Lower Blackwood Landcare

Monitoring & Feed budget

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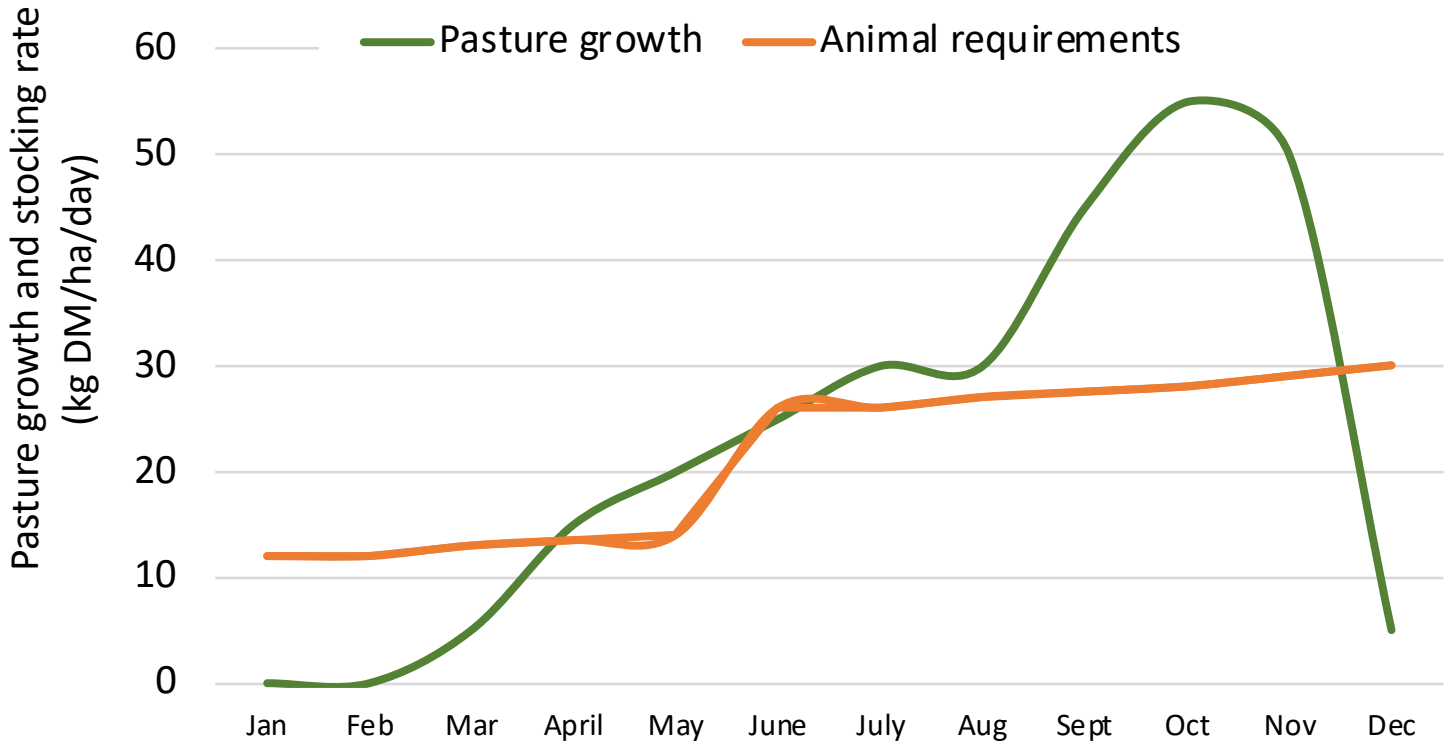
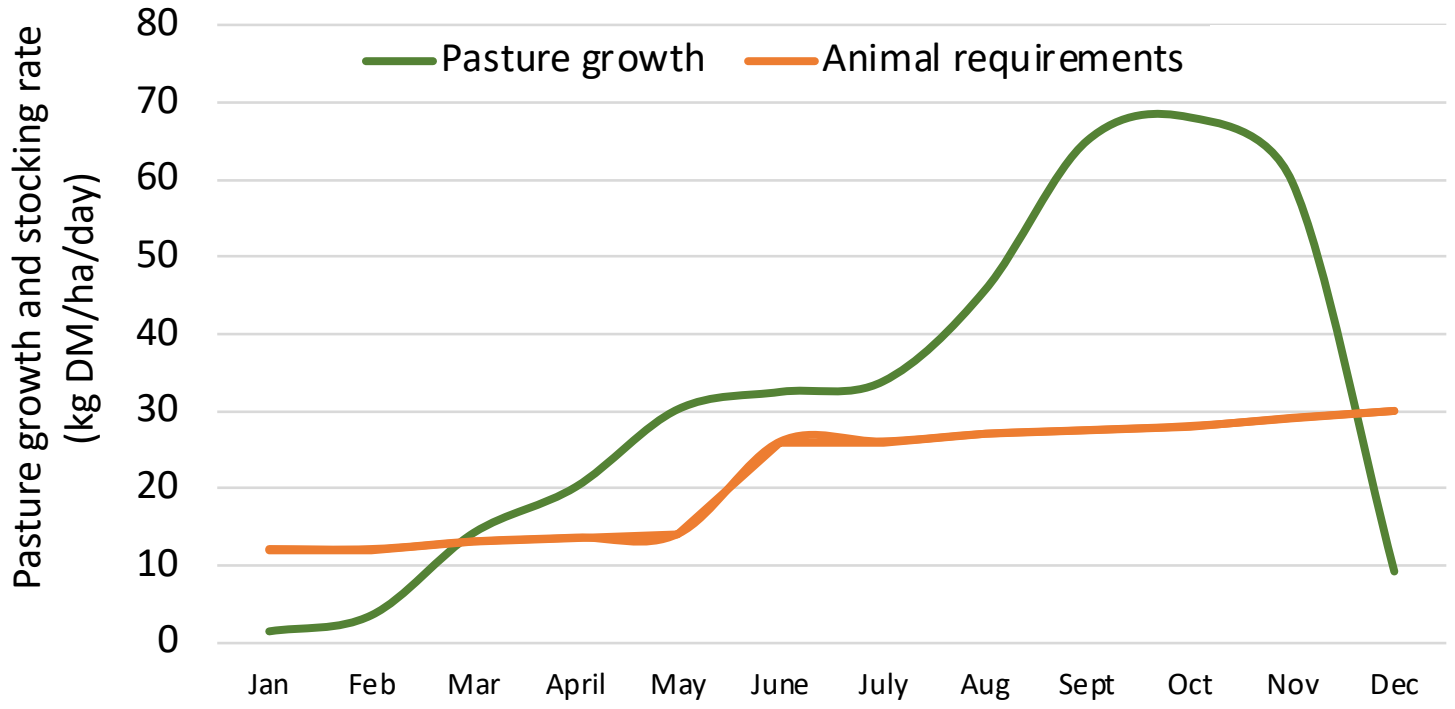
13 March 2023

