Successful Transitions

Nicole Masters

Observations of regenerative producers

- Seeing ‘challenge’ as opportunity
- Dis-ease as indicators
- Regenerating landscapes from the industrial model requires a paradigm shift

What is a paradigm?

- Mental image through our filters: theories, research methods, standards and views
- We see the world as we are (filter)
- Cultural and historical contexts

The Paradigm of Regeneration

“Command and control”	Response - ability
Stress, worry, anxiety	Choose your attitude
Blame- weather, politics, family…	Work on realm of influence
I am my upbringing and circumstances	My life is not my past
I can’t - excuses	How can I? - actions
A focus on Doing	A focus on Being
Separate	Part of a whole


“When you change how you look at things, the things you look at change”

Paradigm shifts

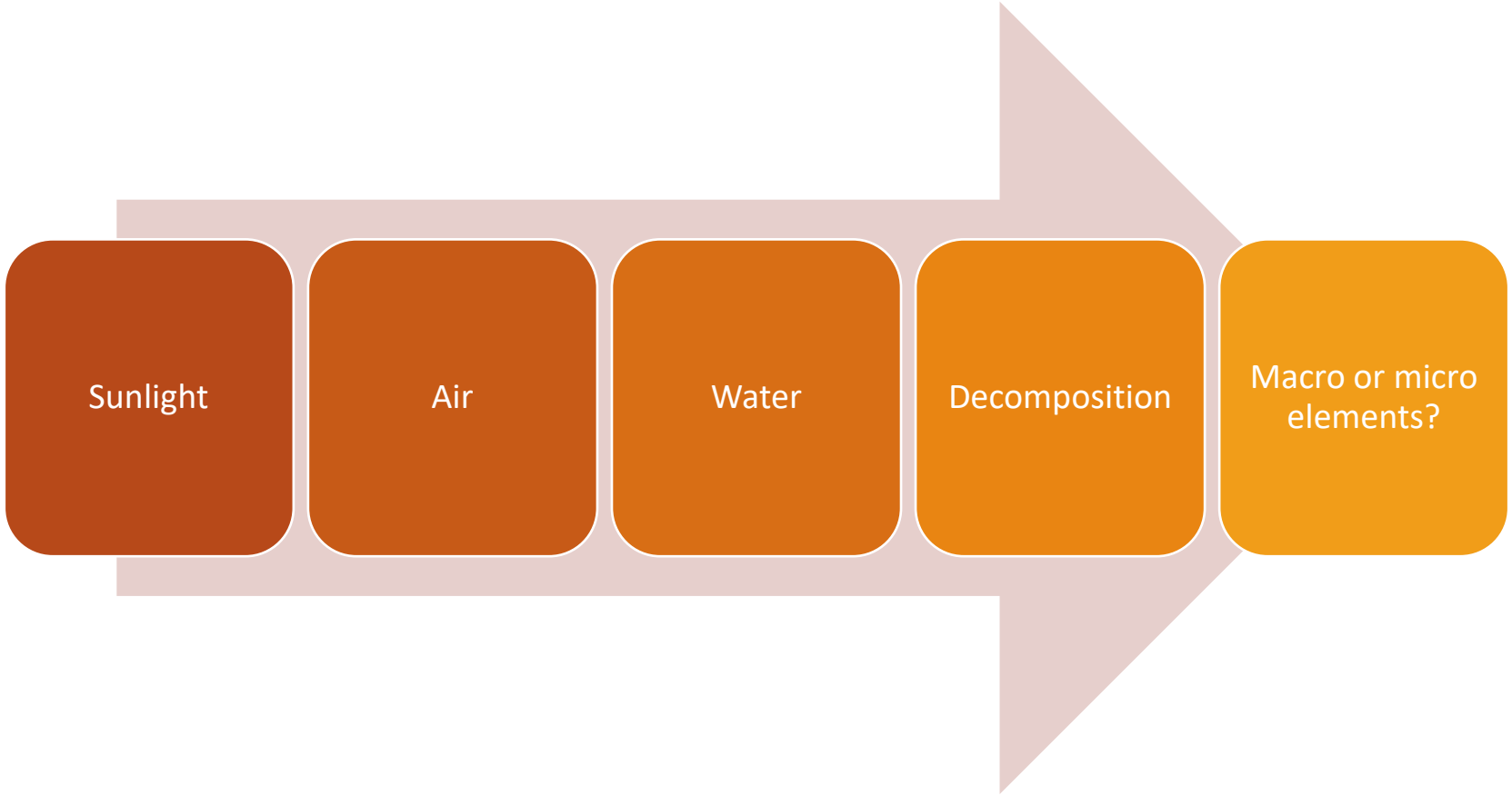
- Are not a threat to science, but rather the very manner in which it progresses.

