RED MEAT UPDATES

TASMANIA

26 July 2019

Maximising winter pasture production

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Overview

- Feed budgeting
- Grazing management
- Nitrogen fertiliser
- Gibberellic acid

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Feed budgeting

- By early autumn have a seasonal feed budget to identify:
  - feed supply position
  - feed demand, based on stocking rate considerations
  - supplementary feed requirements.
- To effectively feed budget you need to know:
  - animal feed requirements
  - how much feed is available
  - pasture growth rates
  - access to or ability to build a feed budget tool.

	Units		Example
Area	Ha	A	20
Duration of grazing	Days	B	22
Pasture/crop growth rate during grazing	Kg DM/ha/day	C	20
Grazing efficiency wastage	%	D	30%
Animal feed demand	Kg DM/head/day	E	2
Allocatable feed requirement		F	2.6
Current pasture/crop cover	kg DM/ha	G	2000
Desired residual pasture/crop cover	Kg DM/ha	H	1000
Feed grown per hectare	Kg DM/ha	I = (G - H) + (B x C)	1444
Total feed grown	Kg DM	J = (I x A)	28880
Number of animals	head	K = J / F / B	500

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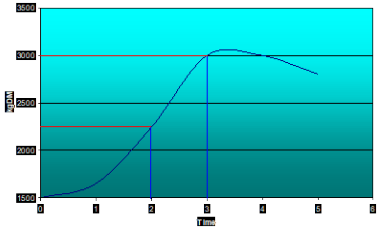
Grazing management

- After the autumn break rains delay grazing until the pastures have reached the second leaf stage
- Confinement and supplementary feeding:
  - allows optimal autumn pasture recovery
  - extends the grazing rotation and builds a feed wedge
  - achieves animal performance targets.
- Adopt a leaf-stage based grazing strategy:
  - For ryegrass graze on a 2.5 – 3 leaf growth stage.
  - By late autumn aim for a 60-day grazing rotation.
  - Based on a winter leaf emergence rate of 20–25 days, the grazing rotation length would be 60–75 days.



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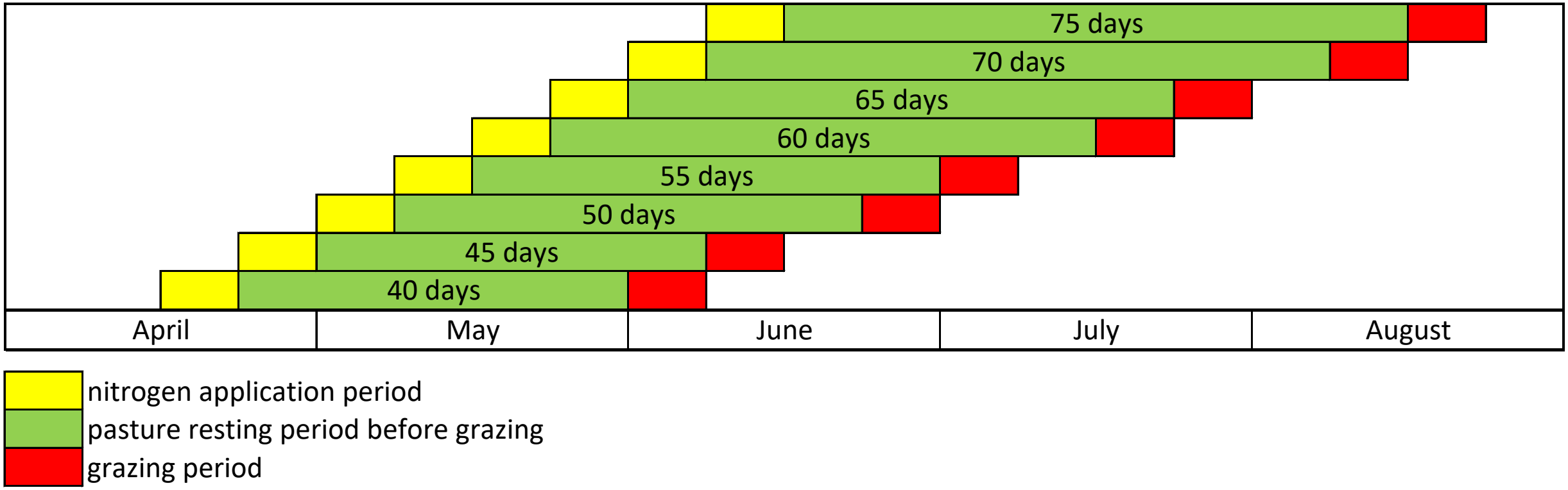
Nitrogen (N) fertiliser

- Urea, sulphate of ammonia, UAN and DAP
  - Opportunity for NPK blends during early–mid autumn.
  - Straight nitrogen applications from mid-autumn onwards.
- Typical 10:1 response (e.g. 10kg DM per 1kg N)
- Does not increase the leaf emergence rate
- To ensure the optimal dry matter (DM) response:
  - stagger nitrogen applications from mid autumn onwards
  - apply nitrogen immediately after grazing
  - grow a minimum of two leaves (ideally three) before grazing
  - you can apply nitrogen to soils down to 4°C (although the pasture DM response below 7°C will be much reduced)
  - avoid applying nitrogen to waterlogged soil.

Nitrogen fertiliser application calendar



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Gibberellic acid (GA)

- A plant hormone that increases DM accumulation.
- Typical response of 100–200kg DM/ha.
- Does not increase the leaf emergence rate.
- To ensure the optimal DM response:
  - Soil temperatures should be <10°C and declining.
  - Apply when you have at least one leaf present.
  - Allow 30–40 days before grazing.
  - GA and nitrogen fertiliser have an additive DM response
  - DM response is relative to pasture quality and soil fertility.
  - Grass responsiveness:
    - phalaris (most) > ryegrass > tall fescue > cocksfoot (least)

Comparison of supplementary feed costs

Feed	Details	Approximate cost ($/kg DM)
Nitrogen-grown pasture	Urea @ $600/t, $10/ha spreading, applied at 80kg/ha (10:1 response)	0.15
Gibberellic acid-grown pasture	Progibb @ $10/ha, $15/ha application*(150kg DM/ha response)	0.15
Silage	Silage @ $60/bale, 50% DM, 10MJ/kg DM, 25% wastage	0.45
Grain	Wheat @ $450/t, 90% DM, 13MJ/kg DM, 10% wastage	0.50

Top three take-home messages

1. Feed budget to understand and appreciate your overall feed demand and supply situation.

2. Apply nitrogen (N) and gibberellic acid (GA) well in advance of when additional dry matter (DM) is required and offer supplementary feed to increase feed availability and help extend the grazing rotation.

3. Adopt the correct grazing management strategy to achieve the correct grazing rotation length and optimise DM production.

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Tools, resources and training

- www.evergraze.com.au/library-content/fill-the-winter-feed-gap/
- www.mla.com.au/extension-and-training/tools-calculators/feed-budget-and-rotation-planner/
- www.macquariefranklin.com.au/wp-content/uploads/2016/01/Grazing-Management-Tools_V1.1
- www.evergraze.com.au/tools/#feedbudgets
- Pasture Principles grazing management course, Macquarie Franklin

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