

Estimating required supplements for breeding ewes (NSW)

Background

It is likely that at some stage during the breeding cycle the available pasture will not be sufficient to meet the energy requirements of your ewes. So you will need to supplementary feed your ewes to ensure they achieve the fat score targets.

The following tables were calculated by Doug Alcock (NSWDPI Livestock Officer, Cooma) using the commercially available Grazfeed™ program.

Step 1: Determine whether your ewes are in an energy deficit

Identify the livestock category and pasture characteristics that best match your current situation using Table 1.

If your ewes fall into one of the shaded boxes this indicates that their energy requirements are currently being met by your available pasture.

If your ewes fall into one of the boxes containing a number this indicates that your ewes are energy deficient at this time and will require supplementation to maintain their condition. The number indicates their likely energy deficiency.

For example a 50kg dry ewe running on 1500 kgDM/ha of 45% digestibility.

Step 2: Select an available feed

If for our example you have oats on hand in the silo.

Step 3: Determine how much feed to offer

From Table 2 identify the dry matter and energy content per kilogram of your available feed.

For our example, the 50 kg dry ewe will need 7.1 MJ if pasture is 40% digestible and 5.4 at 50% digestibility. Therefore the extra energy requirements of our animal will lie between these figures, say 6.3 MJ.

To determine the feeding rate we need to determine how much of the oats are required to yield 6.3 MJ. If feeding oats of 11.4 M/D & 10% CP then $6.3 / 11.4 \times 1000 = 552 \text{ g DM/day}$ would be required.

Correcting for 90% DM then, $552 / 0.9 = 614 \text{ g/head/day}$, would be the as fed quantity of oats required for maintenance of this dry ewe.

For more information on feed budgeting for ewe flocks and Fat Score targets throughout pregnancy and lactation please visit www.lifetimewool.com.au or talk to your local DPI officer.

Table 1. Likely Energy Deficit (MJ/day) of livestock grazing pastures of various herbage mass and digestibility %

Livestock Category	Herbage Mass (kg DM/ha)														
	500					1000					1500				
	Pasture Digestibility					Pasture Digestibility					Pasture Digestibility				
	40%	50%	60%	70%	80%	40%	50%	60%	70%	80%	40%	50%	60%	70%	80%
40 kg Ewe @ FS 3*															
Dry or Pregnant to 100days	7	6.3	4.7			6.4	5.4	2.3			6	4.7			
Pregnant 130 days	9.6	9.3	7.9	5.6		9.2	8.6	6			8.9	8	4.4		
Lactating - singles	15.6	15.1	13.1	8		15.5	14.2	10.5	4		14.6	13.4	8.4		
- twins	20.5	19.5	18.5	14	4.6	20.1	18.5	16.4	7.2		19.5	18.1	14.6		
50 kg Ewe @ FS 3*															
Dry or Pregnant to 100days	8.3	7.5	5.4			7.6	6.4	2.4			7.1	5.4			
Pregnant 130 days	11.7	11.2	9.5	6		11.1	10.3	7			10.7	9.5	5.1		
Lactating - singles	18.7	17.9	15.3	8.5		18	16.6	11.8	5.1		17.5	15.7	9.2		
- twins	23.2	22.6	20	14.4	4.8	22.4	21.4	16.7	7.9		21.7	20.1	15.6		
60 kg Ewe @ FS 3*															
Dry or Pregnant to 100days	9.6	8.7	6.1			8.9	7.3	2.5			8.3	6.2			
Pregnant 130 days	13.7	13.1	11	6.8		13.1	12	8			12.5	11.1	5.7		
Lactating - singles	20.6	19.4	15.9	8.9		19.8	17.6	12.4	5.7		19	16.4	10		
- twins	26.5	25.4	21.9	14.8	5.3	25.9	23.9	19.5	8.7		28	22.7	16.7		
70 kg Ewe @ FS 3*															
Dry or Pregnant to 100days	10.9	9.9	6.8			10.2	9.8	2.7			9.4	7.1			
Pregnant 130 days	15.7	15	12.5	7.6		15	13.8	9.8			14.4	12.7	6.4		
Lactating - singles	22	20.4	16.1	9.6		21	19.8	14.5	6.5		20.2	16.7	10.5		
- twins	30.7	27.5	23.1	15	5.7	29.8	24.5	19.9	9.5		28.2	24.1	18.5		

Derived from the GrazFeed™ decision support tool

*Supplementary Energy Requirements will fall by approx. 20% for each fat score below FS3 at any given weight category.

Table 2. Likely dry matter (DM) and metabolisable energy

Foodstuff	DM (%) [*]	ME (MJ/kg DM, or M/D)	
		Ave [*]	Tested range
Low protein dry roughages			
Oaten hay	90	9.3	(8.5–9.5)
Wheaten hay	90	8.0	
Pasture hay (mostly grass)	85–90	8.3	
Oat, barley or wheat straw	90	5.0	(4.5–5.5)
Sorghum stubble	90	7.0	(6.5–8.0)
Cottonseed hulls	90	7.0	
Rice hulls	90	2.4	
Corn stubble	90	5.5	(4.5–6.5)
Soybean stubble	90	5.5	(4.0–6.5)
Peanut hulls	90	3.6	
Oat hulls	90	5.3	(5.3–5.4)
Sorghum (failed crop)	90	9.0	(8.5–9.5)
Peanut hay	90	8.5	(8.0–9.0)
Soybean hay (mature)	90	6.0	(5.5–6.5)
Wheat stubble	90	5.1	(4.8–8.2)
Barley stubble	90	5.5	(5.1–6.2)
Rice stubble	90	5.7	(5.3–6.6)
Oat stubble	90	4.6	
High-protein dry roughages			
Lucerne hay	90	8.5	(8–9.8)
Clover hay	85–90	9.0	(8.3–10.9)
Pasture hay (mostly clover)	85–90	8.3	
Cowpea and field pea	90	9.5	
Soybean hay (full pods)	90	9.5	(9–10)
Soybean hay (75% pods)	90	8.5	(8–9)

Foodstuff	DM (%) [*]	ME (MJ/kg DM, or M/D)	
		Ave [*]	Tested range
Low protein wet roughages			
Maize silage	25–30	8.5	(7.5–9.5)
Sorghum silage	25–30	8.0	(8.0–8.5)
Oat, wheat, barley or rye green fodder or silage (cut at flowering stage)	25–30	8.5	(8.3–8.7)
High-protein wet roughages			
Lucerne green fodder	25	8.3	
Lucerne silage	25–30	8.4	
Pasture fodder (mixed grass & clover)	25	10.3	
Pasture silage (mixed grass & clover)	20	8.2	
Young oats, wheat, barley, rye, or millet grazing	25	9.3	
Grains			
Maize	90	13.5	(13–14)
Grain sorghum	90	13	
Wheat	90	13	(12.5–13.5)
Barley	90	13	(12.5–13)
Oats	90	12.5	(11–13)
Lupins		13	
Protein-rich concentrates			
Soybean meal	90	12	
Safflower meal	90	11	
Peanut meal	90	11	
Cottonseed meal (decorticated)	90	10.5	
Linseed meal	90	11.5	
Sunflower meal	90	10.5	