The following tables have been calculated using Grazfeed and provide a guide to supplementary feeding rates for the following classes of livestock:

- **Late winter/ early spring lambing ewes – early pregnancy**
  - Merino ewes
  - 1st X ewes

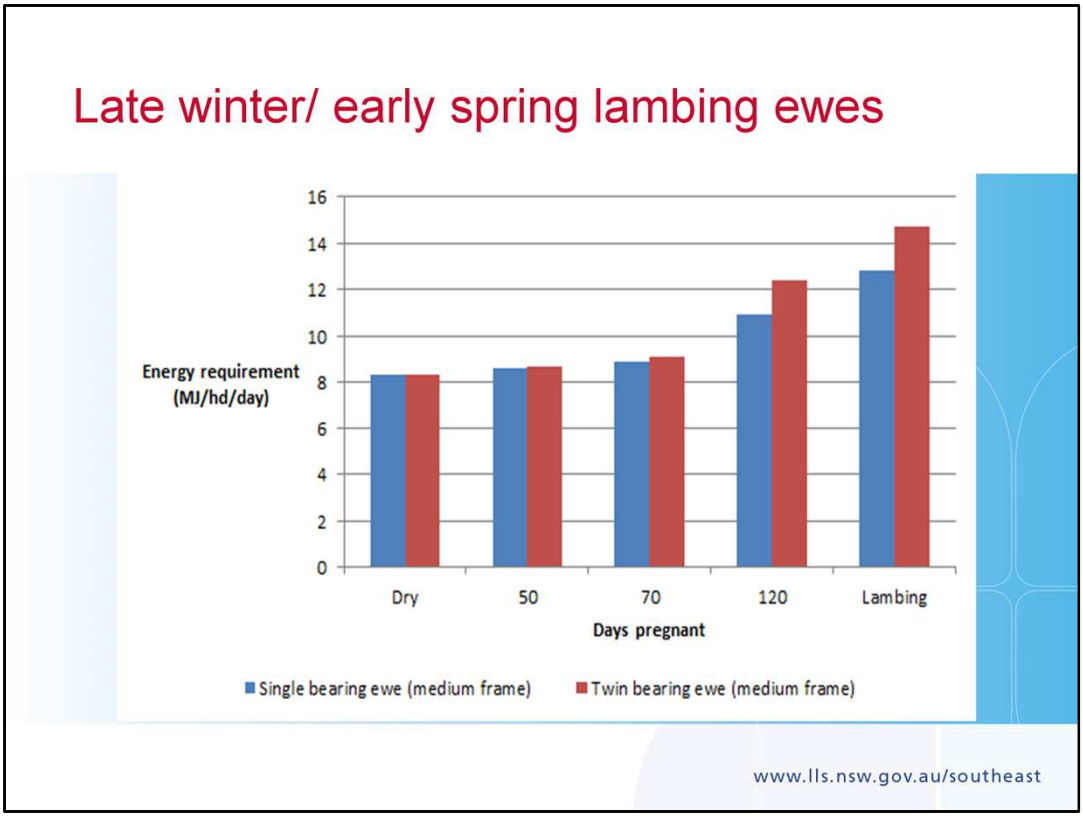
- **Autumn lambing ewes – late pregnancy**
  - Merino ewes
  - 1st X ewes

- **Autumn lambing ewes – early lactation**
  - Merino ewes with singles
  - Merino ewes with twins
  - 1st X ewes with singles
  - 1st X ewes with twins

- **Merino weaners**

Important note regarding feeding:

- Care should always be taken when feeding grain to livestock to avoid grain poisoning (acidosis). Introduce sheep gradually to grain over a two week period.
- Primefact 330 “Grain Poisoning of sheep and cattle” (available online) contains good information on how to introduce sheep and cattle to grain based diets.



Regardless of whether a ewe is carrying a single lamb or twins, nutritional requirements are only slightly above that of a dry ewe in the first two trimesters (100 days).

What does this equate to in light of current conditions?