AIMS

Feed budget


Pasture growth
Animal requirements
Pasture growth and stocking rate (kg DM/ha/day)
60
50
40
30
20
10
0
Jan
Feb
Mar
April
May
June
July
Aug
Sept
Oct
Nov
Dec

Feed budget


Pasture growth and stocking rate (kg DM/ha/day)
80
70
60
50
40
30
20
10
0
Pasture growth
Animal requirements
Jan
Feb
Mar
April
May
June
July
Aug
Sept
Oct
Nov
Dec

How to estimate herbage mass

Measure pasture height in centimetres

Pasture height = 10 cm

Estimate pasture density

Very low **Density = 200 kg DM/ha/cm**

Ground seen through sparse pasture

Low **Density = 250 kg DM/ha/cm**

Ground occasionally seen through average pasture

Average **Density = 300 kg DM/ha/cm**

Ground not visible through average pasture

High **Density = 400 kg DM/ha/cm**

How to estimate herbage mass

Multiply pasture height x density

Pasture height = 10 cm

Density = 300 kg DM/ha/cm

Herbage mass = 10 x 300 = 3,000 kg DM/ha

Additional considerations

- Herbage mass – percentage edible
- Percentage green
- Groundcover
- Contribution of plant types to herbage mass
  - Perennial grasses - Annual grasses
  - Legumes - Forbs
- Diversity of desirable (perennial) grasses

