



Department of
Primary Industries

Pasture Improvement Plans



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A successful plan needs good data

- Assess status of your pastures
 - Post drought - what has survived?
 - Pasture species – perennial content
 - Weeds - perennial, annuals
 - Pasture quality, legume content
 - Sustainability - ground cover, litter, soil
- What do you need, what are your goals
 - Production - stock requirements
 - Improve condition of pdk



Assess for success

- Various pasture assessment methods
- Benchmarks
 - Established pasture
 - Temperate species: 8 – 12 plants/m²
 - Tropical species: 1 – 9 plants/m²
 - Native perennials: 8 – 15 plants/m²
 - Establishing pasture
 - 25 grass seedlings & 15 clover seedlings/m²

Production & sustainability indicators

INDICATORS	LOW	MEDIUM	HIGH
Ground Cover	less than 40%	40 - 70%	more than 70%
Litter	less than 1 handful/0.1m ²	1 – 2 handfuls/0.1m ²	3 or more handfuls/0.1m ²
Soil Surface	hard or capped no indent	firm small indent	soft and friable easily marked
Proportion of Green	less than 20%	20 - 60%	more than 60%
Proportion of Productive Pasture Species	less than 45%	45 - 60%	more than 60%
Legume Proportion			
Native Pastures	less than 1%	1 - 5%	more than 5%
Fertilised Native Pastures	less than 5%	5 - 10%	more than 10%
Improved Pastures	less than 10%	10 - 30%	30 - 40%
Suitability for Animal Production	lose weight	maintain weight	gain weight or reproduction

PASTURE COMPOSITION AND GROUND COVER CHECK

EXAMPLE

Ground Cover Type	Tally of "hits"	No. of "hits"	% of "hits"
<i>Pasture Grasses - Perennial</i>			
Danthonia	JHT III	8	20
Red grass	IIII	4	10
<i>Pasture Grasses - Annual</i>			
Liverseed grass	II	2	5
<i>Pasture Legumes</i>			
Ball clover	II	2	5
Weed	JHT JHT II	12	30
Litter	IIII	4	10
Manure	II	2	5
Rock			
Bare Soil	JHT I	6	15
		Total hits →	40
		Total % →	100
GROUND COVER = Total % - Bare soil % (100 - 15)			85%

Draw up a priority list for pasture renovation

Paddock Status	Options	Priority
Degraded, substantial loss of introduced perennials (<4 plants/m ²), heavy weed invasion	Annual forage crop, short-term pasture, weed control for 2-3 years before re-sowing pasture. Develop a re-sow plan.	High Select the most arable & fertile paddocks first
Partial loss of perennial grasses (4-8 plants/m ²), some weed invasion, legume recovery likely	Seasonal weed control, direct drill to increase perennial/legume content. Address soil fertility. Strategic grazing management	Moderate Continue to monitor
High survival of perennial grasses ≥6-8 plants/m ²), poor legume survival poor-moderate legume survival, some weed invasion	Re-introduce legume (sod/broadcast). Selective weed removal. Address soil fertility issues. Strategic grazing management.	Moderate Continue to monitor

Modified from NSW DPI Drought Recovery Guide

When you need to re-sow

- Plan, plan & plan with your advisor
 - Have clear goals – what is the purpose of the pasture?
 - Pre sowing weed control (treat your pasture like a crop)
 - Species selection
 - Address soil fertility issues
 - Sowing method (timing, depth)
 - Seed quality
 - Maximise your legumes – get inoculation right
 - Pest & disease control
 - Post establishment weed management
 - Grazing management





Addressing Soil Fertility

- Representative sample
- Analysis from an accredited lab
- Interpretation - trained advisor

Why conduct a soil test

- Diagnosis of problem areas
- Nutrient status - major elements
- On-going monitor of fertility status



Lovegrass Paddock results

SOILTEC

SOIL AND PLANT ANALYSIS

2/37 OWENS CR (PO BOX 374) ALSTONVILLE NSW 2477
PHONE 02 66281411 FAX 02 66285868 EMAIL : chemist@soiltec.com.au

Soil Test Report #s21-0093 (3)

Client: **L Hogan**
Account: **Lucerne**
211 Dangar Falls Rd
Armidale NSW2352

Sample Received: 4.1.2021 Report Reply: 11.1.2021
SAMPLE I.D: Lovegrass INTENDED USE: Pasture

	RESULT	OPTIMAL
Conductivity (dS/m)(1:5 water)	0.11	<0.15
pH (1:5 CaCl ₂)	4.72	5.2-5.5
Exchangeable Cations: (Measured)		
Calcium (Ca)(meq/100g)	4.04	See Percentage
Magnesium: (Mg)(meq/100g)	1.96	See Percentage
Potassium: (K)(meq/100g)	0.32	0.5-1.0
Sodium: (Na)(meq/100g)	0.02	Zero
Aluminium: (Al)(meq/100g)	0.22	Zero
Total Cation Exchange Capacity (CEC):	6.56	
Exchangeable Cations (as a % of Total)		
Calcium:	61.59	65-80%
Magnesium:	29.88	15-20%
Potassium:	4.88	2-5%
Sodium:	0.30	<3%
Aluminium:	3.35	<5%
Phosphorus: (mg/kg) (Bray-1)	13.8	18-22
(mg/kg) (Colwell)	20.1	
PBI (phosphorus buffer Index)	45.2	
Sulphur (mg/kg) (KCl 40 S)	6.1	8-10
Nitrate Nitrogen (mg/kg) (water extract)	18.4	At least 10
Organic Carbon (%) (Walkely & Black)	2.5	2% or more
Trace Elements		
Copper (mg/kg) (DTPA)	0.9	
Zinc (mg/kg) (DTPA)	0.7	
Manganese (mg/kg) (DTPA)	31.2	
Iron (mg/kg) (DTPA)	35.2	
Boron (mg/kg) (Hot CaCl)	0.6	
Calculations:		
Lime Requirement (Cregan)	0.29	(see notes on page 2)
Calcium/Magnesium Ratio:	2.06	3-5

~ASPAC~

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