

GARDENERS SOIL HEALTH



cultivate
CONFERENCE 2018

AGRICULTURE | EDUCATION | COUNTRY LIVING

Soil Health- *Introduction*

Am I in the right stream?



- If you want to learn about Soil, how to improve and enrich it, grow better in it, experience personal growth by working with it....then YES!
- The Gardener's Soil Health course will introduce why gardeners should take their soil's health seriously. As soil health is the key to growing quality food and managing plant disease, this course aims to explain soil health, how it can be assessed by anyone, and how to keep it healthy. The course will conclude with practical demonstrations showing how any soil can be restored to long term nutrient dense food production.

Soil Health- *Introduction*

Presenters:

This stream will be presented by

- **Enthusiast, Gardener** - **Ben Meldt**

Ben & Jana are experienced Holistic Health Educators and Coaches. They have run community health programs from their local church in Brisbane for several years - natural remedies for the home, garden and wild herbs as food and medicine, and organic gardening for children and adults.

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- **Expert, Agronomist** - **Ian Mot**

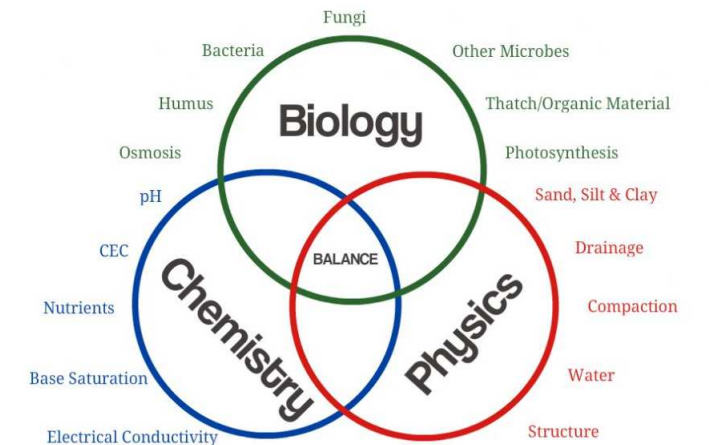
Ian comes from Victoria where he is studying his Master's degree in crop production systems. On the side he has been working for the last 3 years on converting his parents land into a farm. "The greatest blessing of working with the soil is watching it improve, and how we change for the better with it." Ian's passion is for soil health and how a deeper understanding can help gardeners and farmers alike reach consistent quality, resistance to disease and yield that makes growing worthwhile, profitable and satisfying.



Soil Health- *Introduction*

Sessions:

- 1. Benefits of Gardening in Great soil – **Ben**
- 2. Soil make up and Interactions - **Ben**
- 3. What is Soil Health? - **Ian**
- 4. How do you measure Soil Health? - **Ian**
- 5. How to keep Soil Healthy - **Ian**
- 6. Soil Restoration Approach & Application - **Ben**
- 7. Using Restored Soil to produce amazing Produce – **Ben**
- 8. Visual soil analysis exercise and soil repair demo – **Ian**



Soil Health- *Introduction*

WHO ARE YOU?

- Experienced grower?
- Experienced gardener who wants to know more?
- Keen gardener frustrated by failures?
- Occasional or beginner gardeners?

What do you want to get out of these seminars?



Session 1

Benefits of Gardening in Great Soil

**Designed for Dirt
&
Its Gods Plan for Man**

Benefits of Gardening in Great Soil Designed for Dirt

(Bible and Natural Science)

- Traditional/indigenous cultures have revered ‘Mother Earth’ as the medium and basis/source of life and health.

Modern western culture with its materialism has turned its back on this somewhat, treating soil like an expendable commodity rather than an indispensable asset to be invested in as an insurance for food security, human health and quality of life.

- These Traditional Cultures often saw the earth as a physical and spiritual umbilical chord to health and happiness.

Benefits of Gardening in Great Soil
Designed for Dirt
(Natural Science)

- Talking about **mothers and umbilical chords**:
 - *It was our first lifeline, it delivered pre-digested nutrients and anti-bodies from mum to combat disease and allergens.*
 - *Then being birthed into the world going through the birth canal we were inoculated by beneficial bacteria for digesting and immune/brain health.*
 - *Then direct contact with mothers skin and nourishing milk provided further beneficial microbes and anti-bodies. And loving nourishment for the soul, including happiness hormones!*

All provided later on in life by **Mother Earth, our Adult Umbilical Chord** to health, wellbeing and happiness.