- We are at a turning point in global paradigms: health, education, food production, environment…

Where to start?

- Observations
- Goals
- Planning –why?
- Assessment
- Identify enabling factors
- Observe and repeat

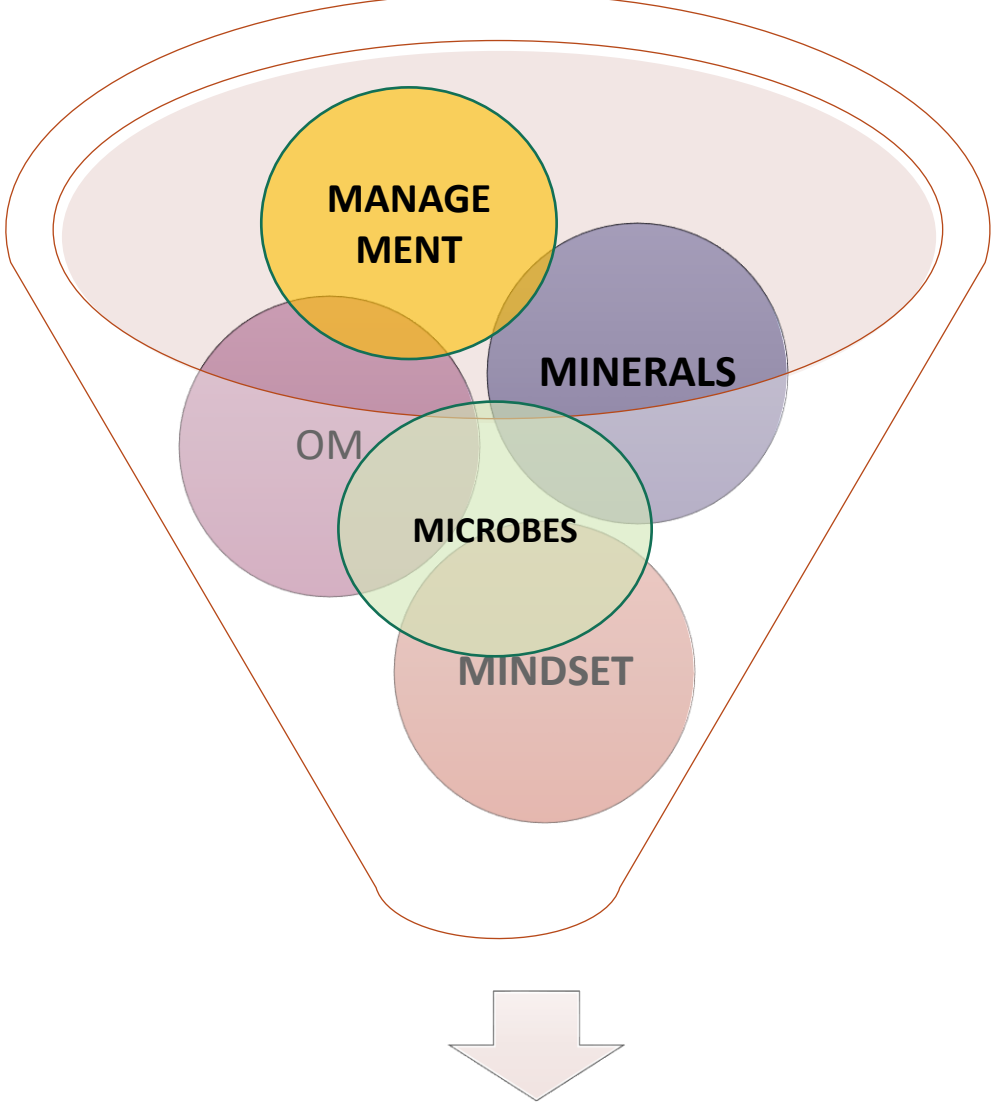
Identify enabling factors



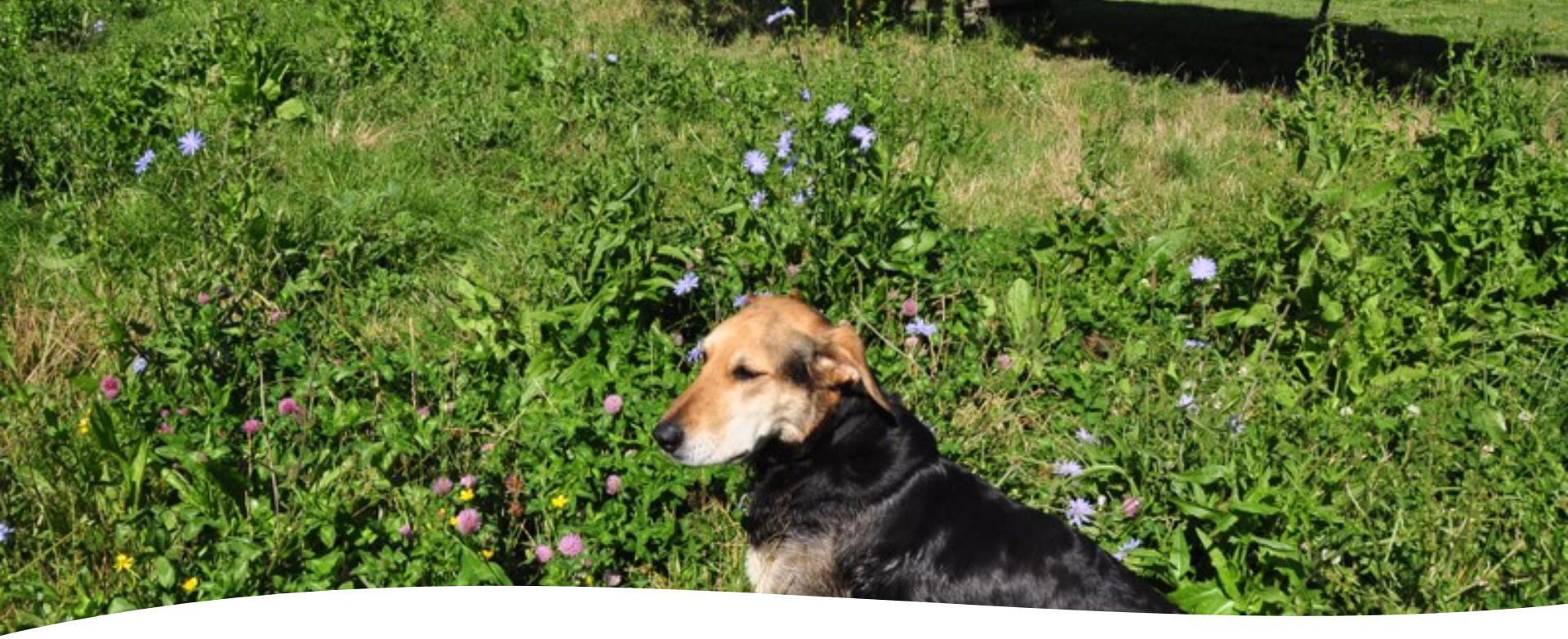
What enabling factors are compromised?

Which of the 5 M’s needs to be addressed?

What is putting a drag on your system?



SOIL HEALTH



Mindset

If you think you can or think you can’t…

you’re right!

Management is key

No biologicals, chemistry, seeds or machinery can overcome poor management (without costing you a lot of money)

All you need is…

Photo credit: Kim Deans

Minerals?

Are they in the bank account, Functional, Biological mediated?

Microbes?

