FEED BUDGETING INFORMATION SHEETS

FEED BUDGET – FEED SQUARES AD/HA METHOD

Information required

1.
2. Farm Area
3. Length of Period (days) for planning
4. Type of stock during period
5. DSE/LSU rating for Stock type
6. Size of Feed Square for AD
7. Desired AD for end of period left

Calculation

Stock Day Equivalent being used	LSU	DSE	
Farm grazable area (ha)	675		F
Start of Period (Date)	1/4/2019		
End of Period	1/9/2019		
Length of Non-Growing	153		
Length of Drought Reserve	61		
Total Days Required	214		C
Feed Square Diag	18.2	6.7	
Start AD/ha	60:3	423.5	A
Total Stock Days Available	40700	284900	F x A= TSD
Type of Stock	400kg Steers	45kg Wether	
AU per head	1 LSU	1 DSE	E
Carry Capacity	190	1331	TSD/C = CC
Number of stock Total for period	190	1331	CC/E

Your Table

Stock Day Equivalent being used	DSE or LSU	
Farm grazable area (ha)		F
Start of Period (Date)		
End of Period		
Length of Non-Growing		
Length of Drought Reserve		
Total Days Required		C
Feed Square Diag		
Start AD/ha		A
Total Stock Days Available		F x A= TSD
Type of Stock		
AU/LSU per head		E
Carry Capacity		TSD/C = CC
Number of stock Total for period		CC/E

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Diag of Square	Size of square in Square metres which can feed one animals for one day	One Ha will feed this number of animals for one day (Animal days per hectare) The Yield	Number of Stock units of feed for one day in paddock of size: X hectares						
			2	3	4	5	10	15	30
2	2	5000	10000	15000	20000	25000	50000	75000	150000
3	5	2000	4000	6000	8000	10000	20000	30000	60000
4	8	1250	2500	3750	5000	6250	12500	18750	37500
5	13	769	1538	2308	3077	3846	7692	11538	23077
6	18	556	1111	1667	2222	2778	5556	8333	16667
7	25	400	800	1200	1600	2000	4000	6000	12000
8	32	313	625	938	1250	1563	3125	4688	9375
9	41	244	488	732	976	1220	2439	3659	7317
10	50	200	400	600	800	1000	2000	3000	6000
11	61	164	328	492	656	820	1639	2459	4918
13	85	118	235	353	471	588	1176	1765	3529
20	200	50	100	150	200	250	500	750	1500
30	450	22	44	67	89	111	222	333	667

Estimating herbage mass

• Measured as kg dry matter/ha (kg DM/ha)
• Controls feed intake of animals and pasture regrowth rate
• Used to calculate feed budgets and set appropriate stocking rates

   Low: less than 1000 kg DM/ha (sheep); 1,500 kg DM/ha (cattle)
   Feed intake and pasture growth rate will be greatly restricted and desirable species
   may not persist

   Too much: more than 3,000 kg DM/ha (sheep); 4,000 kg DM/ha (cattle)
   No advantage for feed intake, pasture quality and growth rates decline, shading may
   reduce the number of plants

   Ideal: 1,500 – 3,000 kg DM/ha (sheep); 2,000 – 4,000 kg DM/ha (cattle)
   Feed intake, diet selection and pasture growth rates optimised

To calculate:
Step 1: Measure pasture height (cm) from the ground to the top of the bulk of leaves;
   do not extend leaves and do not measure to the top of seed heads. See pasture height
   photo (page 3).

Step 2: Estimate pasture density in terms of kg DM/ha for every centimetre of pasture height

Table: Guide to the estimation of pasture density (kg DM/ha/cm)

Pasture density (kg DM/ha/cm)	Description
150	Ground readily seen through sparse pasture
200	Ground seen through sparse pasture (see ground cover photo)
250	Ground occasionally seen through average pasture
300	Ground not visible through average pasture
350	Good pasture density (see ground cover photo)
400	Dense pasture
450	Very dense pasture

See pasture density photos (next page 2)

Step 3: Multiply pasture height x pasture density
(eg. 10 cm x 250 kg DM/ha/cm = 2,500 kg DM/ha herbage mass)

