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PRODUCTIVITY & PROFITABILITY

Containment Feeding of Livestock

Dr Jillian Kelly, Animal Health & Nutrition Consulting

What is Containment Feeding?



"a drought feeding practice that aims to promote animal health and welfare while preserving groundcover and land condition across the majority of the



property"



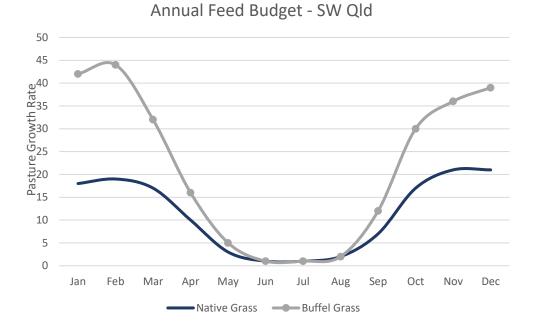


Why Containment Feed?

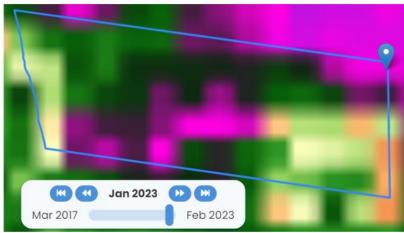
- Reduce Grazing Pressure (SR)
- Conserve topsoil, ground cover
- Reduce Feed Requirements
- Reduce Labour Inputs
- Production Feed
- Early Wean
- Join
- Maintain good welfare & health

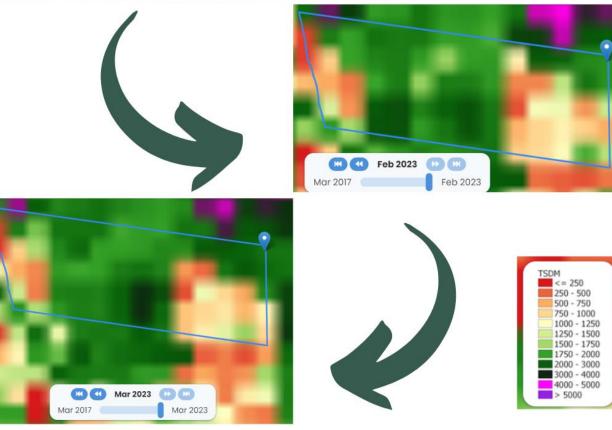




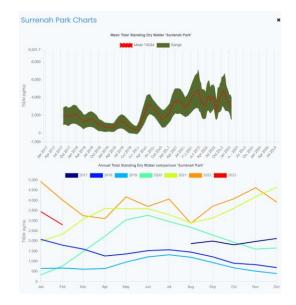












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Feeding Systems – Self Feeders



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Feeding Systems – Self Feeders



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To suggest future topics scan here:





Feeding Systems – Grain Trail



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Feeding Systems - Automated



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Feeding Systems - Automated



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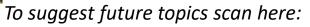


Feeding Systems – Mixed Ration Bunk













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Establishment Considerations



- Stocking density
- Mob size
- Feed trough space
- Water trough space, flow rate
- Shade
- Site Selection (slope, drainage)
- Access to yards & feed storage
- Wet weather access
- Legislation





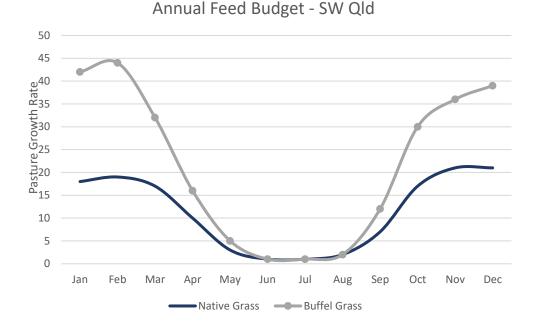


Why Containment Feed?

- Reduce Grazing Pressure (SR)
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Challenges

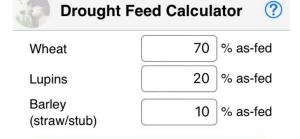
- Cost of establishment and feeding
- Quantity of feed required
- Disease risks
- Environmental impacts
- Labour requirement







Do Your Sums!