OM

1% OM

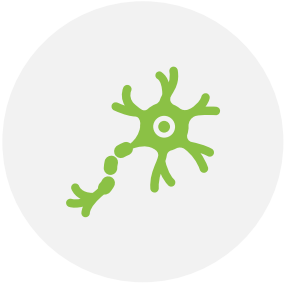
-$1679 USD per hectare in NPKS and carbon

84,000 litres/ha water storage

Context is everything!

- Test
- Assess
- Trial
- Or work with a trusted source

Hands on management



ANY SHIFT AWAY FROM HIGH INPUT SYSTEM ELICITS A POSITIVE RESPONSE

ALL BIOLOGY AFFECTS CHEMISTRY; ALL CHEMISTRY AFFECTS BIOLOGY

NUMBERS CANNOT BE ‘FORCED”

Principles

Optimise plant brix (photosynthesis)

Ensure year round cover

Reduce disturbance

Lift above/below diversity & biomass

Address limiting factors

Outcomes

INCREASING BIODIVERSITY

WATER QUALITY

SOIL HEALTH MEASURES

GHG REDUCTIONS

FOOD QUALITY

PROFIT/ WELLNESS

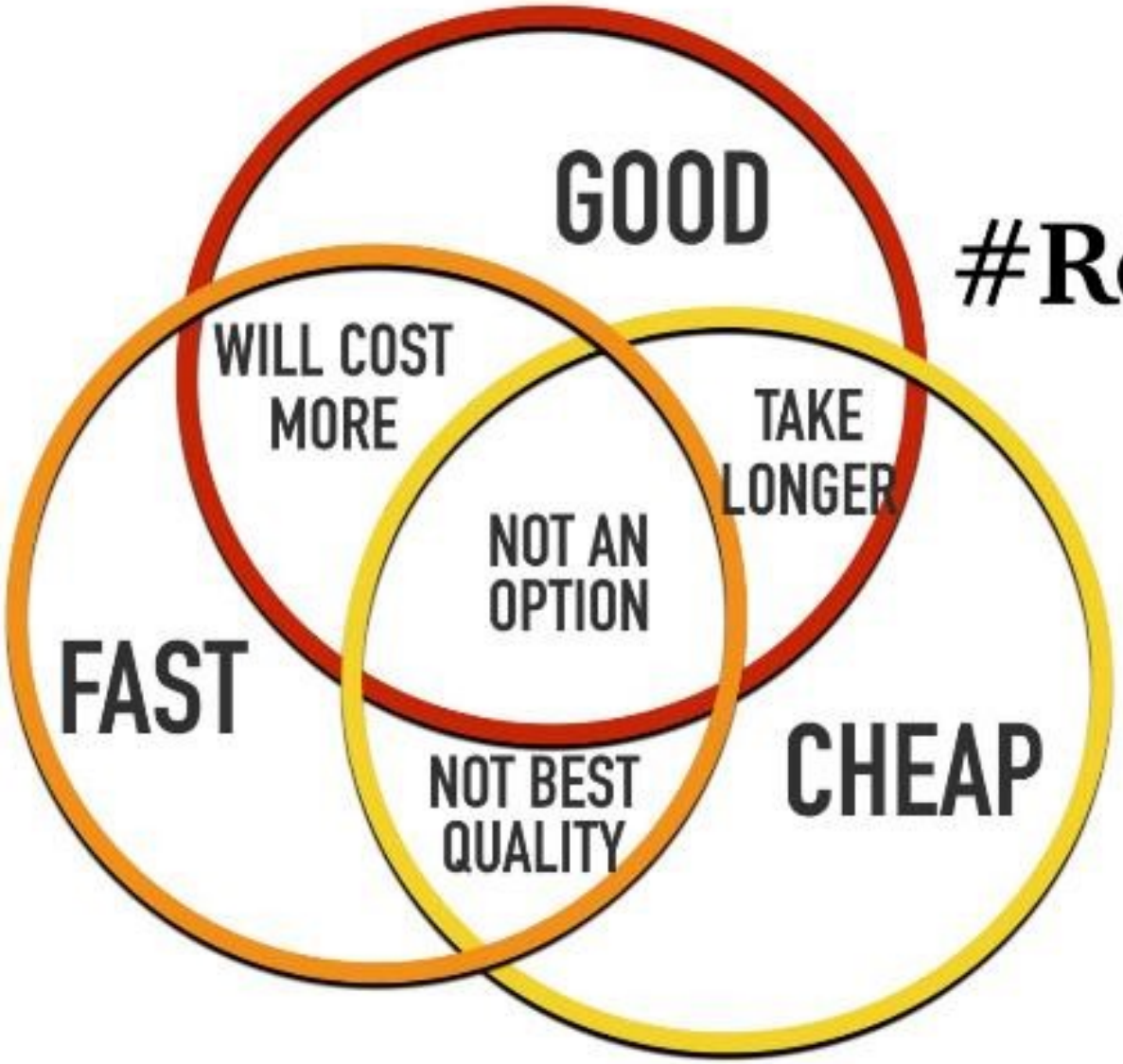
1

How long has your soil resource been degraded?

2

How much money/time do you have?

How long will it take?