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Pasture density

150 kg DM/ha/cm

200 kg DM/ha/cm
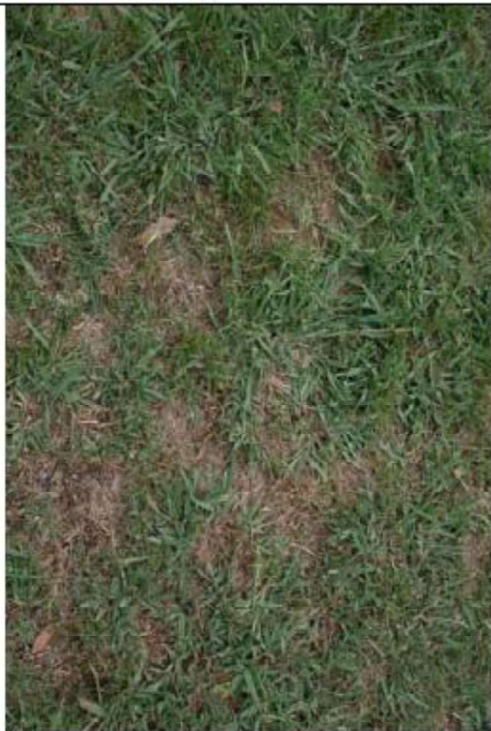
250 kg DM/ha/cm

300 kg DM/ha/cm

Pasture height

Pasture height = 10 cm

(B) Herbage mass – *percentage edible*

- Percentage of herbage mass that would be eaten by livestock
- Measured as percent of herbage mass (%)
- Your estimate may change with season. For example, Poa tussock may be considered not edible during spring, when other green pasture is present but at the end of winter may be considered as a valuable source of roughage

  - o Low: less than 80%
  - o Marginal: 80 – 99%
  - o Ideal: 100%

This information was adapted from material prepared by Dr Lewis Kahn and Dr Judi Earl of Agricultural Information & Monitoring Services. www.aimsag.com.au

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FEED BUDGET – KG DM/HA METHOD

INFORMATION REQUIRED

1. Farm Area
2. Length of Period (days) for planning
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

Calculation

Farm grazable area (ha)	675	F
Start of Period (Date)	1/4/2019	
End of Period	30/10/2019	
Length of period (days)	214	C
Start herbage mass (kg DM/ha)	1921	A
Desired end herbage mas (kg DM/ha)	1500	B
Estimated pasture growth rate (kg DM/ha/d)	0	D
Available Feed (kg DM/ha/d)	1.97	[(A-B)/C]+D
Type of Stock	400kg Steer	
DSE per head	7	E
Number of Stock DSE/ha	.28	AF/E
Number of LSU Total for period	190	[S/ha] x F

Your Table

Farm grazable area (ha)		F
Start of Period (Date)		
End of Period		
Length of period (days)		C
Start herbage mass (kg DM/ha)		A
Desired end herbage mas (kg DM/ha)		B
Estimated pasture growth rate (kg DM/ha/d)		D
Available Feed (kg DM/ha/d)		[(A-B)/C]+D
Type of Stock		
DSE/head		E
Number of stock/ha		AF/E
Number of stock Total for period		[S/ha] x F

Available Feed = [(Start Herbage 'A' – Desired end Herbage 'B') / length of period 'C'] + Est pasture growth rate 'D'

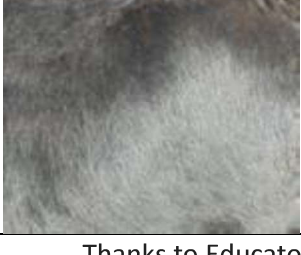**Number of stock/Ha** = (Available Feed / DSE per Head)

Number of Stock = (Number of stock/Ha x Paddock/Farm Area 'F')

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Cattle gut fill Monitoring

You can check gut fill by looking at the left-hand side of the animal between the last rib, the backbone and the hip bone (*paralumbar fossa*, Figure 4).

Score 1		The animal's left-hand side is deeply sunken between the hip bone and the ribs. The animal has eaten little or nothing, which could be due to sudden illness, insufficient feed or a mismatch between rumen flora and feed available.
Score 2		The animal's left-hand side is deeply sunken between the hip bone and the ribs. This is a sign of insufficient food intake, or a rate of passage that is too high.
Score 3		The animal's left-hand side is slightly sunken between the hip bone and the ribs. This is the lowest score for animals on well recovered grass. Generally when a portion of the mob is at score 3 it is time to move to the next paddock.
Score 4		The animal's left-hand side is not sunken between the hip bone and the ribs. This is the correct score for a portion of the mob on well recovered grass. Animals will generally be maintaining or increasing in condition.
Score 5		The animal's left-hand side is proud or convex between the hip bone and the ribs. This is the correct score for animals on well recovered grass and show a good match between rumen condition and food available. Animals will generally be increasing in condition.

