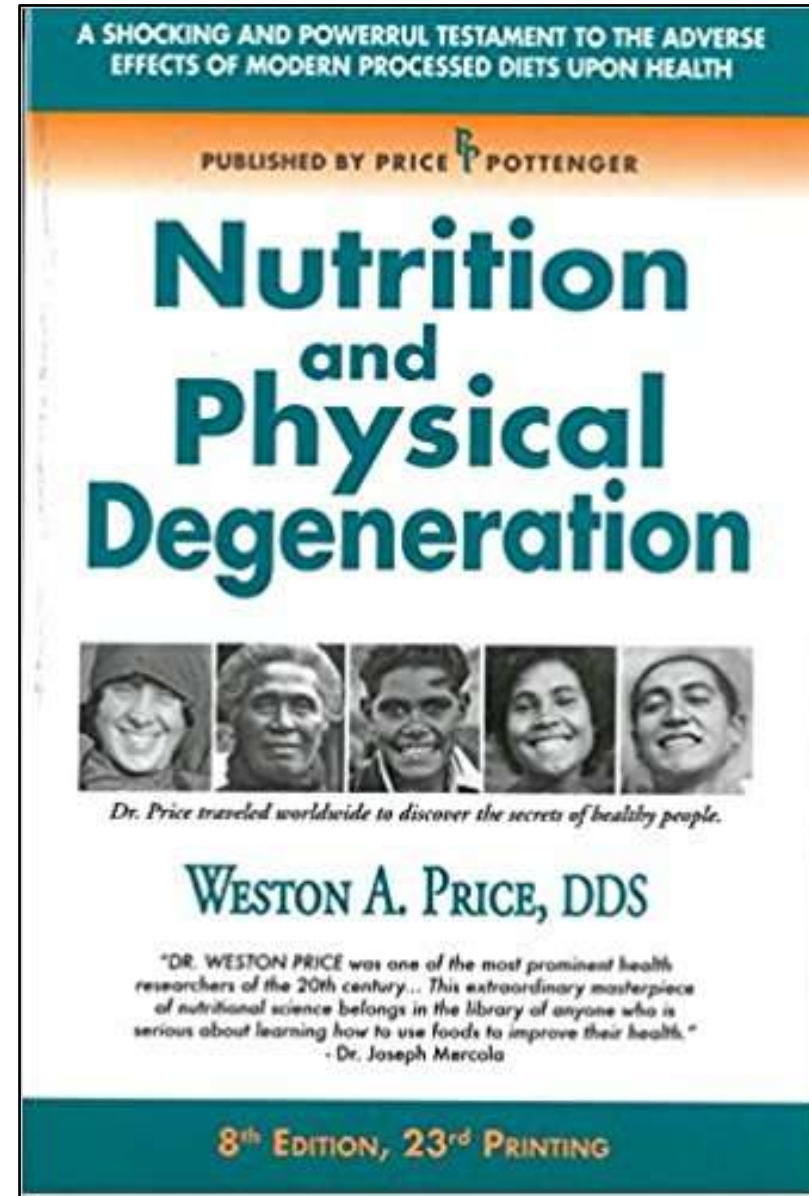
- 1910: “Healthy, well-fed animals failed to react to this disease...”



1930s--Dr Weston A. Price



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Is it Nutrient Dense?

- Taste
- \$20 Brix Meter/Refractometer
- Dr Carey Reams (1903-1985)



Refractive Index of Crop Juices -- Calibrated In % Sucrose Or °Brix

	Poor	Average	Good	Excellent
FRUITS				
Apples	6	10	14	18
Avocados	4	6	8	10
Bananas	8	10	12	14
Blueberries	8	12	14	18
Cantaloupe	8	12	14	16
Casaba	8	10	12	14
Cherries	6	8	14	16
Coconut	8	10	12	14
Grapes	8	12	16	20
Grapefruit	6	10	14	18
Honeydew	8	10	12	14
Kumquat	4	6	8	10
Lemons	4	6	8	12
Limes	4	6	10	12
Mangos	4	6	10	14
Oranges	6	10	16	20
Papayas	6	10	18	22
Peaches	6	10	14	18
Pears	6	10	12	14
Pineapple	12	14	20	22
Raisins	60	70	75	80
Raspberries	6	8	12	14
Strawberries	6	8	12	14
Tomatoes	4	6	8	12
Watermelons	8	12	14	16
GRASSES				
Alfalfa	4	8	16	22
Grains	6	10	14	18
Sorghum	6	10	22	30

Within a given species of plant, the crop with the higher refractive index will have a higher sugar content, higher mineral content, higher protein content and a greater specific gravity or density. This adds up to a sweeter tasting, more minerally nutritious food with lower nitrate and water content, lower freezing point, and better storage attributes.

	Poor	Average	Good	Excellent
VEGETABLES				
Asparagus	2	4	6	8
Beets	6	8	10	12
Bell Peppers	4	6	8	12
Broccoli	6	8	10	12
Cabbage	6	8	10	12
Carrots	4	6	12	18
Cauliflower	4	6	8	10
Celery	4	6	10	12
Corn Stalks	4	8	14	20
Corn (Young)	6	10	18	24
Cow Peas	4	6	10	12
Cucumbers	2	3	4	5
Endives	4	6	8	10
English Peas	8	10	12	14
Escarole	4	6	8	10
Field Peas	4	6	10	12
Garlic, Cured	28	32	36	40
Green Beans	4	6	8	10
Hot Peppers	4	6	8	10
Kale	8	10	12	16
Kohlrabi	6	8	10	12
Lettuce	4	6	8	10
Onions	4	6	8	10
Parsley	4	6	8	10
Peanuts	4	6	8	10
Potatoes	3	5	7	8
Potatoes, Sweet	6	8	10	14
Romaine	4	6	8	10
Rutabagas	4	6	10	12
Spinach	6	8	10	12
Squash	6	8	12	14
Sweet Corn	6	10	18	24
Turnips	4	6	8	10

