Building resilience with multi-species

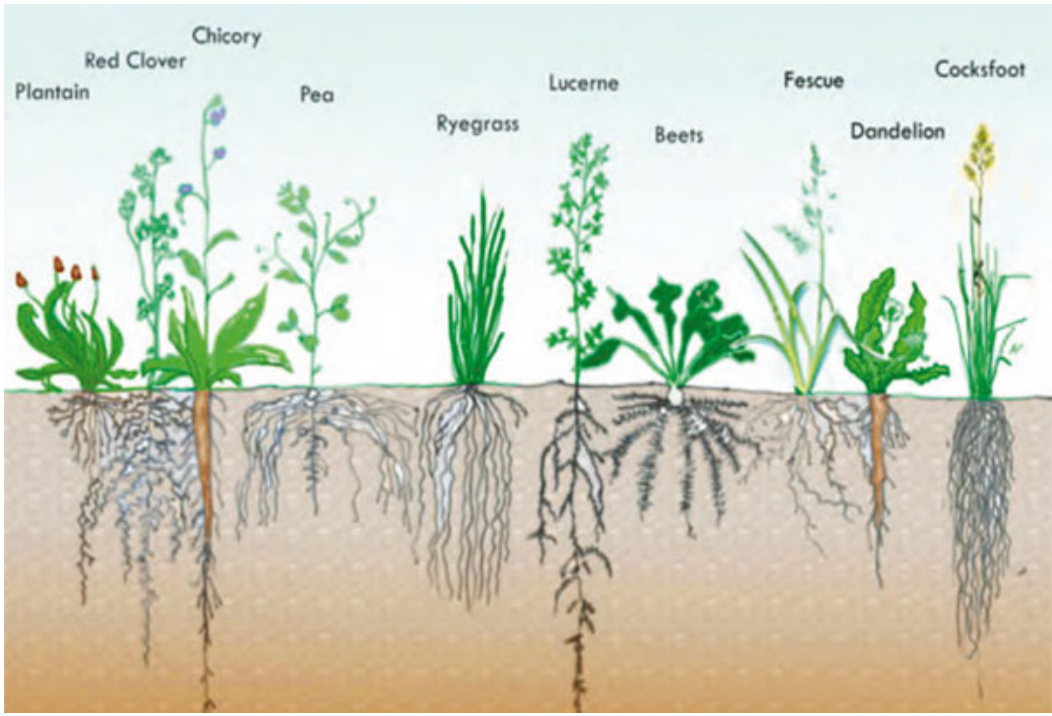
The Hunt Family - ‘Parkesview’

The Hunt Family - Parkesview

Nature’s warnings

Searching for solutions

- Observation
- Research and knowledge
- Experimenting with adaptive practices
- Family and community



The trial

Multi-species pasture

Mix:
Oats - 30kg
Chicory - 2kg
Field peas - 2kg
Brassica - 2kg
Radish - 0.5kg
Plantain - 2kg
White turnip - 1kg
Lupins - 2kg
Fescue - 2kg
Phalaris - 2kg
White clover - 1kg
Red clover - 1kg
3 sub clovers - 1kg ea

Nutrisoil and Best TM:
1. Seed pickle
2. Foliar applications x 2 (Spring and autumn)