25% ground cover

50% ground cover

75% ground cover

Pasture density = 200 kg DM/ha/cm

100% ground cover

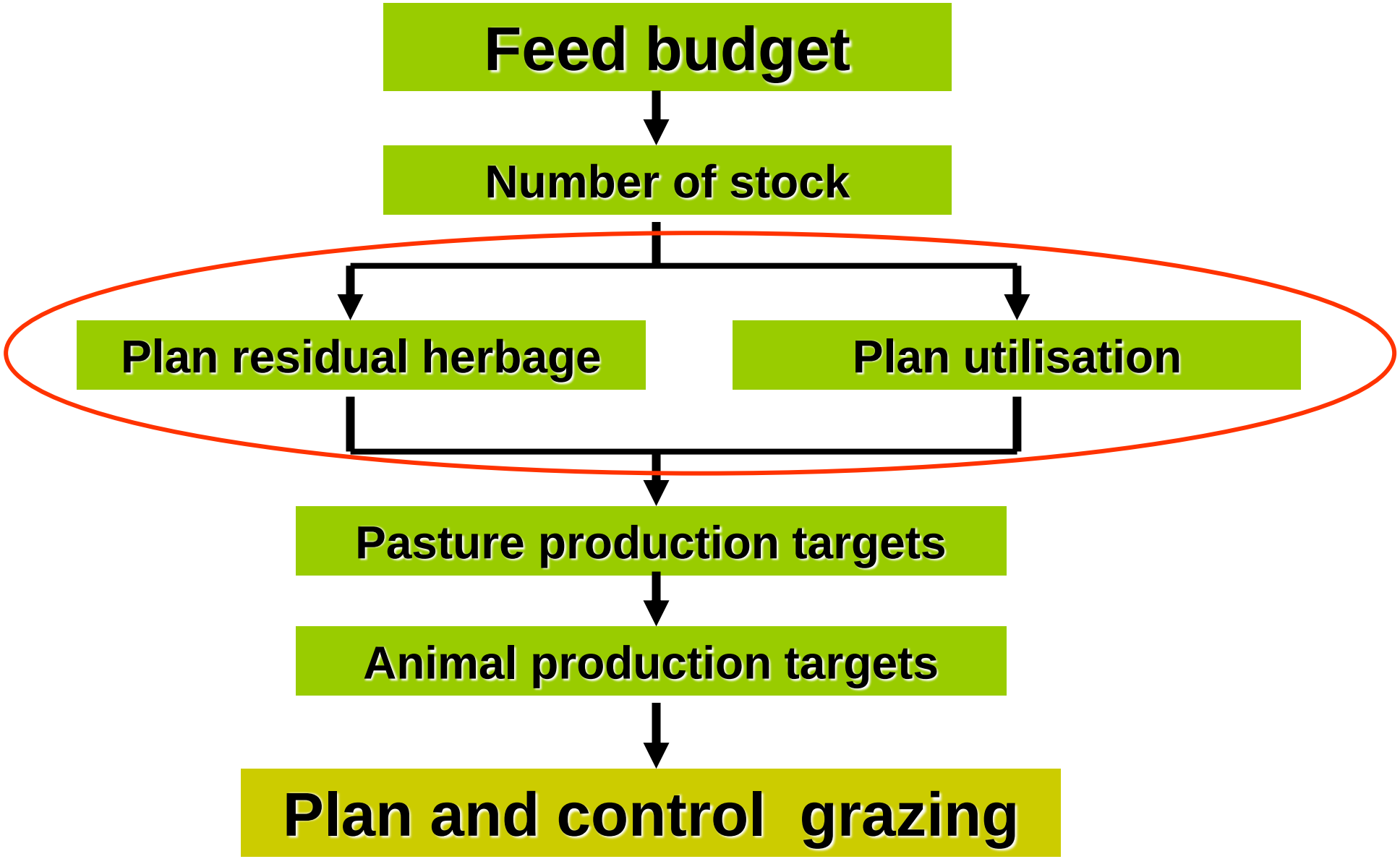
Pasture density = 300 kg DM/ha/cm


Broadleaf component 10 - 15%
Legume component 15 - 25%
Annual grass component 10 - 15%
Perennial grass component 60 – 80%