Merino ewes - early pregnancy

55kg Merino ewe - DAILY weight gain/loss (g/hd/day) in early pregnancy

Kg of barley fed/hd/day	Pasture height (green component)				
	0cm	1cm	2cm	3cm	4cm
0	-190	-104	-29	9	28
0.1	-158	-74	-4	18	36
0.2	-124	-41	8	30	49
0.3	-90	-7	22	43	62
0.4	-55	10	36	58	76
0.5	-20	27	52	73	90
0.6	7				

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Assumptions:

- Ewes grazing a short green pasture at 72% digestibility, 5% legume with pasture height varying from 1cm - 4cm. Paddock still has 0.5t/ha of dead material @ 40% digestibility (5cm in height).
- Ewes are 50 days pregnant. Figures indicate likely weight gain/loss with varying levels of supplement. Weight gain/loss DOES NOT include weight gain from the conceptus (i.e. ewe body condition only).
- Ration is 100% barley (13MJ ME; 12% protein).

Highlighted cells provide a guide to feeding levels needed to maintain body condition with increasing pasture height. Pasture only needs to be around 1 inch high (2.5cm) for stock to maintain body condition in early pregnancy.

What if I don't have a green pick and dry feed is minimal?

- As shown in the above table, the feeding rate would need to increase to around **600g/hd/day** to maintain weight.

- When dry paddock feed becomes limiting it's important to provide a small amount of roughage into the diet in addition to the feeding rate listed for nil green feed (e.g. **600g/hd/day of barley** + **0.5kg/hd/week of hay** or straw).

Note: If pregnant ewes are in good condition (i.e. Fat Score 3+) you could save some money by feeding sub-maintenance rates and letting ewes undergo slight weight loss.

1st X ewes - early pregnancy

75kg 1st X ewe - DAILY weight gain/loss (g/hd/day) in early pregnancy

Kg of barley fed/hd/day	Pasture height (green component)				
	0cm	1cm	2cm	3cm	4cm
0	-243	-119	-16	23	50
0.1	-210	-89	1	31	58
0.2	-176	-56	13	44	71
0.3	-142	-23	27	58	84
0.4	-108	4	41	72	98
0.5	-73	19	57	87	113
0.6	-38				
0.7	-3				

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Assumptions:

- Same assumptions as the previous table, the only difference is we are now dealing with 1st X ewes (50 days pregnant).

Highlighted cells provide a guide to feeding levels needed to maintain body condition with increasing pasture height. Again, pasture only needs to be around 1 inch high (2.5cm) for stock to maintain body condition in early pregnancy.

What if I don't have a green pick and dry feed is minimal?

- As shown in the above table, the feeding rate would need to increase to around **700g/hd/day** to maintain weight.

- When dry paddock feed becomes limiting it's important to provide a small amount of roughage into the diet in addition to the feeding rate listed for nil green feed (e.g. **700g/hd/day of barley** + **0.7kg/hd/week of hay** or straw).

Note: If pregnant ewes are in good condition (i.e. Fat Score 3+) you could save some money by feeding sub-maintenance rates and letting ewes undergo slight weight loss.

Autumn lambing flocks are under a lot more pressure at present as nutrient requirements are going through the roof.

Nutritional requirements need to be met in the last 4-5 weeks, especially in twin bearing ewes. Failure to do so will lead to a range of issues:

- Increased risk of pregnancy toxaemia in twin bearing ewes
- Smaller lambs = increased risk of dying, especially twins.
- Reduced colostrum and milk production
- Increased risk of twin bearing ewes deserting one of their lambs if conditions are tough

With Autumn lambing ewes the recommendation is to **keep feeding rates up once the autumn break occurs** with the aim of helping your pastures get ahead of the stock. You are better off feeding ewes in late pregnancy as once lambing starts the risk of mis-mothering increases (especially if you are trail feeding).