Benefits of Gardening in Great Soil Designed for Dirt (Natural Science)

Mother Earth, our Adult Umbilical Chord ??

Great Soil:

- *Pre-digests nutrients making them bio-available to us in plants.*
- *Inoculates us with beneficial bacteria for healthy digestion and immune/brain health* (gut and brain health connection becoming an important field of medical research)
- *Studies show contact with soil and microbes on a farm prevent allergies and prime the immune system for combating disease.*
- *Stimulates the production of happiness hormones giving a sense of wellbeing!*

So how do we go back to our Roots, when it comes to Soil?

From a Christian perspective, we need to
rediscover the connection from the Bible and Natural Science.

Lets start with Natural Science:



Benefits of Gardening in Great Soil
We are Designed for Dirt
(Natural Science)

Scientific benefits of direct contact with soil bacteria:

Studies on the common soil bacteria

Mycobacterium Vaccae

(found in humus/compost rich soil – top soil, or gardening soil):

Show that - **skin contact, inhalation and ingestion:**

- Sharply stimulates immune system for prolonged periods,
- Reduces allergenic responses,
- Stimulates happiness hormones and combats mental disease.

(Gardeners Glee! Abc tv Gardening Australia example: Peter Cundall)



Benefits of Gardening in Great Soil
We are Designed for Dirt
(Natural Science)



Brain Benefits: Press release issued: 2 April 2007

Mycobacterium vaccae

- “in mice...” M. vaccae activated a group of neurons that produce the brain chemical serotonin”
- “lack of serotonin in the brain is thought to cause depression in people”
- Dr Chris Lowry.. said: “These studies help us understand how the body communicates with the brain and why a healthy immune system is important for maintaining mental health. They also leave us wondering if we shouldn’t all be spending more time playing in the dirt.”

“Experiments at the Sage Colleges in Troy, New York, have also suggested M. vaccae can increase learning abilities, with mice that were fed the bacteria being able to solve maze problems twice as fast as mice who weren’t. These wonderful soil bacteria are a Prozac and IQ booster in one. Best of all they’re free, you just need to head outside and play in the dirt. (www.australianscience.com.au/biology/dig-down-to-lift-your-spirits-soil-bacteria-act-as-antidepressants/)



Benefits of Gardening in Great Soil
We are Designed for Dirt
(Natural Science)

General Holistic Health and Wellness Benefits:

NEWSTART acronym

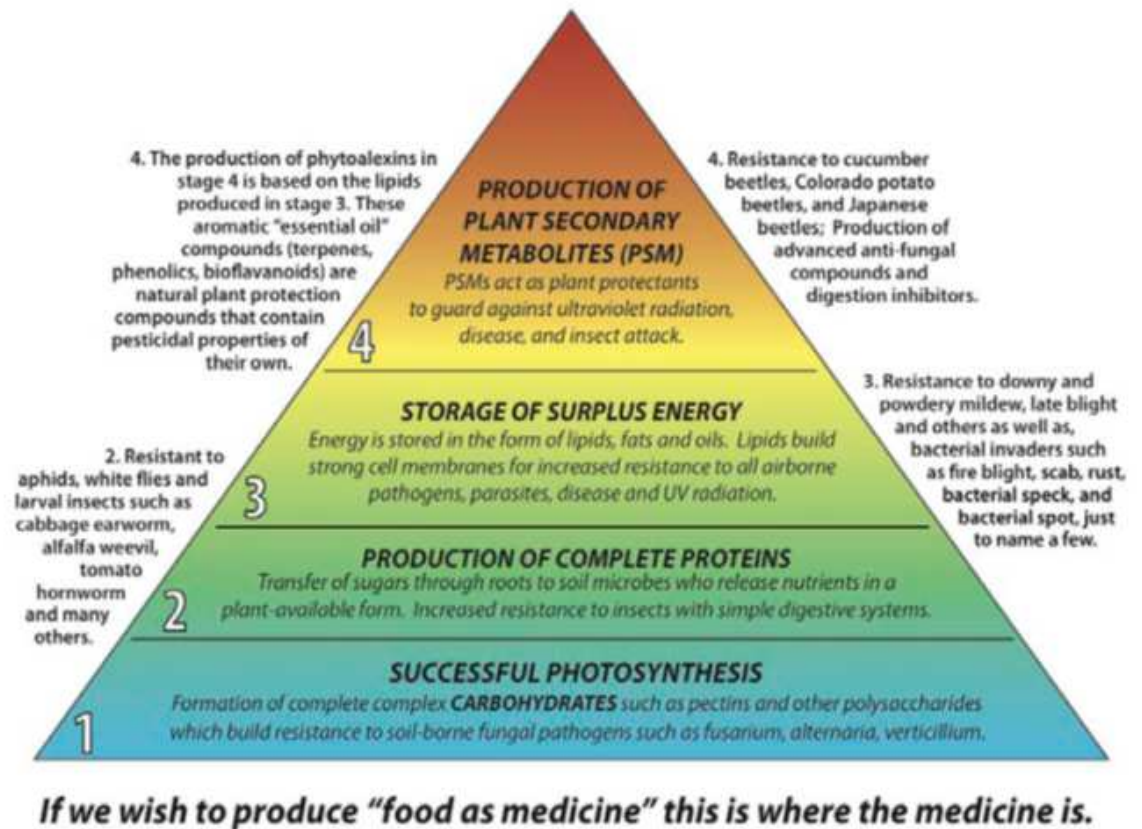
(Gardening covers all 8 laws of health found in nature!)

Nutrition (wholesome home grown food),
Exercise (cardio/core/strength),
Water (exercise = thirst/mineralised in veg),
Sunshine (outdoors),
Temperance (taste for good food / balancing body and mind),
Air (fresh oxygen around green plants),
Rest (better sleep, satisfaction, mental health),
Trust (learning about the Creator form His Creation)

Benefits of Gardening in Great Soil We are Designed for Dirt (Natural Science)

Nutrition

- Can control the soil inputs to aim for nutrient density, and minimise exposure to harmful substances.
- Healthy Soil = Healthy Plants
= Healthy Humans
- Quality produce is the best
“Food as Medicine”









Benefits of Gardening in Great Soil
We are Designed for Dirt
(Natural Science)

- **Exercise** (cardio/core/strength)

- Creating great soil is a good work out!

“The tiler of the soil finds in his labour all the movements that were ever practiced in the gymnasium” (Fundamental of Cristian Education p74)

- **Water** (exercise = thirst/mineralised in veg),

- Fresh food aids digestion and is full of mineralised water.

- Medicinal sources of moisture such as Aloe Vera (hydrates and heals skin wounds and burns and also aids digestion and is a soothing healer)

Benefits of Gardening in Great Soil
We are Designed for Dirt
(Natural Science)

Sunshine (outdoors),

- When sunshine hits the eye in the morning, signals travel down our optic nerve telling the brain to produce Serotonin, the feel good alert and active hormone. High levels of Serotonin are important for daily functions but also later at night when it is broken down into Melatonin for sleep.
- Bright outdoor light is up 100,000 LUX (measurement of brightness), whereas indoor light only about 500 LUX (200x less). On average you need daily exposure to 10,000 LUX for 30 minutes for health.

Benefits of Gardening in Great Soil
We are Designed for Dirt
(Natural Science)

Temperance (taste for good food / balancing body and mind),

Air (fresh oxygen around green plants),

- “The benefits of physical labour in the open air have the advantage tenfold to that obtained within doors” Health Reformer Sept 1, 1873

Benefits of Gardening in Great Soil
We are Designed for Dirt
(Natural Science)

Rest (better sleep, satisfaction, mental health),

Trust (learning about the Creator form His Creation)

Benefits of Gardening in Great Soil
We are Designed for Dirt
(Bible)

Gen_2:7 ... the LORD God formed the man of dust from the ground

- *The first man Adam came from the ground, the earth.*

Gen_3:19 By the sweat of your face you shall eat bread, till you return to the ground, for out of it you were taken; **for you are dust, and to dust you shall return.**

- Our bodies are nourished by nutrients/elements from the ground which then at death break down again to the same elements. (Road kill makes good plant food, Kyles Kangaroo)

It's a reminder of our mortality

- **Gen 18:27** Abraham said,I who am but dust and ashes.

