

Feed Budgeting Worksheet

Step 1. What they need

Choose Table 1a. for ewes in condition score 3
 Choose Table 1b. for ewes in condition score 2
 Choose the column for the frame size of the mob
 Choose the correct day of pregnancy/lactation

Step 2. What they can eat

Refer to Table 2 a, b or c (depending on pasture quality) and identify the estimated ME intake from the pasture.

Step 3. Losing or gaining weight?

Energy derived from green pasture (step 2) - What they need (step 1) = Energy deficit or surplus.
 Using Table 3. find out the predicted condition score loss or gain in 30 days. Go to Step 4 if feeding is required.

Step 4. What is the energy (ME) value of the feed to be supplemented?

Obtain the value from Table 4 or from your feed test results.

Step 5. How much to feed to maintain condition?

If feeding grain use Table 5 to determine feeding rate. For higher moisture content feeds eg. Hay and silage follow the directions below.

Daily ME deficit (Step 3) ÷ ME value of feed (Step 4)
 = kg dry matter per head per day

To take account of the moisture content and determine the 'as fed' weight, multiply by 100 and divide by the dry matter % from Table 4.

eg. silage of 40% dry matter would be
 'as fed' kg = dry matter kg X 100 / 40

Multiply this value by 1000 to convert to grams/head/day.

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Step 5. How much to feed to maintain condition?

TABLE 5. Ration to be Fed

Ration to be fed (kg/head/day assuming 90% dry matter)										
ME of feed	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0
6.0	0.5	1.1	1.6	2.1	2.7	3.2	3.8	4.3	4.9	5.4
6.5	0.6	1.2	1.8	2.3	2.9	3.5	4.1	4.7	5.3	5.9
7.0	0.6	1.3	1.9	2.5	3.2	3.8	4.4	5.0	5.7	6.3
7.5	0.7	1.4	2.0	2.7	3.4	4.1	4.7	5.4	6.1	6.8
8.0	0.7	1.4	2.2	2.9	3.6	4.3	5.0	5.8	6.5	7.2
8.5	0.8	1.5	2.3	3.1	3.8	4.6	5.4	6.1	6.9	7.7
9.0	0.8	1.6	2.4	3.2	4.1	4.9	5.7	6.5	7.3	8.1
9.5	0.9	1.7	2.6	3.4	4.3	5.1	6.0	6.8	7.7	8.6
10.0	0.8	1.8	2.7	3.6	4.5	5.4	6.3	7.2	8.1	9.0
10.5	0.9	1.9	2.8	3.8	4.7	5.7	6.6	7.6	8.5	9.5
11.0	1.0	2.0	3.0	4.0	5.0	5.9	6.9	7.9	8.9	9.9
11.5	1.0	2.1	3.1	4.1	5.2	6.2	7.2	8.3	9.3	10.4
12.0	1.1	2.2	3.2	4.3	5.4	6.5	7.6	8.6	9.7	10.8
12.5	1.1	2.3	3.4	4.5	5.6	6.8	7.9	9.0	10.1	11.3
13.0	1.2	2.3	3.5	4.7	5.9	7.0	8.2	9.4	10.5	11.7
13.5	1.2	2.4	3.6	4.9	6.1	7.3	8.5	9.7	10.9	12.2
14.0	1.3	2.5	3.8	5.0	6.3	7.6	8.8	10.1	11.3	12.6
14.5	1.3	2.6	3.9	5.2	6.5	7.8	9.1	10.4	11.7	13.1

*Choose the ME of the feed (Step 4) in the left-hand column, then move along until the ME deficit value (Step 3) is reached, then follow the column up to the 'ration to be fed' value.
 For example, a 10 MJ feed with a 3.6 MJ deficit gives a 0.4 kg/head ration to be fed.

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Feed Budget Tables

for green pastures in
 south eastern Australia



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The following ewe maintenance requirements have been calculated using GrazFeed®. These values are based on ewes grazing high quality green pastures (75% digestible) with 30% legume and little dead material with a mixture of perennial and annual species.