Merino ewes - late pregnancy

55kg Merino ewe - DAILY weight gain/loss (g/hd/day); 120 days pregnant

Kg of barley fed/day	Single bearing ewes					Twin bearing ewes				
	Pasture height (green component)					Pasture height (green component)				
	0cm	1cm	2cm	3cm	4cm	0cm	1cm	2cm	3cm	4cm
0	-266	-187	-117	-49	-2	-325	-251	-186	-116	-56
0.1	-234	-158	-89	-28	5	-295	-224	-158	-91	-39
0.2	-202	-126	-58	-4	15	-263	-195	-124	-63	-15
0.3	-169	-93	-28	8	26	-229	-162	-91	-36	0
0.4	-136	-59	-2	20	39	-200	-127	-60	-9	11
0.5	-104	-26	12	34	52	-168	-90	-30	5	23
0.6	-69	2	28	48	65	-135	-55	-3	19	36
0.7	-35	19	44	64	80	-102	-21	12	33	50
0.8	-1	37	61	79	95	-67	4	29	48	64
0.9	17	57	78	96	110	-32	23	46	64	79
1.0		76	97	113	126	2	42	63	80	94

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Assumptions:

- Ewes grazing a short green pasture at 72% digestibility, 5% legume with pasture height varying from 1cm - 4cm. Paddock still has 0.5t/ha of dead material @ 40% digestibility (5cm in height).
- Ewes are 120 days pregnant. Figures indicate likely weight gain/loss with varying levels of supplement. Weight gain/loss DOES NOT include weight gain from the conceptus (i.e. ewe body condition only).
- Ration is 100% barley (13ME; 12% protein).

- Highlighted cells provide a guide to feeding levels needed to maintain body condition with increasing pasture height **one month prior to lambing (both twins and singles).**

What if I don't have a green pick and dry feed is minimal?

- The feeding rate would need to increase to **800g/hd/day for singles** and **1kg/hd/day for twins**.

- Getting ewes to physically eat these high amounts of grain in late pregnancy is difficult, so some degree of weight loss is likely, especially in twin bearing ewes.

- Daily feeding or use of self feeders is recommended in the last 3 weeks of pregnancy so that ewes receive a constant supply of feed.

- **Feed 0.5kg/hd/week of hay** in addition to the grain

1st X ewes - late pregnancy

75kg 1st X ewe - DAILY weight gain/loss (g/hd/day); 120 days pregnant

Kg of barley fed/day	Single bearing ewes					Twin bearing ewes				
	Pasture height (green component)					Pasture height (green component)				
	0cm	1cm	2cm	3cm	4cm	0cm	1cm	2cm	3cm	4cm
0	-347	-234	-131	-43	9	-428	-319	-216	-128	-52
0.1	-316	-205	-107	-25	15	-398	-290	-193	-109	-38
0.2	-283	-172	-77	-1	25	-366	-258	-163	-82	-13
0.3	-250	-139	-47	10	37	-334	-225	-133	-55	2
0.4	-216	-106	-17	22	49	-300	-192	-102	-27	13
0.5	-182	-72	4	36	62	-266	-159	-72	-2	24
0.6	-147	-38	19	50	75	-232	-125	-41	11	37
0.7	-112	-4	34	64	89	-197	-91	-10	24	50
0.8	-78	14	50	80	104	-164	-56	8	39	63
0.9	-45	32	67	95	119	-131	-21	24	53	78
1.0	-11	50	84	112	134	-98	5	41	69	92
1.1	11					-64				
1.2						-30				
1.3						1				

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Assumptions:

- Same as previous slide, this time for 1st X ewes (120 days pregnant).
- Ration is 100% barley (13ME; 12% protein).
- As shown, feeding rates are slightly higher for 1st X ewes.

- These tables provide a guide on feeding rates one month prior to lambing. Nutrient requirements will continue to increase as the pregnancy progresses.

What if I don't have a green pick and dry feed is minimal?

- The feeding rate would need to increase to **1.1kg/hd/day for singles** and **1.3kg/hd/day for twins**.

- Getting ewes to physically eat these high amounts of grain in late pregnancy is difficult, so some degree of weight loss is likely, especially in twin bearing ewes.

- Daily feeding or use of self feeders is recommended in the last 3 weeks of pregnancy so that ewes receive a constant supply of feed.

- **Feed 0.7kg/hd/week of hay** in addition to the grain.

