

THE ANSWER LIES IN THE SOIL

Graham Bell

MA FCIM FRSA DipPermlnst

“Arthur Fallowfiel d”

Sunday afternoons in the 1960's
Beyond Our Ken
Based on Dorset Farmer:
Ralph Wightman

AKA
Kenneth Williams
(1926-1988)



Soil is the Single Most Important Thing

“I find that a real
gardener is not a
man who
cultivates flowers;
he is a man who
cultivates the
soil”

Karel Capek





Soil consists of : (the key thing is LIFE)

Minerals: Clay, Sand, Silt

Decaying organic matter (humus)

Living organisms

- Plant material
- Bacteria
- Invertebrates
- Mycelium
- Animals

Pore space: Air, Water

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We neglect soils at our peril

Garden Cottage

A fifth of an acre. Tenth of a hectare.

“The size of a garden has very little to do with its merit. It is the size of the owner’s heart and brain and goodwill that will make his garden either delightful or dull.”

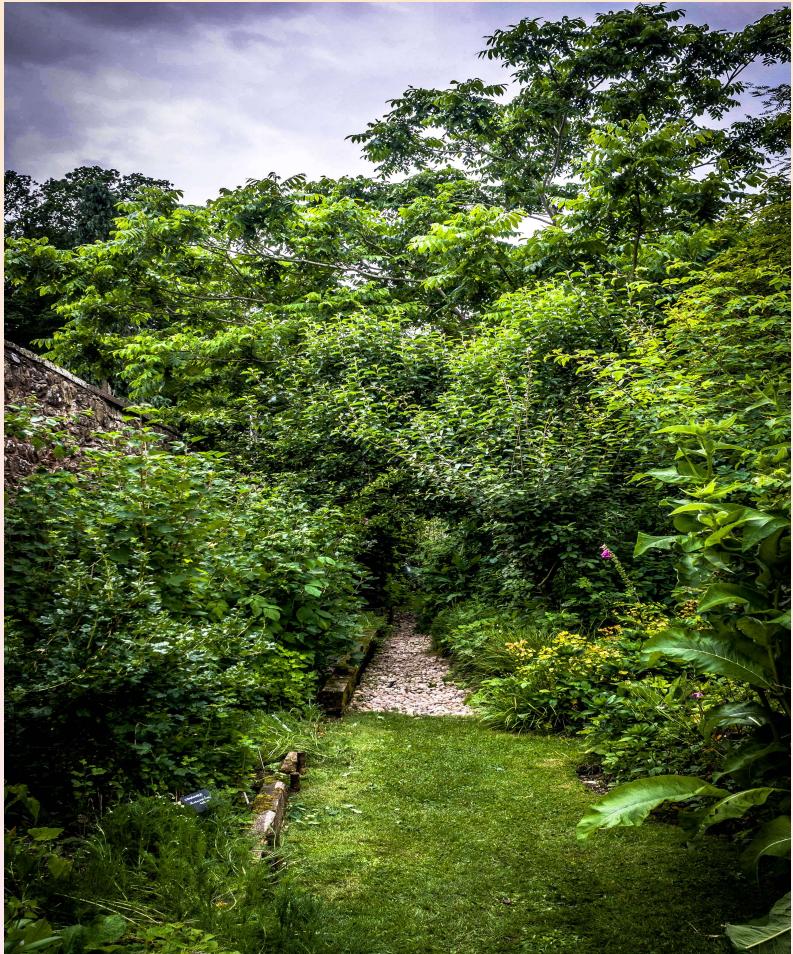
Gertrude Jekyll



Beginning in 1990



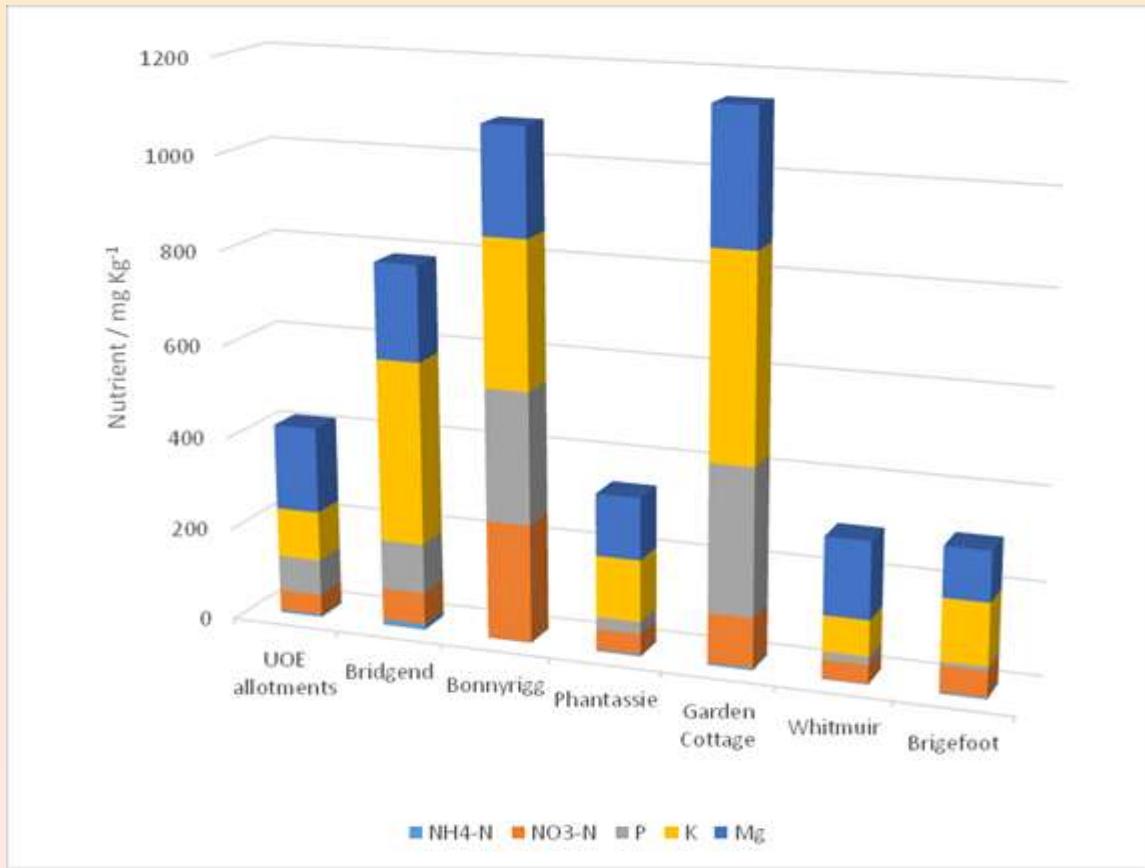
Twenty Five Years On



All Growers Are Researchers

“Gardening is a craft, a science, and an art. To practice it well requires the enthusiasms of the true amateur and the understanding of the true student”