The mix must add to 100%. Total: 100

Energy (MJ/kg DM)	12.35
Crude Protein % DM	15.1
Cost cents per MJ	3.44
Cost \$/kg Crude Protein	2.81



382.02

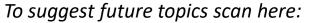
Cost \$ per tonne 'as fed'



Drought Feed Cal	culator)
Live weight (kg)	30	
Feed Option	Mix 🗢	
Feeding Period (Days)	30	
Number of Animals (hd)	3000	
Daily feed amount 'as fed' (kg/hd/day)	0.90	
Cost/hd/day (\$)	0.35	
Cost/hd for period (\$)	10.36	
Total feed amount for period 'as fed' (tonnes)	Wheat (56.95) Lupins (16.27) Barley (straw/stub) (8.14)	
Total ration cost for period (\$)	31079	

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SHEEPCRC PRIMARY	INDUSTRIES		ENTERPR	RISE		PRODUC	CTION SUMMARY	PROFIT SUMMARY
			Sheep Breed or Cross	BLM			DM AS F	
			Number to be Fed	3000	▲ ▶	Daily Intake	kg/h/day DM 1.31 1.4	
BASIC Click to start	ADVANCED Click to start	View Instructions (ADVANCED)	Av Starting Liveweight	(kg) 20	_	Feed Conversion	kg feed/kgLWT 6.0 6.	
			Starting Liveweight Value	(\$/kg lwt)	-	Total feed	kg/lamb 219 24	
sic cost of production calculator	An advanced cost of production calc		Starting Skin Value OR Purchase Price or Value on farm	(\$/skin) 1 (\$/hd) 20.00	Lamb Cost \$ 20.00	Liveweight Change Davs on feed	kg 35.0 davs 159	Income per head (\$/head) 115.16
no nutrition information	with nutrition information	program for first time	Av Target Sale Liveweight	n (\$/hd) 20.00 (kg lwt) 55	\$ 20.00	Days on feed	days 159	Costs per head (\$/head) 135.31 Net Profit - Per Sheep -20.15
			Carcase Sale Price	(\$/kg HSCW) 4.50				Net Pront - Per Sneep -20.15
			Skin Sale Price	(\$/skin) 0.00	Sale Price	Estimated LWT gain (g/h/d	1) 234	Value Added Ration % -21
Use the VIFW o	ption to adjust each page (normally f	from 70 to 120%) to fit your monitor.	Carcase Dressing %	(%) 47		(Provides estimate	of gain - a GUIDE ONLY)	
]]	······	OR Sale Price/head	(\$/hd)	\$ 116.33			CARCASE SUMMARY
For other information C	LICK on button The CRC	for Sheep Industry Innovation Practical Wisdom Sheet		(g/h/d) 220	Actual Growth Rate		SUMMARY	Average HSCW (All) HCSW 25.9
			OR Days on feed	(days)	220 g/day	Ration cost	As Fed 384	Total HCSW kg sold 76775
Feedlotting Lan	nhs Primefacts		Daily Level of feeding (DM)	(% of lwt) 3.5		Ration cost	\$/tonne DM 426	Average HCSW (\$/kg) 4.50
		NSW DPI Primefacts	-			Metabolisable Energy (ME		(HCSW= Hot Standard Carcase Weight)
						Crude Protein (CP) Average Dry Matter (DM)	% DM 16.5 % DM 90	COST SUMMARY (\$/SHEEP)
						Ca:P ratio (estimate)	1.6 to 1	Purchase 20.00
		predict profitability for feedlotting. In addition it can be	STEPS FOR ADVANCED CALC	CULATOR -			110 101	Selling 10.79
		the live sheep trade where intakes may be restricted. mentary feeding predictions as pastures can be entered in	USE tabs below to move between st	boote				Running 0.30
the other feeds section.		······································		lieets -		LOOK FOR COMMEN	T BOX -helpful hints	Labour 7.95
			USE instruction buttons for informa	ation as required				Feed 96.26
			1. Enter in Enterprise details			Help - Getting Started F	eedlotting Lambs Primefacts	Fixed 0.00
			2. Go to Input sheet and enter in Co					TOTAL 135.31
			3. Go to Ration Sheet, enter in Ratio 4. Go to Feed Values and enter in pr			PRI	NT REPORTS	
			5. Return to summary page and che				Detions	
			Fine tune results by making adjustn	ment(s) to entries as require	be	Summary In	nputs Rations	
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COST SUMMA	RY (\$/SHEEP)
Purchase	20.00
Selling	10.79
Running	0.30
Labour	7.95
Feed	96.26
Fixed	0.00
TOTAL	135.31

PROFIT SUMMA	RY	
TOTAL INCOME	(\$)	345485
Total Costs	(\$)	405925
Net Profit - Total	(\$)	-60440
Income per head	(\$/head)	115.16
Costs per head	(\$/head)	135.31
Net Profit - Per She	ер	-20.15