Step 1. What they need:

TABLE 1a. Energy Required by Ewes @ Condition Score 3 to maintain weight

Maintenance energy (MJ/d) for ewes under paddock conditions						
Day of pregnancy	small frame (45kg) maintain @ CS 3		medium frame (50kg) maintain @ CS 3		large frame (60kg) maintain @ CS 3	
	single	twin	single	twin	single	twin
dry	7.7	7.7	8.3	8.3	9.5	9.5
50	8.0	7.9	8.6	8.5	9.9	9.8
70	8.3	8.4	9.0	9.1	10.3	10.4
100	8.8	9.7	9.5	10.5	10.9	12.0
130	10.4	13.1	11.2	13.1	12.9	17.7
days lactating	maintain @ CS 3		maintain @ CS 3		maintain @ CS 3	
	single	twin	single	twin	single	twin
10	17.3	21.7	18.7	23.4	21.5	26.9
30	18.7	23.9	20.2	25.8	23.2	29.6
50	15.5	19.1	16.7	20.6	19.2	23.7

TABLE 1b. Energy Required by Ewes @ Condition Score 2 to maintain weight

Maintenance energy (MJ/d) for ewes under paddock conditions						
Day of pregnancy	small frame (45kg) maintain @ CS 2		medium frame (50kg) maintain @ CS 2		large frame (60kg) maintain @ CS 2	
	single	twin	single	twin	single	twin
dry	6.9	6.9	7.4	7.4	8.5	8.5
50	7.1	7.1	7.7	7.6	8.9	8.7
70	7.4	7.5	8.0	8.1	9.2	9.3
100	7.9	8.7	8.5	9.4	9.7	10.7
130	9.3	10.8	10.0	11.7	11.5	13.4
days lactating	maintain @ CS 2		maintain @ CS 2		maintain @ CS 2	
	single	twin	single	twin	single	twin
10	14.7	18.8	15.5	20.5	17.9	23.9
30	15.8	21.2	17.6	23.1	19.6	26.6
50	12.8	16.6	13.4	17.8	15.8	20.5

IMPORTANT: This is a guide only. Monitor your sheep to ensure that feeding rates are achieving your condition score targets. Information on the technique of condition scoring and pasture assessment (including photos) can be found at www.lifetimewool.com.au

Step 2. What they can eat:

TABLE 2a. High Quality Pasture									
Metabolisable Energy Intake (MJ/head/day) from green pasture									
FOO*	small frame (45kg)			medium frame (50kg)			large frame (60kg)		
	pregnancy 0-150	mid lactation single	mid lactation twin	pregnancy 0-150	mid lactation single	mid lactation twin	pregnancy 0-150	mid lactation single	mid lactation twin
500	4.2	6.4	7.2	4.7	7.1	8.0	5.6	8.5	9.6
700	7.4	11.2	12.6	8.2	12.4	14.0	9.8	14.9	16.8
900	9.7	14.8	16.5	10.8	16.4	18.3	12.9	19.7	21.9
1100	11.3	17.2	19.3	12.5	19.1	21.4	15.0	22.9	25.7
1300	12.4	18.9	21.2	13.8	21.0	23.5	16.5	25.1	28.2
1500	13	19.7	22.1	14.4	21.9	24.5	17.3	26.2	29.4
1700	13.4	20.4	22.9	14.9	22.6	25.4	17.8	27.1	30.5
2500	14.4	21.5	24.2	16.0	23.9	26.9	19.2	28.6	32.2

Description: predominantly highly digestible perennial grass species such as ryegrass, phalaris or fescue. Has at least 30% clover present with very low amounts of dead plant material.

TABLE 2b. Medium Quality Pasture

Metabolisable Energy Intake (MJ/head/day) from green pasture									
FOO*	small frame (45kg)			medium frame (50kg)			large frame (60kg)		
	pregnancy 0-150	mid lactation single	mid lactation twin	pregnancy 0-150	mid lactation single	mid lactation twin	pregnancy 0-150	mid lactation single	mid lactation twin
500	3.2	4.8	5.4	3.6	5.3	6.0	4.3	6.4	7.2
700	5.6	8.6	9.6	6.2	9.5	10.7	7.4	11.4	12.8
900	7.6	11.5	12.9	8.4	12.8	14.3	10.1	15.3	17.2
1100	9.0	13.7	15.4	10.0	15.2	17.1	12.0	18.2	20.5
1300	10.2	15.5	17.3	11.3	17.2	19.2	13.6	20.6	23.0
1500	11.0	16.8	18.8	12.2	18.6	20.9	14.6	22.3	25.0
1700	11.7	17.8	19.9	13.0	19.8	22.1	15.6	23.7	26.5
2500	13.1	19.7	21.9	14.5	21.9	24.3	17.4	26.2	29.1

Description: highly digestible perennial grasses and moderate to low digestible annual grass species. Clover content is around 15% with less than 20% dead plant material.