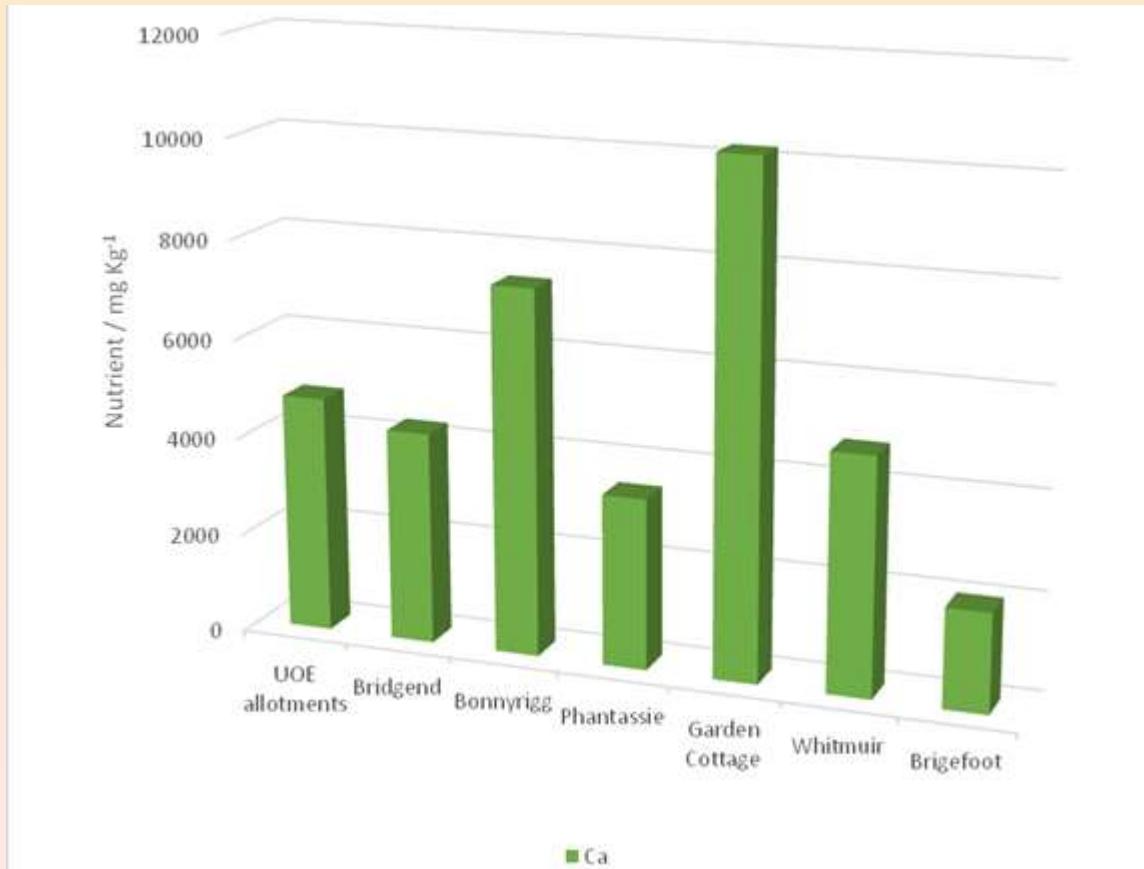
Louise and James Bush-Brown



Seven Comparative Organic Soil Samples Scotland

2014 Study Edinburgh University

Garden Cottage top in four categories of macro-nutrient
Second in two



And the same survey for Calcium...

Top again...

Justus von Liebig- why he was right and why he was wrong



- NPK defined as principle macronutrients 1854 onwards ‘Law of the Minimum’
- But what about the importance of all the other chemicals in the soil
- And what about the importance of living processes
- He invented Marmite

We are what we eat

Soft Fruit	21 species	60 varieties
Herbs	16 species	30 varieties
Vegetables	47 species	80 varieties
Salads	62 Species	100 varieties
Top fruit	10 species	90 varieties
Nuts	6 species	10 varieties
Fungi	still counting...	

2013 BY MONTH	YIELD RECORD BY WEIGHT (Kg)
January	1.9
February	3.8
March	3.3
April	4.2
May	18.2
June	16.2
July	101.8
August	120.9
September	201.3
October	585.8
November	6.5
December	4.6

What makes this work?

- Diversity
- Polyculture
- No bare soil
- So...
- Trees
- Mycelium
- Earthworms
- And everyone else
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No bare soil

Ruth Stout

“The unmulched garden looks to me like some naked things which for one reason or another would be better off with some clothes on.”

- Ground cover plants
- Leaf Mould
- Grass cuttings
- Straw
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GARDEN

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*Beard & Mackie:
Gardener's
Dictionary*

“One of a vast number of free outdoor restaurants operated by charity-minded amateurs in an effort to provide healthful, balanced meals for insects, birds and animals.”

Bugs are our friends

Bugs are not going to inherit the earth.
They own it. So we might as well
make peace with the landlord.

Thomas Elsner



Willing Workers on Organic Farms



Mycelium

- The largest living beings on Planet Earth
- One organism measured at 965 hectares in Oregon





Martha Smith - Beds I Have Known

As I have gardened, feeling myself in some sort of deep dialogue with an unseen and silent partner, I have come to know true inner peace.

References

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- Forest History of the Near East

<http://www.fao.org/docrep/e3200e/e3200e03.htm>

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<http://www.eh-resources.org/the-role-of-wood-in-world-history/>

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https://en.wikipedia.org/wiki/Epic_of_Gilgamesh

- Largest Fungus in the World

<http://www.scientificamerican.com/article/strange-but-true-largest-organism-is-fungus/>

- The history of wheat cultivation in the Roman Empire / North Africa

<https://en.wikipedia.org/wiki/Tacfarinas>

- Research at Garden Cottage

<http://grahambell.org/the-red-shed-nursery/garden-cottage-research/>

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Useful Books

- The Permaculture Garden - Graham Bell
- The Formation of Vegetable Mould –
through the action of worms with observations on their Habits
Charles Darwin
- Mycelium Running – Paul Stamets
- Teaming With Microbes - Jeff Lowenfels & Wayne Lewis
- Dirt- the ecstatic skin of the earth - William Bryant Logan
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