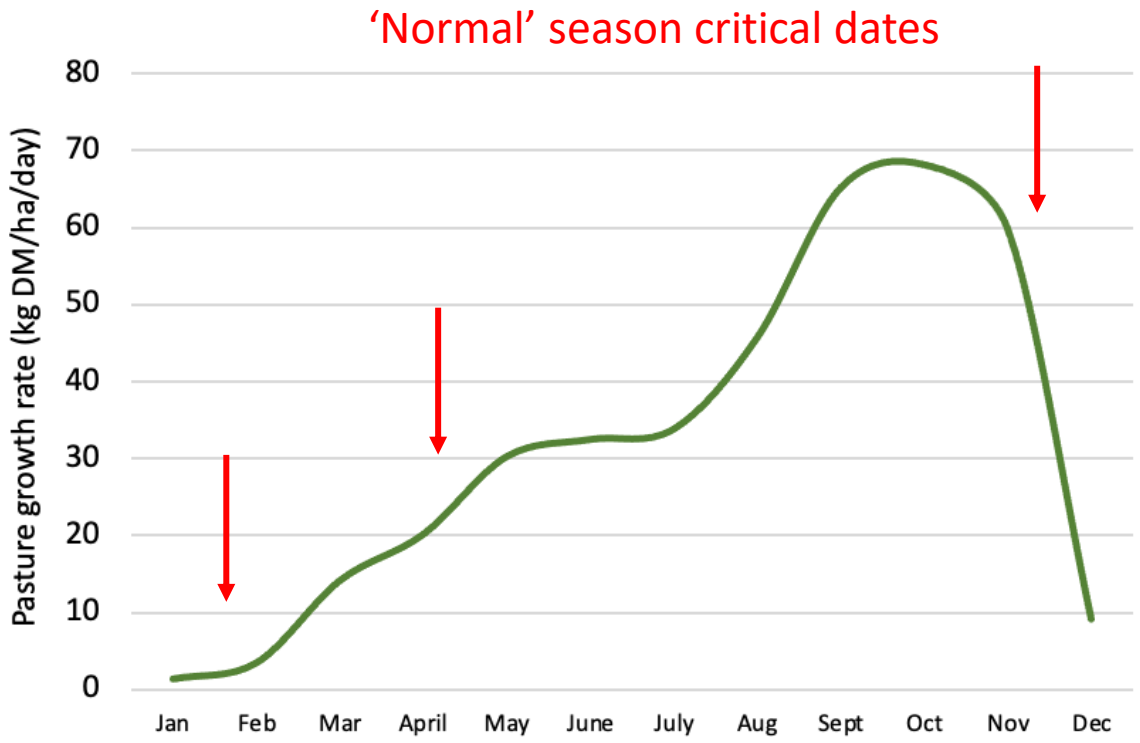
Calculation of pasture growth rate

Example:

1 March 2022	Herbage Mass Day 1	1000 (kg DM/ha)
31 May 2022	Herbage Mass Day 92	2000 (kg DM/ha)
	Stock intake (kg DM/ha)	1300 (kg DM/ha)
	PGR = $\frac{(2000 - 1000) + 1300}{92 \text{ days}}$	kg DM/ha
	= 25 kg DM/ha/day	


Feed budget
Number of stock
Plan residual herbage
Plan utilisation
Pasture production targets
Animal production targets
Plan and control grazing

Feed budget - critical dates



Things needed for a feed budget

Estimate

- Grazeable area
- Herbage mass
- DSE values – stock requirements
- Pasture growth rate

Set

- Minimum herbage mass – residual targets

DSE values

Dry Sheep Equivalent *1 DSE eats 1 kg of pasture each day*

DSE ratings for cattle

Weight of cow (kg)	Pregancy/ lactation	DSE rating
400	dry	7.5
400	pregnant early	8.0
400	pregnant late	9.5
400	lactating early	14.0
400	lactating late	17.0
500	dry	9.5
500	pregnant early	10.0
500	pregnant late	11.5
500	lactating early	16.0
500	lactating late	19.0

Feed budget - how many stock (DSE) can you carry

Information required:

1. Farm area (ha)
2. Length of period (days)
3. Type of stock during period
4. DSE rating for stock type
5. Herbage mass at start of period
6. Desired herbage mass at end of period

Example

Farm area (ha)	250
Start of period (date)	1/11/21
End of period (date)	30/4/22
Length of period (days)	180
Start herbage mass (kg DM/ha)	3000
Desired end herbage mass (kg DM/ha)	2000
Pasture growth rate (kg DM/ha/d)	0.0
Available feed (kg DM/ha/d)	5.6
Type of stock	pregnant ewes
DSE/head	1.1
Number of stock units/ha	5.1
Number of stock units	1263

Your data

F	Farm area (ha)	
	Start of period (date)	
	End of period (date)	
C	Length of period (days)	
A	Start herbage mass (kg DM/ha)	
B	Desired end herbage mass (kg DM/ha)	
D	Pasture growth rate (kg DM/ha/d)	
	Available feed (kg DM/ha/d)	
	Type of stock	
E	DSE/head	
	Number of stock units/ha	
	Number of stock units	

Available feed = [(start herbage 'A' - end herbage 'B') ÷ length of period 'C'] + pasture growth rate 'D'