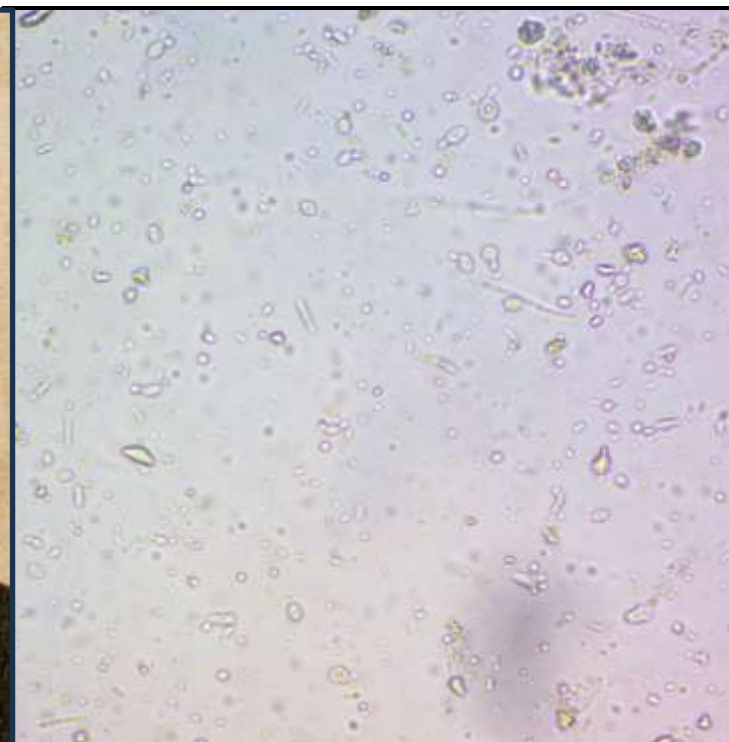
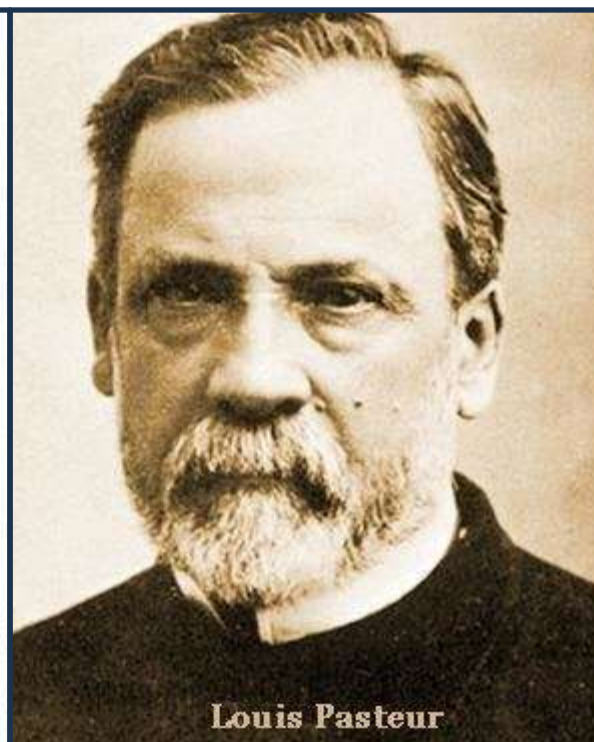
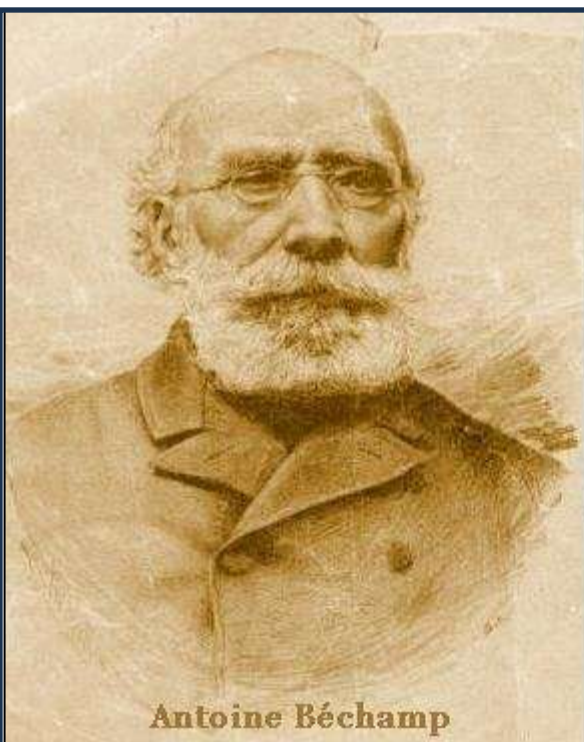




DATE	ITEM	SOURCE	BRIX		POOR	AVERAGE	GOOD	EXCELLENT
NA	Distilled Water		0					
2-Apr-23	Organic Spring Mix	Kroger	2		4	6	8	10
2-Apr-23	Organic Living Butter Lettuce	Kroger	2		4	6	8	10
2-Apr-23	Organic Honeycrisp Apple	Kroger	11.5		6	10	14	18
4-Oct-23	Sweet 100 Tomato	Garden	10		4	6	8	12
18-Jan-24	Organic Fuji Apple	Kroger	15		6	10	14	18
24-Jan-24	Non Organic Mandarinine Orange	Kroger	15.5		6	10	16	20
16-Apr-24	Black Seeded Simpson Leaf Lettuce	Garden	6		4	6	8	10
24-Apr-24	Organic Mandarinine Orange	Kroger	8		6	10	16	20
27-Aug-24	Cherry Tomato Lasagna	Garden	11.5		4	6	8	12
29-Aug-24	Fuji Apple	Garden	18.5		6	10	14	18
29-Aug-24	Grape Tomato Lasagna	Garden	10		4	6	8	12
8-Oct-24	Organic Grape Tomato	Kroger	4.5		4	6	8	12
18-Apr-25	Spinach	Garden	6		6	8	10	12
26-Apr-25	Spinach	Garden	10		6	8	10	12
	Kroger							
	Garden							
	Conventional vs Organic							

Hmmm—"Germs"

- Dr Louis Pasteur—"Germ Theory"



Hmmm—"Diseases"