June 2022

July 2022

After first graze

August 2022

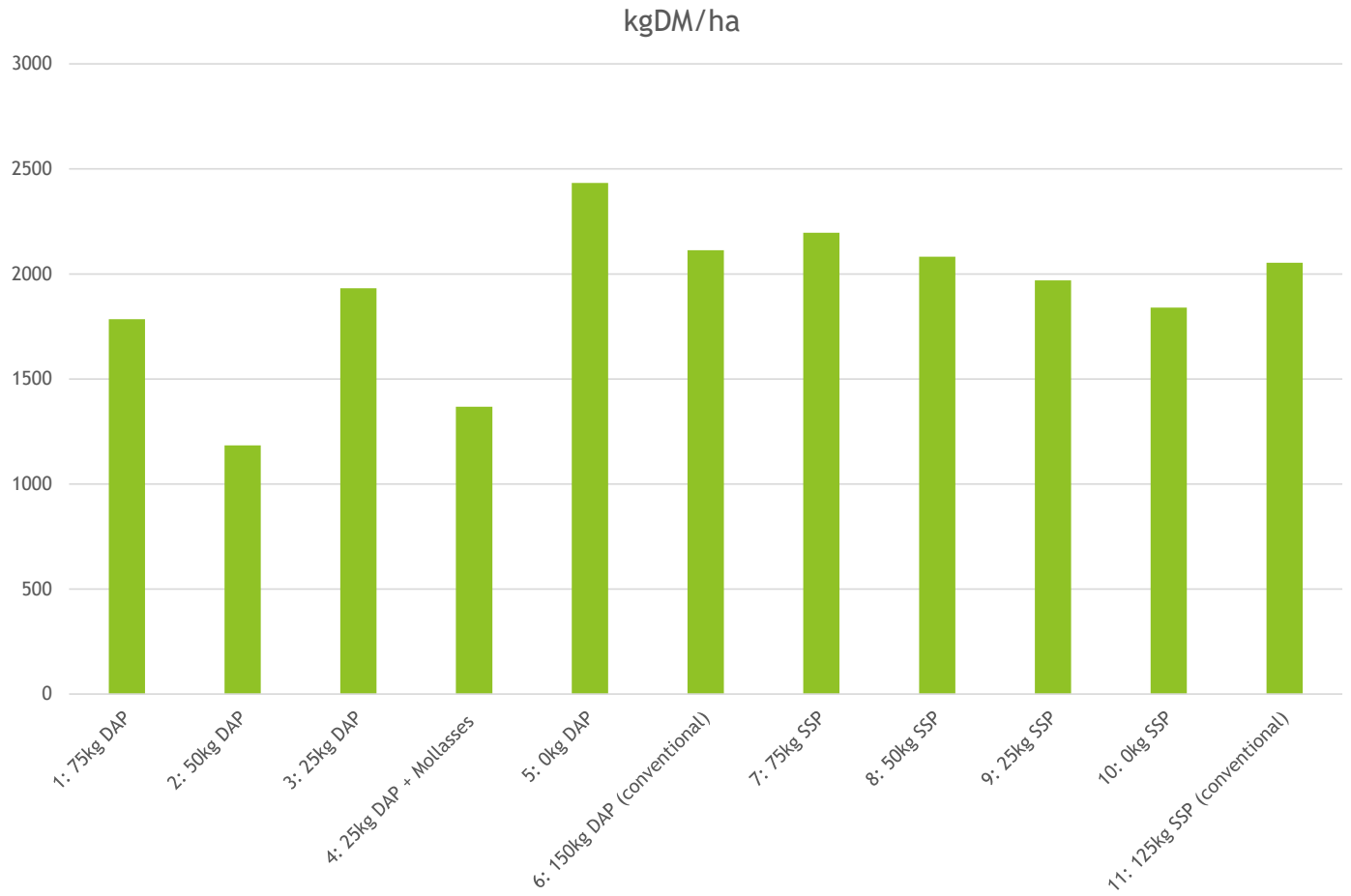
Due for second graze – too wet

August 2022

Plot 4 – 25kg DAP + Nutrisoil and Best systems TM + molasses/feed pellets

Productivity (Dry matter)

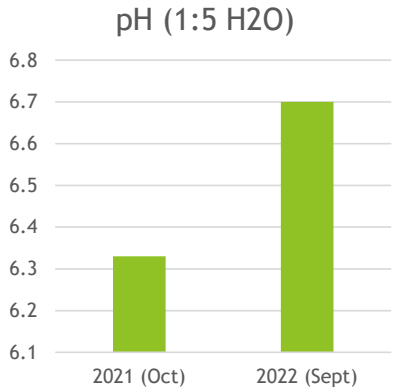
September 2022


kgDM/ha
3000
2500
2000
1500
1000
500
0
1: 75kg DAP
2: 50kg DAP
3: 25kg DAP
4: 25kg DAP + Molasses
5: 0kg DAP
6: 150kg DAP (conventional)
7: 75kg SSP
8: 50kg SSP
9: 25kg SSP
10: 0kg SSP
11: 125kg SSP (conventional)