Number of stock/ha = (available feed ÷ DSE per head 'E')

Number of stock units= (number of stock units/ha x paddock area 'F')

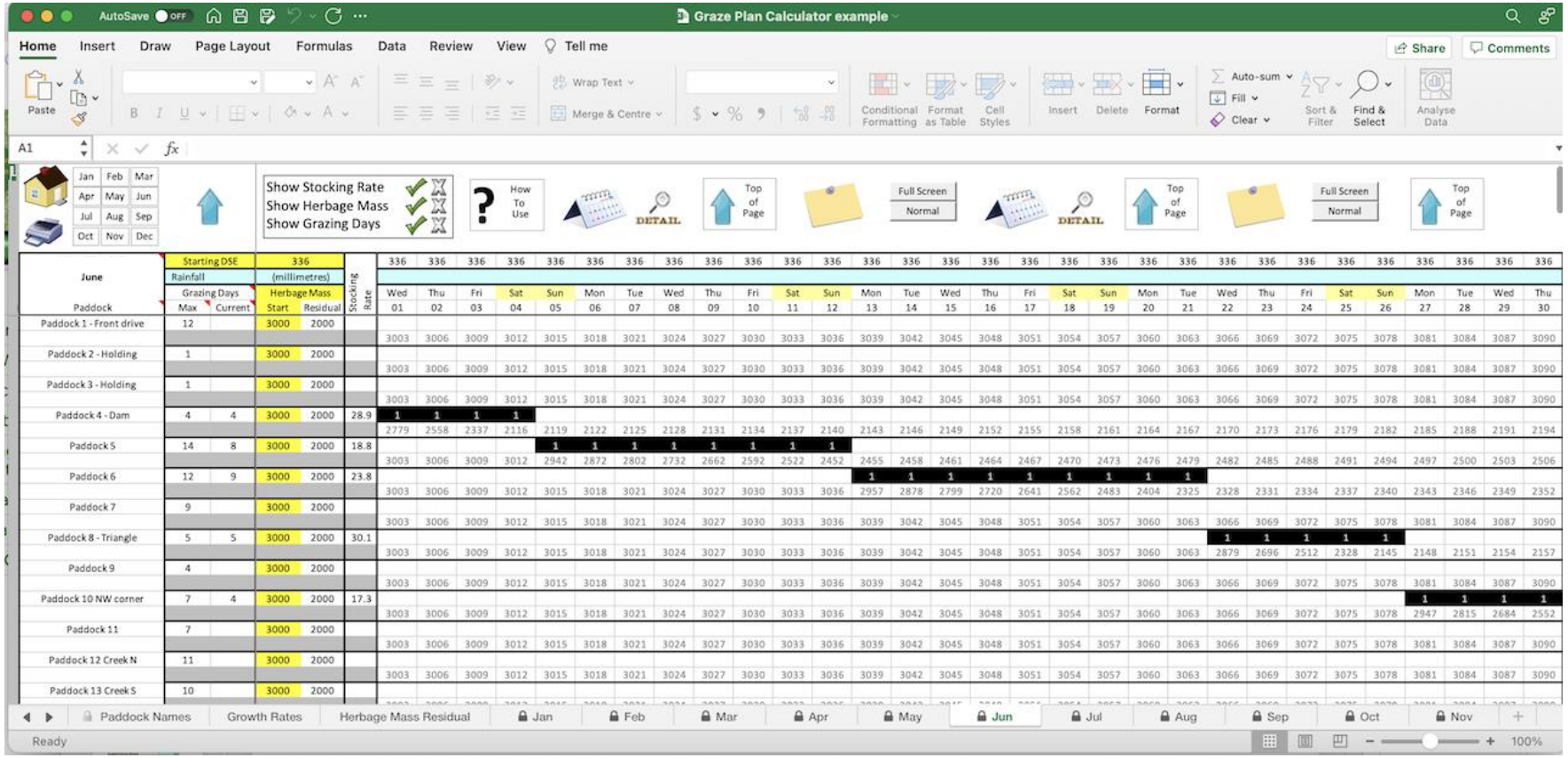
Feed budgeting

- The process aids decision making about selling, keeping or feeding livestock
  - how much pasture is available
  - how much pasture needs to remain
  - what's the likely pasture growth

- Calculate feed budgets using this information
  - how many animals can I carry and for how long

Grazing plan – feed budget based

AIMS graze plan calculator



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Excel spreadsheet & Guide to use the calculator