the **MOTH** in the **IRON LUNG**

A
Biograph
of Polio



Forrest Maready
Author of *Crooked: Man-Made Disease Explained*

CAN YOU CATCH A **COLD?**



Untold History &
Human Experiments

DANIEL ROYTAS
Foreword by Dr Samantha Bailey

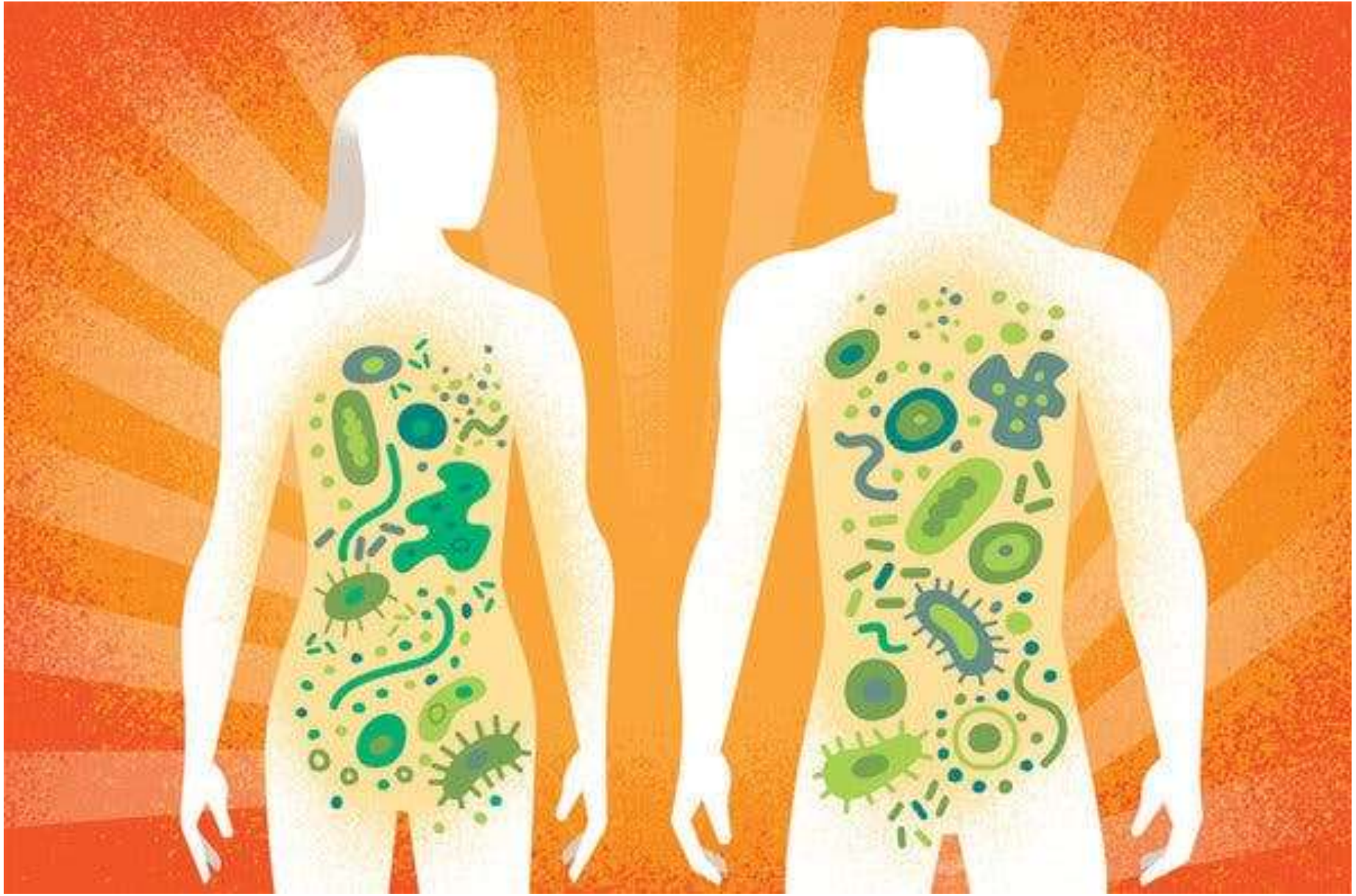
TURTLES ALL THE WAY DOWN

Vaccine Science and Myth



FOREWORD BY MARY HOLLAND, J.D.
EDITED BY ZOIE O'TOOLE AND MARY HOLLAND

Microbiome (2016)



Two Keys to Human Health

- ✓ Nutrient Dense Food
- ✓ Healthy Microbiome
- So...where do they come from?

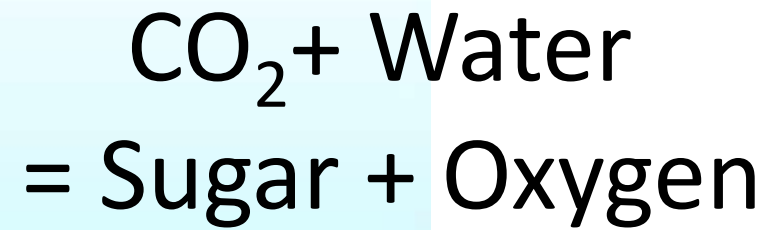
Soil vs Dirt

- Dirt—physical rocks, sand, silt & clay
- Soil—living skin of the planet
 - Handful of healthy soil has more critters in it than people on planet earth
 - Not just there for the “hell of it”





Photosynthesis



(A) Root System Architecture

Spatially distinct communities

(E) Bacterial associations

(B) Chemical Gradients

(D) Mycorrhizal interactions

(C) Nematodal interactions

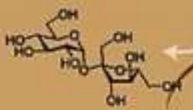




Photo Source: Soil Science Society of America

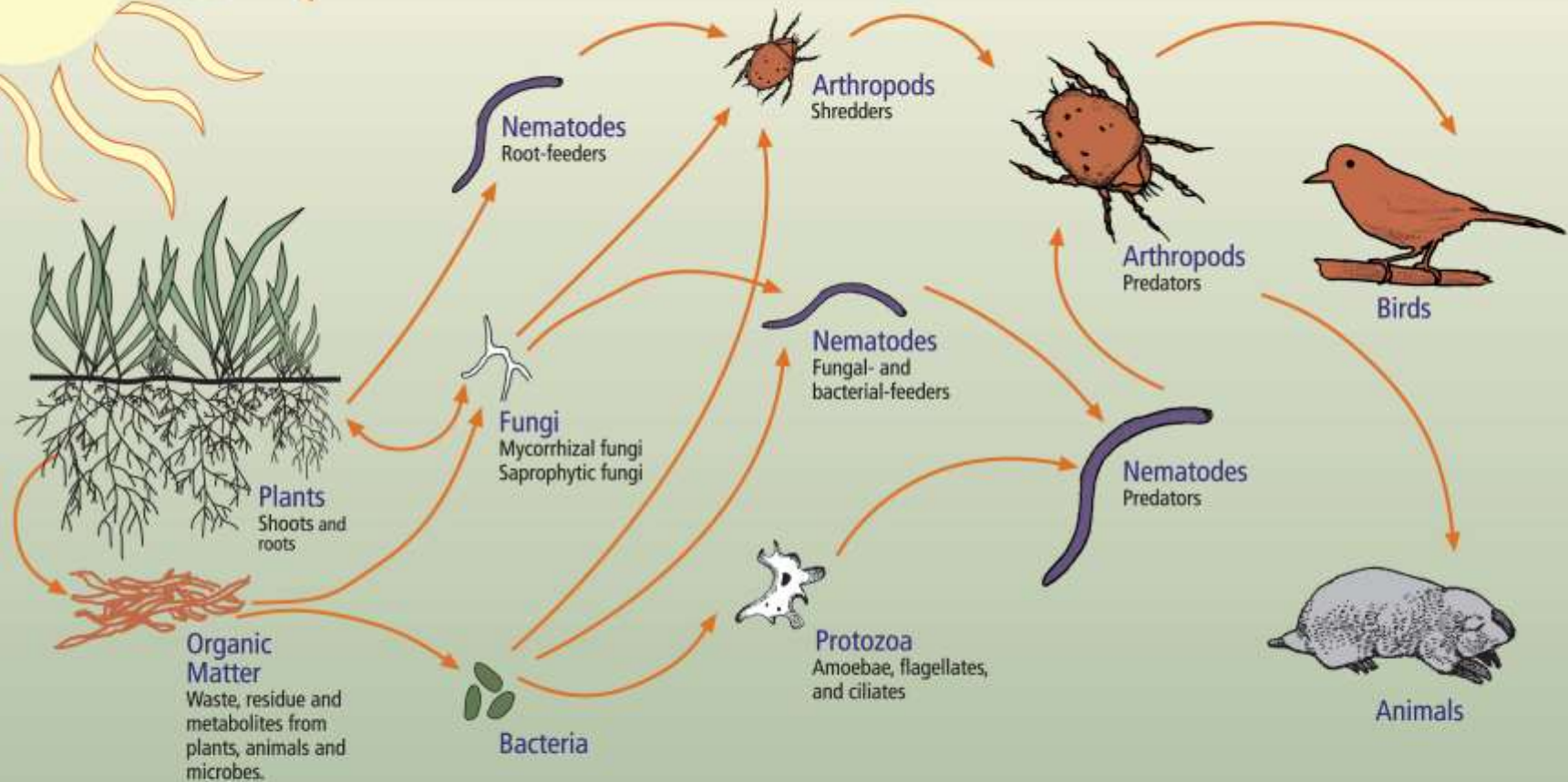
Periodic Table of the Elements

The periodic table is color-coded by block and state of matter. The legend indicates the following categories:

- State of matter (color of box):**
 - Solid (Blue)
 - Liquid (Green)
 - Gas (Yellow)
 - Plasma (Pink)
- Block (background color):**
 - s-block (Light Blue)
 - p-block (Light Green)
 - d-block (Light Yellow)
 - f-block (Light Purple)
- Category (border color):**
 - Alkali metal (Red)
 - Alkaline earth metal (Orange)
 - Transition metal (Blue)
 - Lanthanide (Dark Blue)
 - Actinide (Dark Green)
 - Other (Various colors)

The table includes elements from Hydrogen (H) to Oganesson (Og), with their atomic numbers and names displayed in each cell.