TABLE 2c. Low Quality Pasture

Metabolisable Energy Intake (MJ/head/day) from green pasture									
FOO*	small frame (45kg)			medium frame (50kg)			large frame (60kg)		
	pregnancy 0-150	mid lactation single	mid lactation twin	pregnancy 0-150	mid lactation single	mid lactation twin	pregnancy 0-150	mid lactation single	mid lactation twin
500	2.1	3.1	3.5	2.3	3.4	3.9	2.8	4.1	4.7
700	3.7	5.7	6.4	4.1	6.3	7.1	4.9	7.6	8.5
900	5.1	7.7	8.6	5.7	8.5	9.5	6.8	10.2	11.4
1100	6.2	9.4	10.5	6.9	10.4	11.7	8.2	12.5	14.0
1300	7.0	10.7	12.0	7.8	11.9	13.3	9.3	14.2	16.0
1500	7.8	11.8	13.3	8.7	13.1	14.8	10.4	15.7	17.7
1700	8.4	12.7	14.3	9.3	14.1	15.9	11.2	16.9	19.0
2500	10.0	15.2	17.0	11.1	16.9	18.9	13.3	20.2	22.6

Description: mostly lower digestible species (e.g. Onion grass, silver grass) and some moderately digestible species (e.g. Cocksfoot, barley grass). Clover content is 5% or less with high levels of dead plant material.

*FOO is Feed on Offer which is a measure of the amount of pasture which is available for sheep to eat. It includes all plant material above the ground and is measured in kilograms of dry matter per hectare. To convert from Herbage Mass (as used in GrazFeed ®) to FOO add 300 kg DM/ha to your estimate.

Pasture photos to help with your assessment are available at www.lifetimewool.com.au or in lifetimewool's Feed on Offer Photo Gallery.

At times of low pasture growth rate, ewes may eat down the amount of FOO in the paddock, therefore lowering their intake of energy. At times of high pasture growth rates paddock FOO may increase, thereby, increasing the ewe's intake of energy. It is important to reassess your pastures and the corresponding energy intake if pasture growth changes within 30 days.

Step 3. Losing or gaining weight?

TABLE 3. Liveweight change and Condition Score (CS) change with either a surplus or deficit of energy

Surplus MJ/day	expected gain g/h/d	CS change in 30 days (45kg)	CS change in 30 days (50kg)	CS change in 30 days (60kg)
1	20	0.1	0.05	0.05
2	35	0.15	0.1	0.1
3	50	0.2	0.2	0.15
4	65	0.3	0.25	0.2
5	80	0.35	0.3	0.25
Deficit MJ/day	expected loss g/h/d	CS change in 30 days (45kg)	CS change in 30 days (50kg)	CS change in 30 days (60kg)
-1	-30	-0.1	-0.1	-0.1
-2	-55	-0.25	-0.2	-0.2
-3	-85	-0.35	-0.3	-0.25
-4	-115	-0.45	-0.4	-0.35
-5	-140	-0.55	-0.5	-0.45

Step 4. Energy values of common feeds

TABLE 4. Approximate feed values of common feeds

Feed Type	ME (MJ/kg DM)†	Dry Matter %	Crude Protein %
oats	10.5 (8.8 - 15.1)	90	5 - 15
barley	12.3 (10.7 - 13.3)	90	7 - 15
wheat, triticale	13.1 (12.3 - 13.7)	90	8 - 16
lupins	13.1 (12.3 - 13.7)	90	28 - 36
peas, faba beans	13.1 (12.4 - 13.5)	90	20 - 27
cereal hay	9.0 (8.0 - 10.2)	85	5 - 10
pasture hay	9.8 (8.0 - 11.2)	85	5 - 21
lucerne hay	9.8 (9.0 - 10.5)	85	16 - 25
pasture silage	9.7 (8.5 - 10.9)	25 - 55	7 - 13.5
cereal silage	9.1 (8.5 - 9.8)	35 - 45	7 - 13.5

† Feed values vary considerably. When possible, have your feed tested.