#RealityCheck

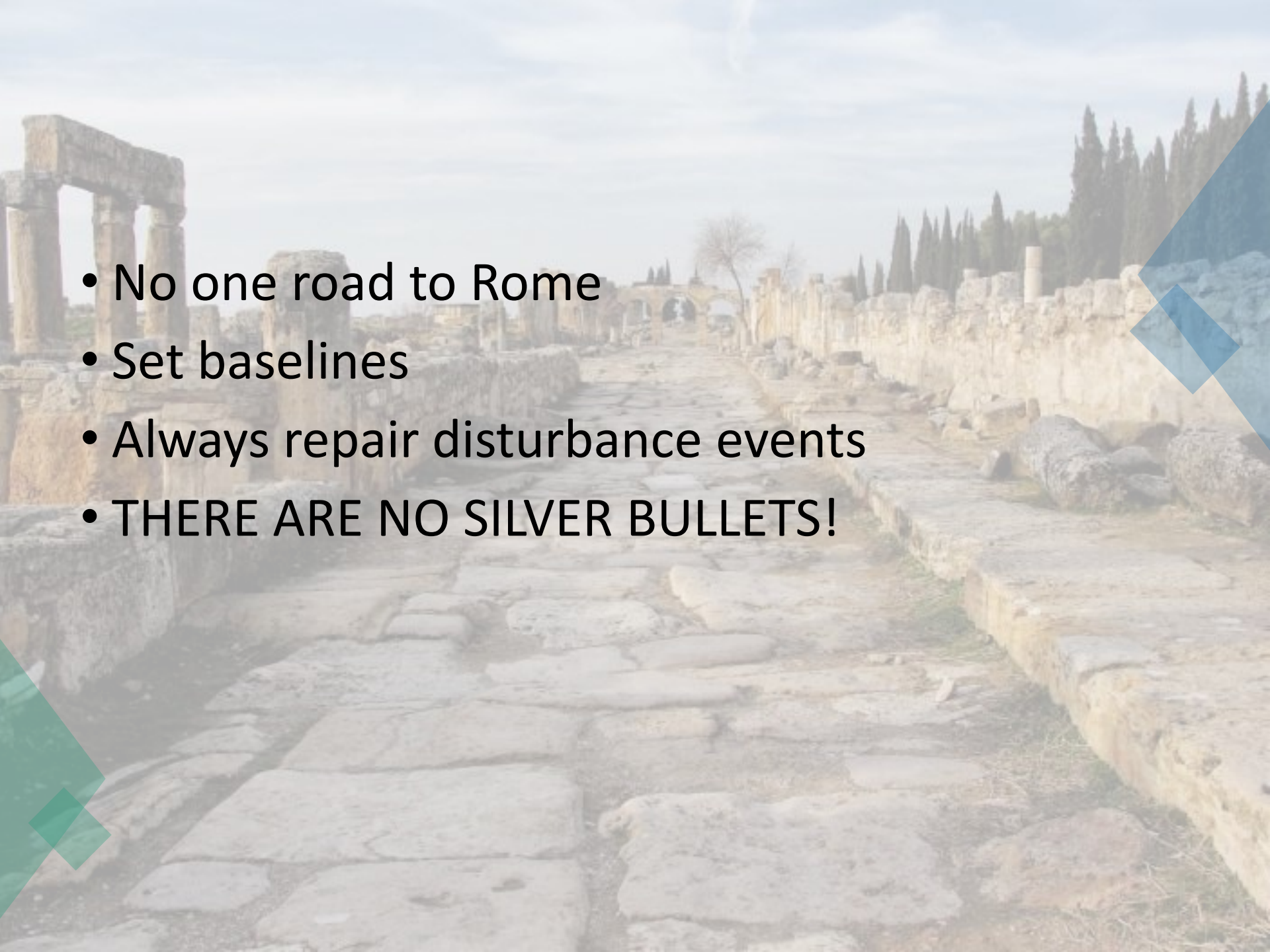
Managing expectations

- Many changes happen under the soil first
  - -Look to root structures and soil changes
- Benchmark, monitor and follow trends
- Commit to a program for at least 3 years in the same field

Regenerative Ag

- This is not a silver bullet ‘nitrogen’ fix
- If you have a long history of chemical use, low organic matter, imbalance in major elements, high disease pressure, the system needs time to reboot
- All depends on your management, climate, timing, budget…

- A program that works this year still requires monitoring