The Soil Food Web



First trophic level:
Photosynthesizers

Second trophic level:
Decomposers
Mutualists
Pathogens, Parasites
Root-feeders

Third trophic level:
Shredders
Predators
Grazers

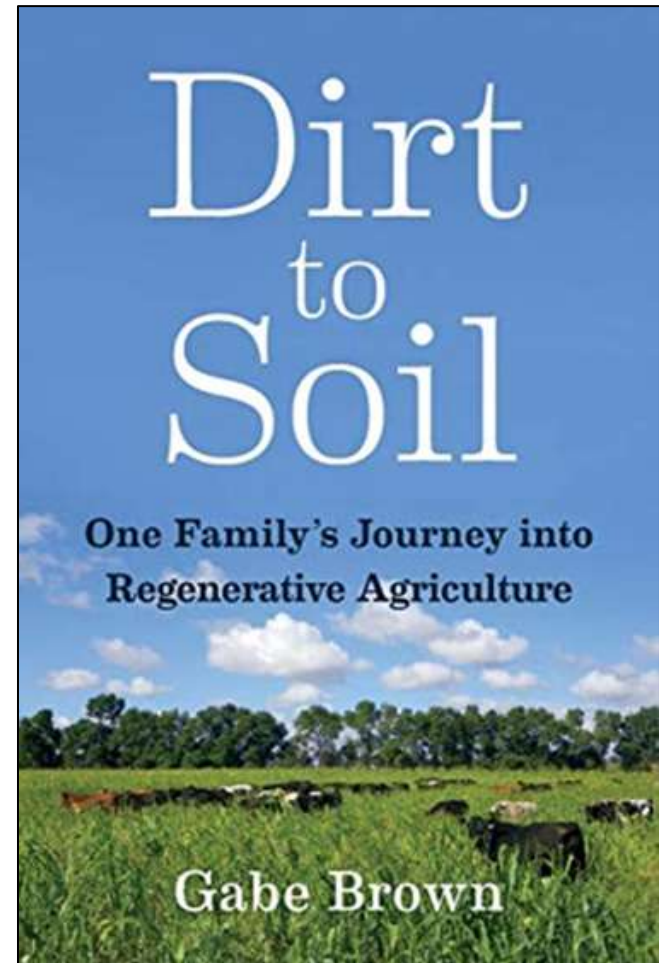
Fourth trophic level:
Higher level predators

Fifth and higher trophic levels:
Higher level predators

Principles of Regenerative Ag

- Farming & grazing practices that:
 1. Context
 2. Limit Disturbance
 3. Armor the Soil Surface
 4. Build Diversity
 5. Keep Living Roots in Soil
 6. Integrate Animals

- **It's All About LIFE!!!!**



It's All About Life!!!

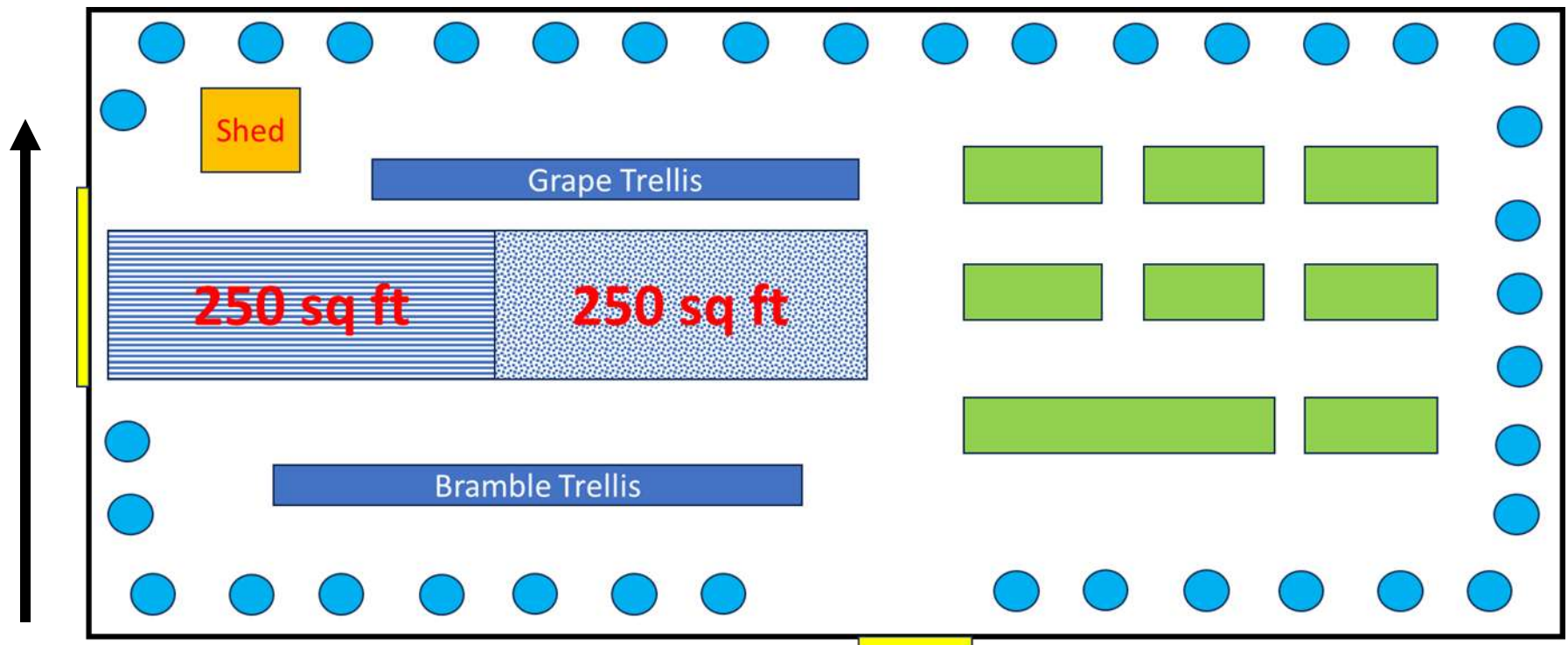
- **Become a MICROBE FARMER!!**
- **Microbiome Needs...**
 - Air
 - Water
 - Food
 - Comfort (Shelter)

Garden Example (21 Apr 25)



Garden Example

- Context: Mowed pasture, compacted, no chemicals or fertilizers in recent history
 - Nutrient Dense Fruits & Veggies
 - Healthy Living Soil, Aerated, Mineral Rich



What's in Your Toolbox?

- \$ or \$\$\$\$?
- Lots of time or no time?
- Wood chipper or tree service delivery?
- Pitch fork or tractor?
- Hand seeder or no-till drill?
- Livestock?