Benefits of Gardening in Great Soil

We are Designed for Dirt

(Bible)

Genesis 2:8,15 “the LORD God planted a garden...and there he put the man whom he had formed” “.. God put him in the garden of Eden to work in it and take care of it” (BBE)

- God the original gardener made us in His image to be like him, loving nature and finding life's joy and purpose in the garden learning useful work and soil stewardship.
- **Man derives purpose and identity in life very much from useful work and achievement.** (Often get into trouble with nothing useful or positive in life to do)
- **Women: Pro 31:10** An excellent wife who can find? She is far more precious than jewels.
v16 She considers a field and buys it; with the fruit of her hands she plants a vineyard.

Benefits of Gardening in Great Soil Its Gods Plan for Man

(EGW quotes from first chapter in 'Counsels on Agriculture')

Balances out the Being:

“To develop the capacity of the soil requires thought and intelligence. Not only will it develop muscle, but capability for study, because the taxation of brain and muscle is equalised” Ms8a – 1894

- Growth and development right through life
- Healing Rain retreat example: Trauma/Addiction retreat for spiritual healing, practical life skills were practiced in the afternoons. Included: gardening, cooking, sewing, natural remedies. Experiences miracles of hearts and minds peeled open for healing, by the Holy Spirit, aided by a balancing of the being, mind and body both engaged in restoration and healing. That tactile touch with hands on skills seemed to open up the way for the truth to triumph.
- Adventurer Children in Church community Garden, remembering wild medicinal plants, teaching parents.

Benefits of Gardening in Great Soil
Its Gods Plan for Man
(EGW quotes from first chapter in 'Counsels on Agriculture')

Eradicates Idleness, for soil to be Great it needs constant working:

“The Creator of man never designed that he should be idle. ...It was the law of nature, therefore the law of God, that brain, nerve, and muscle, should be in active motion.....If all the organs act their natural part, life, health, and happiness, will be the result

.....Those who shun manual labour cannot have physical stamina. ...Too little exercise and staying in-doors too much, will bring on feebleness and disease.....Exercise in useful labour will be carrying out the original plan of God” HR May 1, 1873

Benefits of Gardening in Great Soil
Its Gods Plan for Man
(EGW quotes from first chapter in 'Counsels on Agriculture')

Restoration - Cooperating with God to reverse the curse:

*“Through disobedience to God, Adam and Eve had lost Eden, and because of sin the whole earth was cursed. **But if Gods people followed His instruction, their land would be restored to fertility and beauty. God Himself gave them directions in regard to the culture of the soil, and they were to cooperate with Him in its restoration.** Thus the whole land, under Gods control, would become an object lesson of spiritual truth. As in obedience to His natural laws the earth should produce its treasures, so in obedience to His moral law the hearts of the people were to reflect the attributes of His character.” COL 289, 1900*

Benefits of Gardening in Great Soil
Its Gods Plan for Man
(EGW quotes from first chapter in 'Counsels on Agriculture')

Character Development:

"In itself the beauty of nature leads the soul away from sin and worldly attractions, and toward purity, peace, and God. For this reason the cultivation of the soil is good work It brings..(us) into direct contact with nature and nature's God."-- Special Testimonies p16

Healthy Soil = HEALTHY SOUL (Think of rural and agrarian people)

Benefits of Gardening in Great Soil

Its Gods Plan for Man

(EGW quotes from first chapter in 'Counsels on Agriculture')

A Bible verse on Cultivating and Character

Hosea 10:12,13

Sow to yourselves in righteousness,

reap in mercy;

break up your fallow ground:

for it is time to seek the LORD, till he come and rain righteousness upon you.

Ye have ploughed (in) wickedness,

ye have reaped iniquity; ye have eaten the fruit of lies:

because thou didst trust in thy way

- Working and Improving soil is like Character Reform