Soil testing

ANALYSIS RESULTS

Paddock Name	TRIAL
Sample Depth (cm)	**0-10**
Soil texture	Sandy Loam
pH (1:5 H2O)	6.7 Satisfactory
pH (1:5 CaCl2)	5.8 Satisfactory
EC (1:5 H2O) dS/m	0.05 Satisfactory
EC (se) (dS/m)	0.5 Satisfactory
EC (se) (dS/m) (Cladj)	0.3 Satisfactory
Chloride (1:5 H2O) mg/kg	11 Satisfactory
Nitrate nitrogen (KCl) mg/kg	3 Low
Ammonium nitrogen (KCl) mg/kg	5 Sufficient
Phosphorus (Colwell) mg/kg	67 High
Phosphorus Buffer Index (Colwell) (PBIc)	60 Satisfactory
Phosphorus Environmental Risk Index	1.1 High
Potassium (Amm-Acet.) cmol+/kg	0.17 Low
Potassium % of CEC	2.9 Sufficient
Sodium:Potassium Ratio	0.3 Satisfactory
Sulfate-S (KCl40) mg/kg	4 Sufficient
Calcium (Amm-Acet) cmol+/kg	5.1 Sufficient
Calcium % of CEC	87 Sufficient
Magnesium (Amm-Acet.) cmol+/kg	0.5 Sufficient
Magnesium % cations	9.2 Satisfactory
Calcium:magnesium ratio	9.4
Calcium:Magnesium Ratio (cmol+/kg)	9.4
Sodium (Amm-Acet.) cmol+/kg	0.05 Sufficient
Exch. sodium %	0.9 Satisfactory
Electrochemical Stability Index	0.056 Satisfactory
Aluminium (KCl) (prewash) cmol+/kg	0.1 Sufficient
Aluminium Saturation %	1 Sufficient
eCEC cmol+/kg	5.9 Satisfactory



Important measures:

- Ph
- **Total** C and N (C:N ratio)
- **Total** P

Plot 1 – 75kg DAP

Plot 5 – 0kg DAP

Plot 11 – 100kg DAP

October 2022

Plot 5 – 0kg DAP

Untreated

October 2022

Look,
Smell,
Taste!...

Observations

- Quick establishment of winter feed and ground cover
- Trials performed better in better draining soils
- Plot 5 (0kg DAP) resulted in the highest kgDM/ha
- Soil tests – good baseline indicators
- Complexity of roots – change in soil colour and smell in plots
- Easier to dig (less compaction) in plots compared to untreated areas
- Seasonal succession of species
- Waterlogging and potential leaching

Challenges

- Rain restricting grazing and follow up foliar applications (management)
- Adequate grazing pressure

Next steps?

- Perennials
- Measuring/monitoring useful soil health indicators (organic matter - N and C) and microbiology

Other trials by farmers in Goulburn Mulwaree Landcare

Conclusions

- Start small - experiment!
- Plants + soil biology = living soil and resilience!
- Question the status quo of synthetics
- Wein off/adjust - no ‘cold turkey’
- No soil or system is the same
- **‘Am I medicating and mining, or am I fostering life and regenerating?’**

OFFICIAL

Resources

- Gabe Brown: Dirt to Soil – Book/audiobook
- Graeme Sait: Nutrition Farming podcast
- John Kempf: Regenerative Agriculture podcast
- Nakala Maddock: Biological Farming Roundtable podcast
- Nicole Masters: For the Love of Soils – Book/audiobook
- Matthew Evans: Soil – Book/audiobook
- Goulburn Mulwaree Landcare Project Officer