TIMELINE (5 Jun 24)

- 8" wood chips; Apr 21
- 12" moldy hay; Nov 22
- 12" moldy hay; Mar 23
- Corn & Other; Apr 23
 - Poor results
- Covers Rye/Vetch; Dec 23
- Egg Mobile; Feb 24
- 2x Tilled Bermuda; Apr 24
- Soil Drench w/2 lbs; Apr 24
 - Redmond 9 oz
 - Dextrose 10 oz
- Planted; Apr 24
 - Sweet Corn
 - Dent Corn
 - Milpa (GreenCover)



TIMELINE (24 Jun 24)

- Growing well
- Corn Earworms





TIMELINE (11 Sep 24)

- Harvest Dent Corn
- Mowed Residues



Penetrometer--Compaction



TIMELINE (16 Oct 24)

- Compaction
 - 150 psi—3.8"
 - 300 psi—4.5"
- Subsoiler & Biology
- Covers Rye/Wheat
- Soil Drench (3 lbs/12 gal)
- 2.5 lbs Calusolv East
 - (10 lbs/1000 ft²)
- 1 lb Redmond West
 - (4 lbs/1000 ft²)

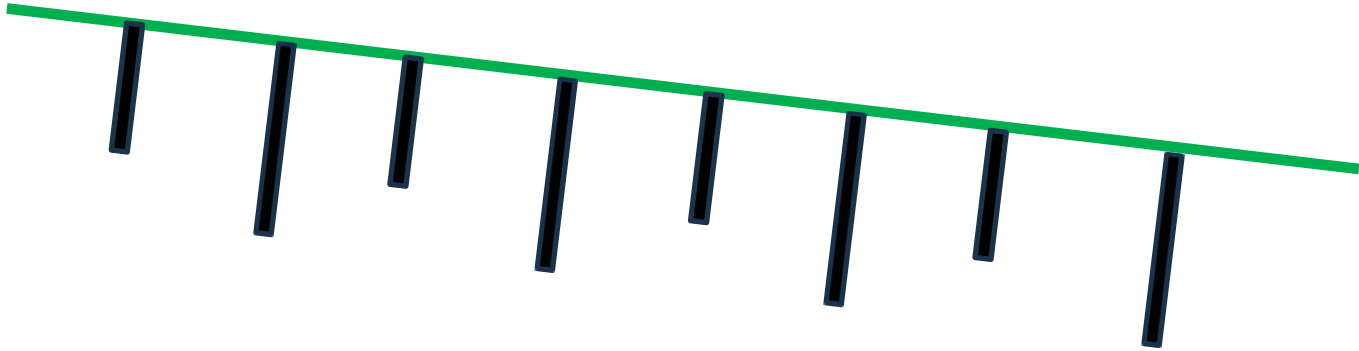




AIR



WATER FLOW



SUBSOILER CUTS

Hand Seeders—Seed or Minerals



Watering Can—Biology or Minerals



Hand Sprayer

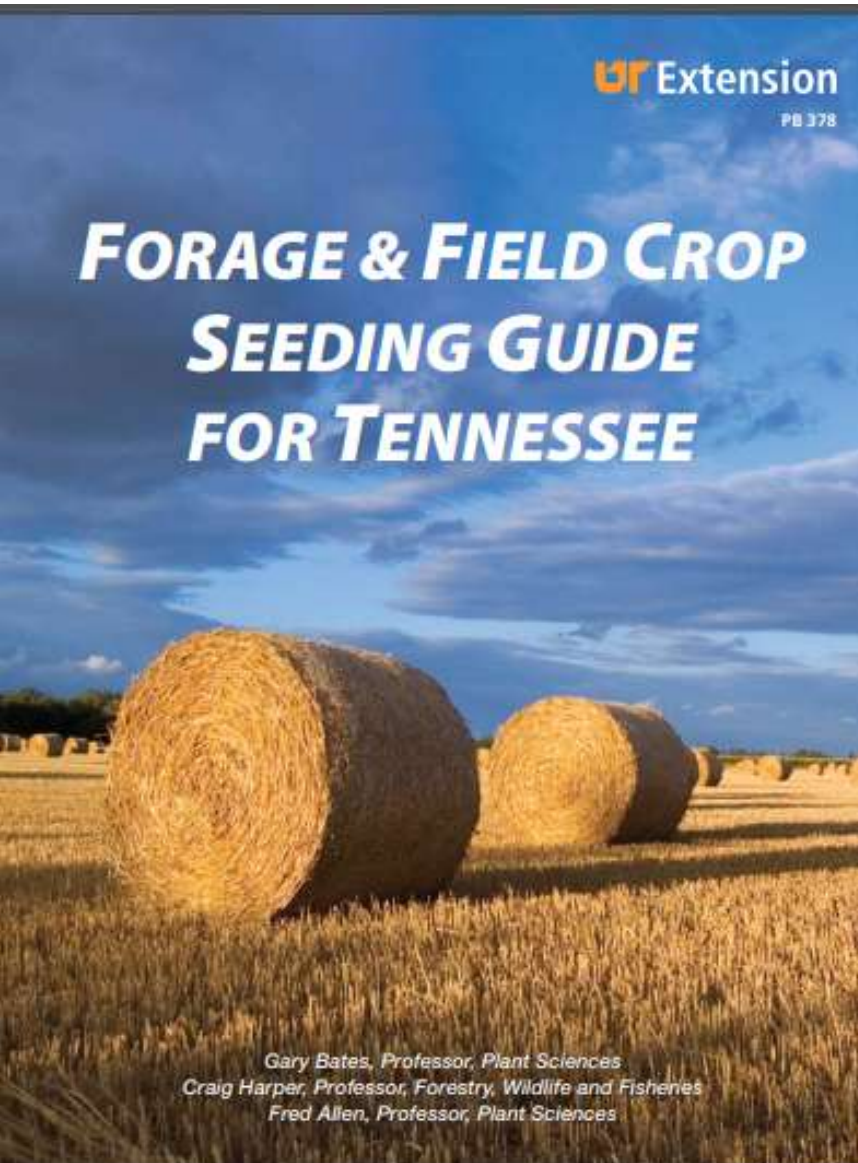


TIMELINE (24 Dec 24)

- Cover Plants (Rye & Wheat)
- Collecting Solar Energy
- Sugar to biology all winter



Cover Plant Diversity



Green Cover (Greencover.com)



What are you looking for?