	St	eer/He	ifer Bu	ıdg	et 3	1.10.2	23			
Buy In/Store Value (\$/hd)										
Feeding period	60		ON	LY A	DIU3	ST FIGU	IRES IN	ORAN	GE CELI	LS
MJ Maitenance MJ Weight Gain/kg weight	55 34 300									
Ratior		<u> </u>								
Katior	As Fed %	Dry Matter %	\$/tonne	(\$∦kg	DM	NDF	ME	CP	EE
Barley	50%	50%	\$ 430	\$	0.43	90	16			1.5
Barley Straw	24%	24%	\$ 300	\$	0.30	90	80			0.4
Lupins Feedlot Concentrate	24% 2%	24% 2%	\$ 440 \$ 1,181	\$ \$	0.44 1.18	90 95	22 0			1
reeulot Concentrate	2/0	2/0	-р (, io i	¢	1. 10	30	U	0.0	00%	
	100%	100%	\$ 416	\$	0.42	90	32	10.9	15.6%	3.5
Metabolisable Energy MJ MEłkg Crude Protein (%)	10.9 15.6%									
Neutral Detergent Fibre (%)	32									
Dry Matter (%)	90									
Feed Required		Unlimited	Lini	miter	1 Quan	titu - Δs Fe	ed Feed F	Requiremen	ate	
kg/head/day DM		11.1	0.1				¥day	t/feeding		
kg/head/day 'as fed'		12.3				Barley	1.72	103		
imobiday 'as fed'		3.4			Bar	ey Straw	0.82	49		
uniouluay as reu										
				F	J	Lupins	0.82			
				Fee	dlot Co	Lupins ncentrate	0.82 0.07			
				Fee	dlot Co			4		
Gain				Fee	dlot Co	ncentrate	0.07	4		
Gain Total MJ provided		121				TOTAL	0.07 3.44	4		
Gain Total MJ provided Estimated ADG		1.95		SL	IMMAF	TOTAL	0.07 3.44 T/LOSS	4		
Gain Total MJ provided Estimated ADG Weight at end of feeding period I	(g/hd)	1.95 417		SL Buy I	JMMAF In Price	TOTAL	0.07 3.44 T/LOSS \$ 500	4		
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Livestock Management



- Imprint at foot
- Draft on bodyweight
- Remove shy feeders
- Redraft every month
- Take care with induction
- Clean troughs daily
- Check poo & stock health daily









Space

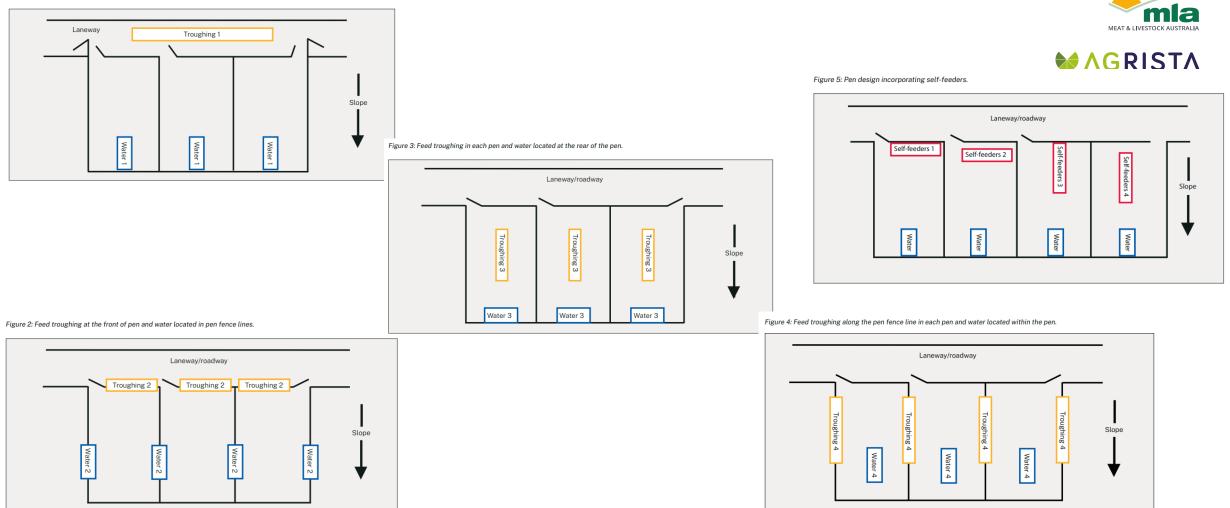


- Stocking density recommendations within confinement systems vary across states and range from 2-5 m² per head for sheep and 9-25 m² per head for cattle.
- Suggested mob sizes within confinement systems:
 - lambs maximum of 350
 - ewes, wethers up to 500
 - weaner cattle 50-100
 - cows, yearling cattle 100-200

\uparrow		Confinement a	rea = 1,500	m²
			Area/head	Number/pen
		Sheep / lambs	5 m²	300
0 m	Confinement pen	Ewes and lambs	100 m ²⁺	15
		Weaners	10 m ²	150
		Yearlings/cows	15 m²	100
		Cows and calves	100 m ²⁺	15



Figure 1: Feed troughing in the laneway and water located at the rear of the pen.