- What works this year may not apply next season
  - Biological system
  - Adaptive
  - And we are ALWAYS learning



- No one road to Rome
- Set baselines
- Always repair disturbance events
- THERE ARE NO SILVER BULLETS!

Just do it!

- No excuses, make it happen!
- Know where you want to go
- Figure out what tools, funds you have
- 90% of success is your mental attitude!

When walking through a minefield, Follow in the footsteps of those in front of you!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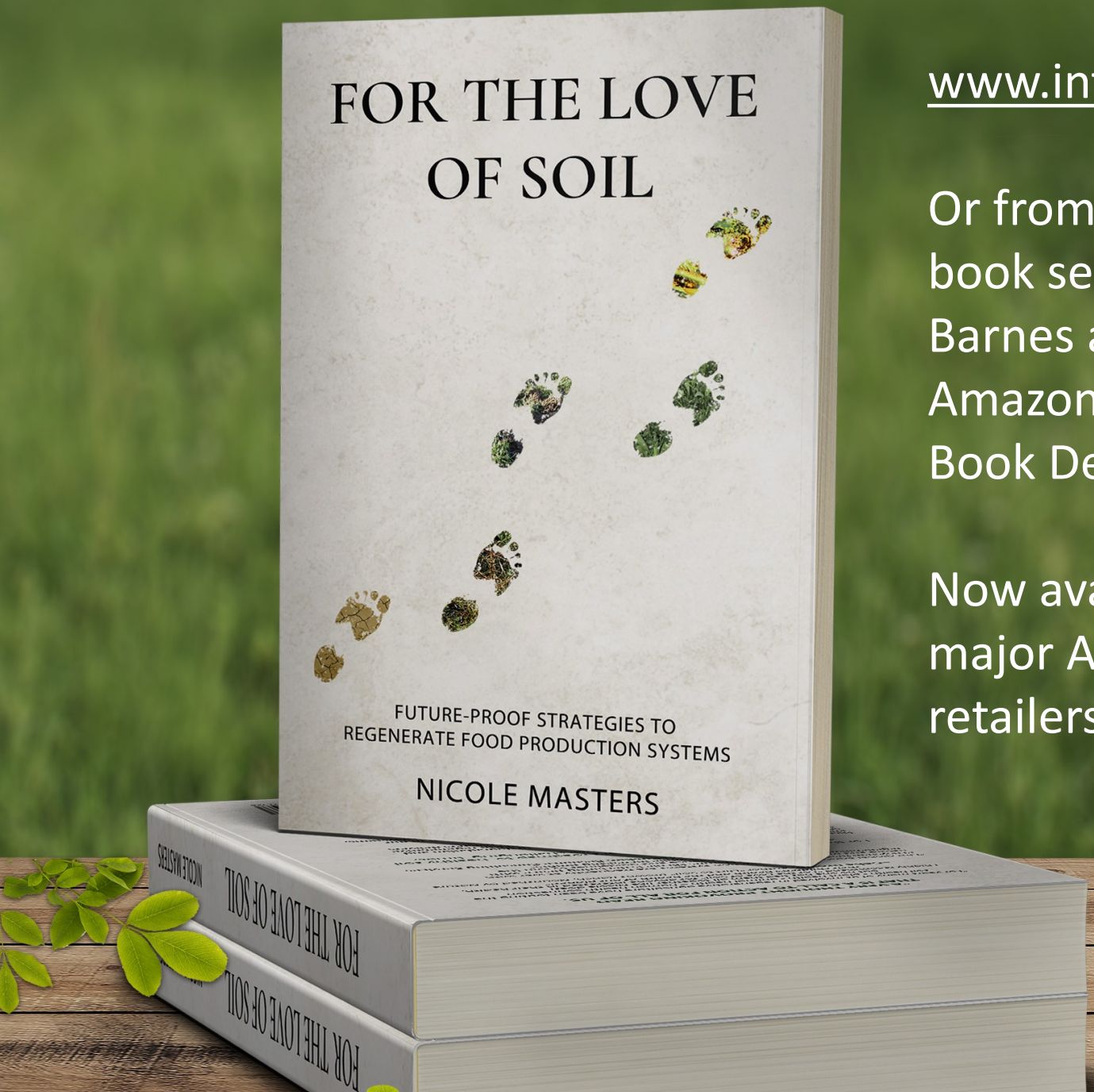