Seed

Food Plots

Mixes

Milpa

Inoculants

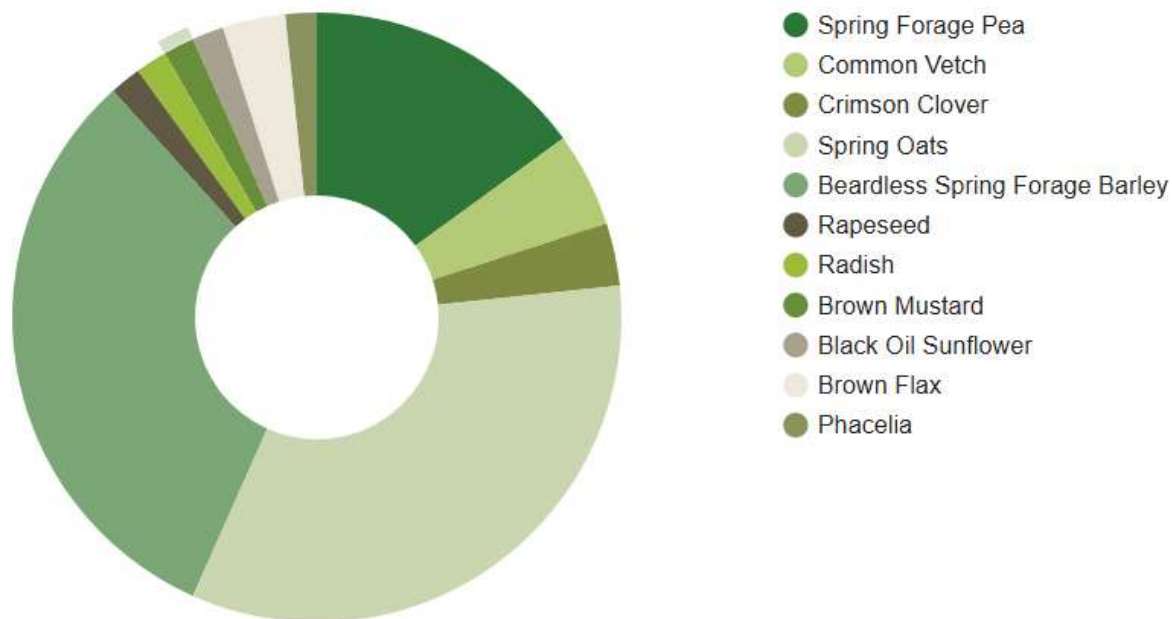
Resources

SmartMix Calculator

Merch

*OMRI Certificates: [OMRI Certificate for Elevate'd Fungi](#); [OMRI Certificate for RhizoBac X-Tend](#)

What's in the Mix



TIMELINE (10 Feb 25)

- Integrate Livestock
- Egg Mobile Grazing



TIMELINE (26 Feb 25)

- Tarped Area
- Terminate Covers



TIMELINE (8 Apr 25)

- Uncovered
- Compaction; Oct 24
 - 150 psi—3.8"
 - 300 psi—4.5"
- Compaction (Apr 25)
 - 200 psi—8.7"
 - 300 psi—13.9"
- Soil Samples; 13 Apr 25



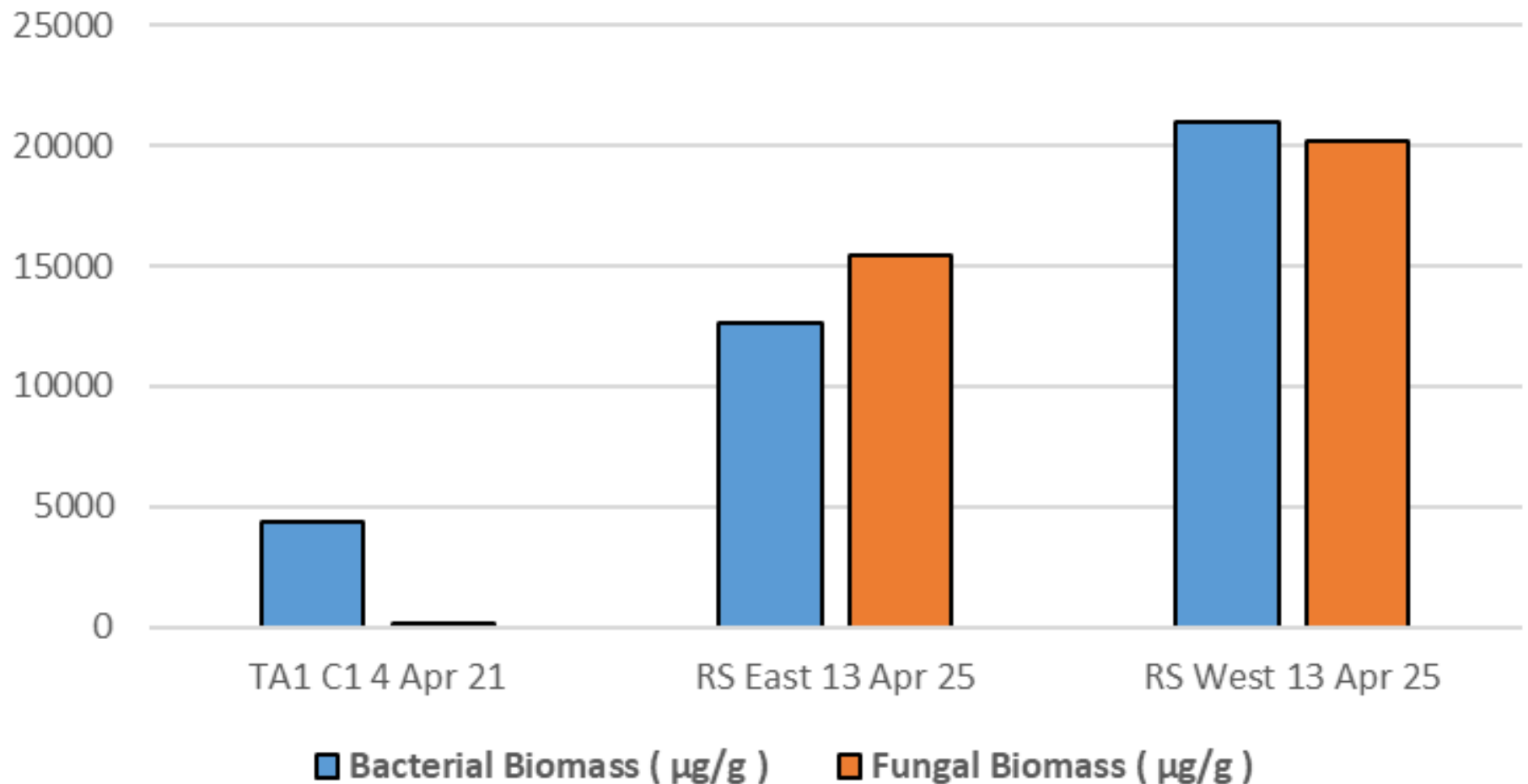
TIMELINE (8 Apr)

- Shovel Test



Soil Samples (Apr 13, 2025)

Bacteria & Fungi



TIMELINE (14 Apr)

- Straw
- 2.5 lbs Calusolv East
 - (10 lbs/1000 ft²)
- 1 lb Redmond West
 - (4 lbs/1000 ft²)



20 Apr 25



TIMELINE (20 Apr)

- Raked Straw Back
- Tilled 1x
- Planted Variety
 - Milpa (Green Cover)
 - Sweet Corn
 - Melons
 - Squash
- Amendments (Wet)
 - Extract (1.5 lbs)
 - Molasses (2 TBSP)
 - Agribio Ca 7% (2 TBSP)
 - Borax--9% Boron (4 g)



TIMELINE (20 Apr)

- Amendments (Dry)
 - Sand (1 Qt)
 - Biochar (1/2 cup)
 - IMO-4 (1/2 cup)
 - Myco Bliss (2 TBSP)
 - Basalt Dust (2 TBSP)
- Rain 0.7" (21 Apr 25)!!