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Space



Recommended trough space allocations (oncedaily feeding) and specifications are:

- Sheep 350-450 mm wide
 - double side access 15+ cm/head
 - single side access 30+ cm/head
- Cattle 550-600 mm wide
 - weaners 30 cm/head
 - yearlings 40 cm/head
 - adult cattle 60 cm/head

Recommended self-feeder space allocations for rectangular feeders are:

- Sheep: 3-5 cm/head (100-120 head per 2.4 metre feeder).
- Cattle: 7-10 cm/head (50-70 head per 2.4 metre feeder).

Water trough space recommendations are: **Sheep**

30 cm plus 1.5 cm per sheep

Example: 300 sheep

- = 30 cm + (300 1.5 cm)
- = 30 + 450 cm
- = 4.8 m total lineal access

Cattle

30 mm/head and/or space for 10% of stock to access water simultaneously during normal weather conditions and 75 mm/head during hot conditions.

Example: 100 cattle

= 30 mm x 100

= 300 mm

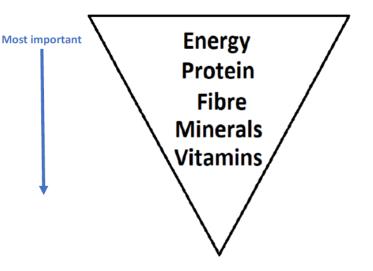
= 3 m of linear trough space during normal conditions or 7.5 m during hot conditions



Livestock Nutrition

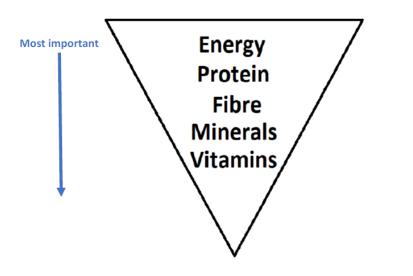


- Example diet might be cereal grain + pulse + hay + vit/min
- NSW DPI Drought Feeding Calculator is great
- Sheep process to match particle sizes
- Cattle processing grains (cereal/pulse) important
- Rumen buffers
- Get some advice to get it right





Step 1: Is there enough MJ in the diet?



Step 2: Is the protein adequate?

Step 3: Is there enough fibre for

- rumen health
- comfort
- heat production
- acidosis prevention
- lactation?

Step 4: Are there enough minerals? In drought diets focus on...

- sodium
- calcium
- Ca: P ratio

Step 5: Are there enough vitamins?
- Does it contain Vitamin A & E?



Induction

- CRITICAL to success
- 10-14 days is best
- Trough out grain in a long trough
 - Enough space, similar body weights
- Everyone comes onto the trough
- Shy feeders are identified and put back onto pasture/hay
- Step grain up slowly over the 10-14 days
- Once, twice or three times a day feeding
- Start at low amounts of feed and step up slowly
- Any change in the weather, feed left on the ground or upset to the routine, go back a step
- Good quality hay, lime and salt, buffers

Imprinting while on mum is VITAL for success





Animal Health Issues

- "The Big 5"
- Acidosis
- Shy Feeders
- Hypocalcaemia
- Water belly
- Vitamin A deficiency
- Pulpy kidney, pneumonia, pink eye, scours, prolapses, PEM.





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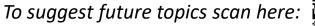




Maintaining Breeders



- Restricting access to too much feed is the focus
- Managing condition score and "fitness"
- Play the long game vitamins and minerals become important
- Can join well in confinement
- But...don't recommend lambing or calving in confinement
- YOUR mental health and lifestyle
- Keep setting decision points and making evidence based decisions







Take Home Messages



- Confinement feeding is a temporary, proactive management strategy to maintain livestock production and reduce grazing pressure.
- Confinement feeding areas can be low cost and versatile.
- Careful planning, attention to detail with regards to livestock management and nutrition is vital for success.



Tools & Resources



Managing & Preparing for Drought Handbook

dpi.nsw.gov.au/ data/assets/pdf file/0006/582531/Managing-drought.pdf

- Dry Times Smoko
- <u>Dry times smoko YouTube</u>
- Drought & Supplementary Feeding Calculator

Drought and Supplementary Feed Calculator (nsw.gov.au)

• A Guide to Confinement Feeding in NSW

<u>lls.nsw.gov.au/ data/assets/pdf file/0005/1431059/LLS confinement-feeding-booklet-web.pdf</u>



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