Thanks to Educator Graeme Hand and NRM South for this article www.nrmsouth.org.au

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Cattle Dung Score Card

Looking at your animals' dung will help you to work out how well they are digesting available grass, whether the grass has recovered and if it has a good balance of protein, fibre and energy/carbohydrates. Observe freshly dropped dung and give it a score according to the table on the next page. Note: water quality can affect dung scoring. If the water quality is poor the animals can be dehydrated, which will affect the consistency of their dung. This makes it harder to assess the influence of feed quality and quantity.

Score 1		**Watery** - This dung is very liquid with a consistency between water and pea soup. Dirty rumps are seen. The dung may actually "arc" from the rump of the cow. Excess protein or starch, or lack of fi bre, can lead to this score. With planned grazing the usual cause is grass plants that are very young and not recovered. Animals are at high risk of metabolic diseases. As the animals are using energy to process excess non protein nitrogen they are at risk of rapidly losing condition and having associated health problems.
Score 2		**Custard-like** - Dung appears runny and does not form a distinct pile. Dirty rumps are seen. Dung will measure less than 2.5 cm in height and will splatter when it hits the ground or concrete. With planned grazing the usual cause is grass plants that are young and not recovered. Animals are at risk of metabolic diseases and using energy to process excess non protein nitrogen.
Score 3		**Pie-like** - This is the optimal score! The dung has a porridge-like appearance, will stack up 4 to 5 cm, will appear like a pie with a small depression or dimple in the middle. The dung make a plopping sound when it hits the ground and animals will have clean rumps. With planned grazing this indicates a good match between the grass being selected and rumen conditions. Animals are at low risk of metabolic diseases and health is generally good.
Score 4		**Firm** - The dung is thicker and stacks up over 5 cm. With planned grazing this indicates that grass being selected is lower in protein and energy, and higher in fi bre than is optimal for current rumen conditions. Usually seen when putting animals onto older feed. Animal performance may be lower until the rumen adjusts or younger grass is provided.
Score 5		**Biscuit-like** - This dung appears as a fi rm biscuit-like stack. With planned grazing this generally indicates that grass being selected is low in protein and energy and high in fi bre. Usually seen when putting animals onto very old feed or leaving them to "clean up" plant material that would be best trampled onto the soil surface. Animal performance is usually low. Dehydration would contribute to this score. Cows with a digestive blockage may exhibit this score. Animals are at risk of rapidly losing condition and having associated health problems.

Thanks to Educator Graeme Hand and NRM South for the content www.nrmsouth.org.au

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Sheep Dung Score card

Score 1	**Pea Soup** - This dung is very liquid with the consistency between water and pea soup. The dung may actually "arc" from the rump of the sheep. Excess protein or starch, or lack of fibre, can lead to this score. With planned grazing the usual cause is grass plants that are very young and not recovered. Animals are at high risk of metabolic diseases. As the animals are using energy to process excess non protein nitrogen they are at risk of rapidly losing condition and having associated health problems.
Score 2	**Paste** - Dung appears as a paste with no evidence of pallets. Dirty rumps are seen. Dung will measure less than 2.5 cm in height and splatters when it hits the ground or concrete. With planned grazing the usual cause is grass plants that are young and not recovered. Animals are at risk of metabolic diseases and using energy to process excess non protein nitrogen.
Score 3	**Cone of loose pellets** - The dung ranges from a cone-like appearance with soft deformed pallets to soft pallets sometimes in a pile. Rump is clean. With planned grazing this indicates a good match between the grass being selected and rumen conditions. Animals are at low risk of metabolic diseases and health is generally good.
Score 4	**Firm pellets** - The dung appears as individual firm pellets. Rumps are clean. With planned grazing this indicates that grass being selected is lower in protein and energy and higher in fibre than optimal for current rumen conditions. Usually seen when putting animals onto older feed. Animal performance may be lower until the rumen adjusts or younger grass provided.
Score 5	**Very firm pellets** - This dung appears as very firm pellets. With planned grazing this generally indicates that grass being selected is low in protein and energy and high in fibre. Usually seen when putting animals onto very old feed or leaving them to "clean up" plant material that would be best trampled onto the soil surface. Animal performance usually low. Dehydration would contribute to this score. Animals at risk of rapidly losing condition and associated health problems.

Many thanks to Holistic Management Educator Graeme Hand and NRM South for permission to reproduce this table

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