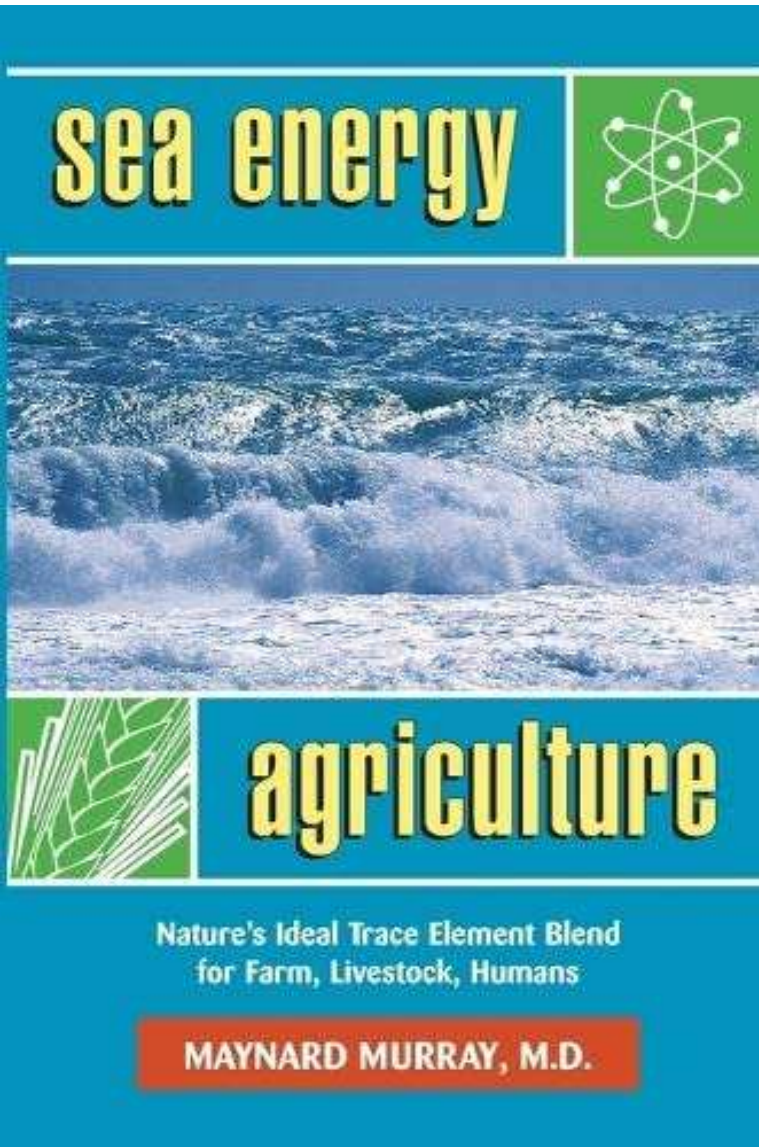
Pasture Example



Context (2015-2020)

- $\approx 1/3$ acre pasture terrace
 - Rotationally grazed
 - Planted some covers
 - Biology treatments
 - No recent chemicals
 - Compacted
- Goals
 - Nutrient Dense Forage for Cattle
 - Healthy Living Soil
 - Aerated
 - Mineral Rich

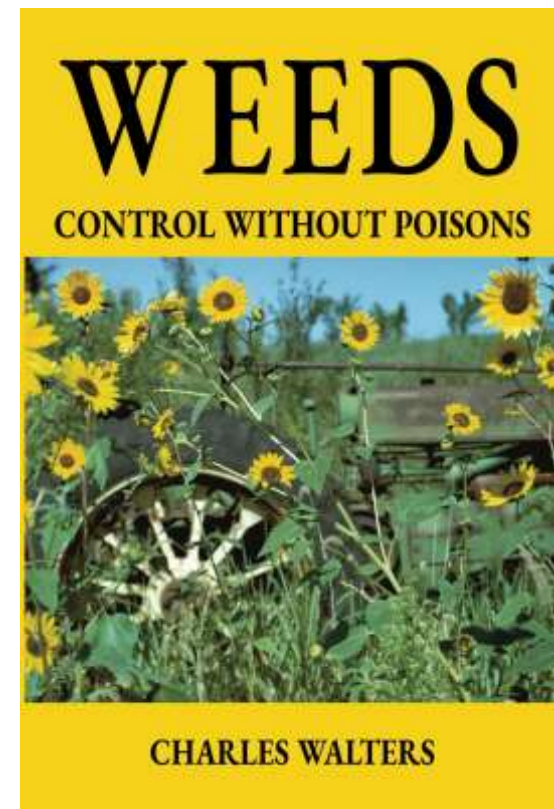
Sea Water Minerals



- Redmond or Sea 90
 - 200-2200 lbs/acre
- HighBrixGardens.com
 - 43 lbs/acre
 - 43 oz/acre (water)

CaluSolv (www.calusolv.com)

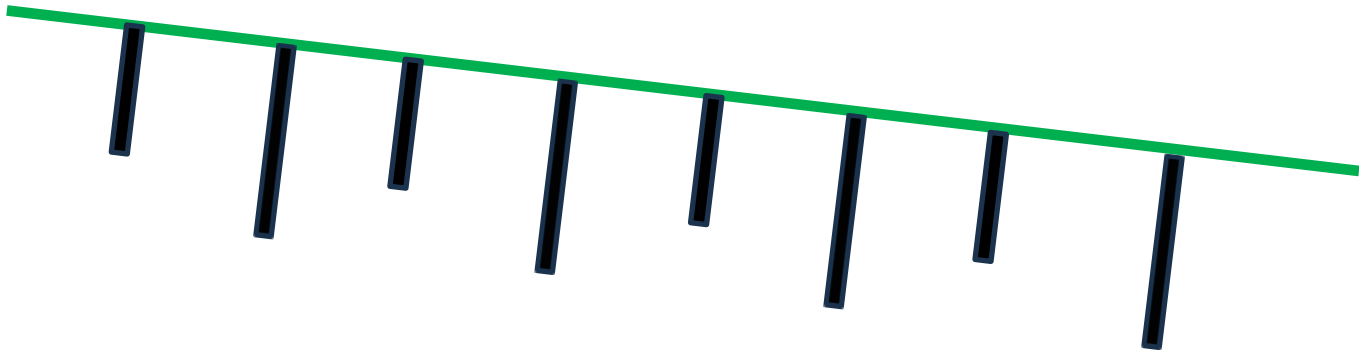
- Stan Pace, farmer, County Extension Agent
- 2005: “Weeds, Control Without Poisons.”
- Weeds there to fix Ca deficiencies
- Compaction Ca:Mg (< 5:1)
- Brett Morehouse & Chemway



AIR



WATER FLOW



SUBSOILER CUTS



Hand Seeders





A photograph of a Greenscape 600 Conservation Seeder, a piece of agricultural machinery. The machine is primarily tan-colored with a green hopper on top. It is parked on a dirt and gravel surface. To the left, a large, dark, treaded tire is visible. In the background, there is a wooden structure and several large metal drums. The machine has a hopper on top and a large tan-colored side panel with the brand name and model number. Below the name is a green line with a jagged, grass-like pattern, and below that is the text 'CONSERVATION SEEDER'. The machine is connected to a PTO shaft on the right side.