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Reduce Nitrogen with no yield loss

MANAGE RESIDUE TO RECYCLE NUTRIENTS

BIOLOGICAL INOCULUMS RECYCLE/HOLD NUTRIENTS

STIMULATE/INOCULATE N-FIXERS, MYCORRHIZAE

APPLY N CLOSER TO CROP NEEDS

SOIL TEST BEFORE N APPLICATIONS

ANCHOR N WITH CARBON (HUMATES, MOLASSES)

FOLIAR FEED

ADDRESS TRACES

(MANGANESE)

Reduce and buffer herbicides

- Herbicides and pesticide use can be reduced by 10-30% decreasing pH ~ citric or fulvic acids
  - With the same efficiency!
- Add 1 part fulvic acid to 4 parts herbicide, cur herbicide by 30% with the same kill!

Reduce and buffer herbicides

- Lift functional Calcium (fungi) to reduce grass weed pressures
- Soil bio-active carbon and C:N rations indirectly proportional to broadleaf weed pressure
  - Improved ratio from 25:1 to 75:1 reduced broadleaf weeds by 75%
    - Ohio Ag Research and Development centre

Reduce pesticide costs

Poor soil biology directly relate to insect pressure

Lift plant brix

Bring sap pH to 6.4

Use IPM and biocontrol agents in transition

Read your weeds

- Tissue test weeds vs your favoured plant species
- If it is a dynamic accumulator:
  - Mineral imbalance

Nutrient		*Units*	*Rye*	*Capeweed*
Nitrogen	N	%	2.57	2.18
Phosphorus	P	%	0.21	0.24
Potassium	K	%	2.39	2.30
Sulfur	S	%	0.18	0.18
Carbon	C	%	44.5	42.8
Calcium	Ca	%	0.46	**1.43**
Magnesium	Mg	%	0.24	0.32
Sodium	Na	%	0.16	**1.17**

Copper	Cu	mg/kg	6	9
Zinc	Zn	mg/kg	16	**27**
Manganese	Mn	mg/kg	47	59
Iron	Fe	mg/kg	60	88
Boron	B	mg/kg	4	**39**
Molybdenum	Mo	mg/kg	0.5	0.4
Cobalt	Co	mg/kg	<0.1	<0.1
Crude Protein	ratio	%	16.1	13.6
Nitrate	N	mg/kg	62.6	**133**
Ammonium	N	mg/kg	686	407

- Weeds correlated with soil test which showed low Ca, Na, Zn, B and HIGH Nitrates.
- Weeds accumulate minerals which are low. – (exceptions are Na and Nitrates)