GREENSCAPE 600
CONSERVATION SEEDER



Pasture Tests (8 Plots)



	Redmond (1600 lbs)	Redmond (800 lbs)	Redmond (400 lbs)	Redmond (200 lbs)	Calusolv (348 lbs)	Redmond (100 lbs)	Calusolv (348 lbs)
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Small plots 1000 sq ft
Subsoiler plot 5500 sq ft
Acre = 43560 sq ft

Timeline

- TT1-TT7
- 15-21 Oct 24—Bush hogged
- 15-21 Oct 24—Applied Redmond & Calusolv
- 22 Oct 24—Planted Cereal Rye & Wheat (3 lbs) w/seed coat
- 28 Oct 24—Top cover with Greenscape Planter w/seed coat

- TT8 (5500 sq ft)
- 2 Nov 24—Subsoil with Extract (2 lbs/50 gal)
- 3-5 Nov: Plant Rye/Wheat—w/seed coat
- 5 Nov: Soil Drench (2 lbs/60 gal)
- 11 Nov: Sprayed Extract (2 lbs/60 gal) + Redmond (2.75 lbs); Dextrose (2.75 lbs); Apple Cider Vinegar (1.4 cups)

Timeline (Cont)

- TT1-TT7 & ¼ of TT8
- 20 Mar 25—Grazed with 10 cattle
- 22 Mar 25—Applied Calusolv on TT1/TT3
- 28 Mar 25—Grazed rest of TT8 with 10 cattle
- 23 Apr 25—Grazed all with 13 head cattle
- 30 Apr 25—Planted 8 lbs Warm Season Grazing Mix (Green Cover)











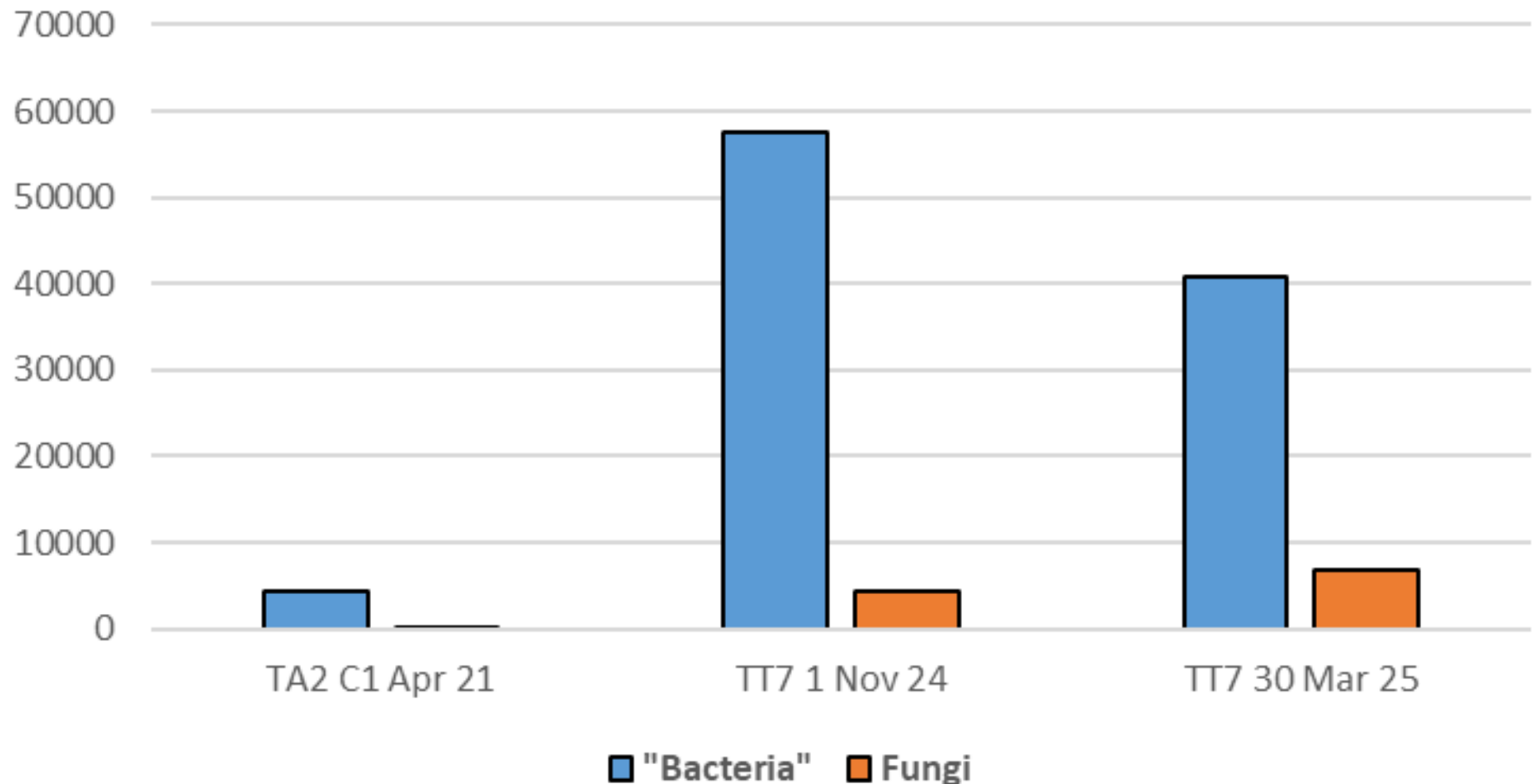
TIMELINE (8 Apr)

- Shovel Test



Soil Samples (Apr 13, 2025)

TT7 Bacteria & Fungi (1600 lbs/acre)



13 Apr 25



23 Apr 25



Brix Results

DATE	TT8	TT7	TT6	TT5	TT4	TT3	TT2	TT1
	Misc	Redmond 1600	Redmond 800	Redmond 400	Redmond 200	Calusolv 348	Redmond 100	Calusolv 348
19-Mar-25	11.8	12.5	11.2	10.6	11.8	14.3	12.3	15.5
19-Apr-25	11.0	8.8	7.5	7.8	11.0	11.3	10.5	9.5
AVG	11.4	10.6	9.3	9.2	11.4	12.8	11.4	12.5
19-Apr-25								
Rye Gone to Seed Leaf	8.25							
Rye Gone to Seed Stem	4.5							

What Do They Think?



Cattle Preference (23 Apr 25)



Cattle Preference (20 Mar 25)

DATE	TIME	TT8	TT7	TT6	TT5	TT4	TT3	TT2	TT1
		Misc	1600	800	400	200	Calusolv	100	Calusolv
20-Mar-25	0:10	1	1		1	2	3	1	3
	0:15				2	2	2	1	3
	0:20	8	2						
	0:22							6	4
	0:30					2	1	4	2
	1:15		2			4	2	2	
TOTALS:		9	5	0	3	10	8	14	12

Cattle Preference (23 Apr 25)

DATE	TIME	TT8	TT7	TT6	TT5	TT4	TT3	TT2	TT1
		Misc	1600	800	400	200	Calusolv	100	Calusolv
23-Apr-25	0:05						5	5	3
	0:15							4	9
	0:18					2	2	5	4
	0:20								
	0:22	8	1	1		1	1		
	0:24	12				1			
	0:30	13							
	0:35								
	0:41				2		5	2	3
	0:45	4	1				3	3	2
	0:52	10					2		
	1:23	6				2	2	2	1
	2:00	13							
	3:02	1			1		6		
	3:53							7	6
TOTALS:		67	2	1	3	6	26	28	28



Vendors/Booths to Meet

- Firehawk Bioherbicide—Howard Vlieger
- Calusolv—Stan Pace & Brett Morehouse
- Redmond—Harvey Scott
- Children's Health Defense
- Weston Price Foundation

2025 “Living Soil” Classes

- Sep 6 & 20, 2025 (8:30 AM-4:00 PM)
- Liberty Trace Farm—Hampshire, TN
- Hands-on thermophilic, worms, farm tour, farm lunch
- Details: www.libertytracefarm.com
- Sign up: Libertytracefarm@gmail.com

Soil Enlistment “Oath”

“To the best of my ability, I vow to help promote, and build soil instead of dirt.”

THANK YOU!!!!!!