Early lactation - Merino ewes with single lamb

Single bearing 55kg Merino ewe - Lambing performance at 14 days into lambing

Kg of barley fed/day	Pasture height (green component)					
	0cm		2cm		4cm	
	Ewe weight gain/loss g/hd/day	Lamb growth rate g/hd/day	Ewe weight gain/loss g/hd/day	Lamb growth rate g/hd/day	Ewe weight gain/loss g/hd/day	Lamb growth rate g/hd/day
0	-261	-28	-165	60	-90	148
0.1	-244	-2	-155	72	-84	153
0.2	-229	15	-142	87	-73	162
0.3	-211	25	-128	102	-62	171
0.4	-192	36	-115	114	-51	180
0.5	-175	50	-101	125	-40	189
0.6	-157	66	-87	137	-29	197
0.7	-141	76	-73	148	-17	205
0.8	-125	87	-59	159	-5	213
0.9	-109	98	-45	170	4	222
1.0	-92	110	-31	181	14	230

Next series of tables show predicted performance at lambing for both singles and twins, starting with Merino ewes.

Assumptions:

- Same pasture assumptions and ewes are 14 days into lambing. Figures indicate likely weight gain/loss with varying levels of supplement.
- Ration is 100% barley (13ME; 12% protein).

This table is for single bearing ewes. Highlighted cells show feeding levels needed if target weight loss is around 100g/hd/day (0.7kg/week). Table shows impact of level of feeding on ewe condition and lamb growth rate.

Providing ewes are in good condition at the start of lambing, we can afford to 'milk of her back' as ewes will be able to recoup lost condition in spring. We can also tolerate lower lamb growth rates in autumn lambing flocks as lambs will be weaned onto good quality pasture.

What if I don't have a green pick and dry feed is minimal?

- The feeding rate would need to increase to **0.9kg/hd/day for singles.**

- Daily feeding or use of self feeders is recommended in early lactation so that ewes receive a constant supply of feed.

- **Feed 1kg/hd/week of hay** (in addition to the grain).

Early lactation - Merino ewes with twins

Twin bearing 55kg Merino ewe - Lambing performance at 14 days into lambing

Kg of barley fed/day	Pasture height (green component)					
	0cm		2cm		4cm	
	Ewe weight gain/loss g/hd/day	Lamb growth rate g/hd/day	Ewe weight gain/loss g/hd/day	Lamb growth rate g/hd/day	Ewe weight gain/loss g/hd/day	Lamb growth rate g/hd/day
0	-357	-79	-269	8	-192	83
0.1	-341	-65	-260	17	-186	86
0.2	-324	-50	-249	29	-176	92
0.3	-307	-35	-236	39	-165	99
0.4	-291	-19	-223	47	-154	104
0.5	-276	-1	-209	55	-143	109
0.6	-261	15	-195	62	-132	113
0.7	-247	26	-182	70	-121	118
0.8	-233	38	-168	78	-110	122
0.9	-217	46	-154	86	-98	126
1	-200	53	-140	93	-87	130
1.1	-183	61	-126	101	-75	134
1.2	-166	68	-112	107	-63	138

Same table as before, this time for Merino ewes with twins.

Highlighted cells show feed that's required to limit weight loss to around 160-170g/hd/day (approx 1.2kg / week).

The amount you feed will be a function of current ewe condition – higher feeding rates will be needed if ewes are in lighter condition as there is less capacity to 'milk off her back'.

What if I don't have a green pick and dry feed is minimal?

- The feeding rate would need to increase to **1.2kg/hd/day for twins**.
- Daily feeding or use of self feeders is recommended in early lactation so that ewes receive a constant supply of feed.
- Providing roughage via hay becomes increasingly important as paddock feed becomes limited - **feed 1.5kg/hd/week of hay** (in addition to the grain).

Early lactation - 1st X ewes with single lamb

Single bearing 75kg 1st X ewe - Lambing performance at 14 days into lambing

Kg of barley fed/day	Pasture height (green component)					
	0cm		2cm		4cm	
	Ewe weight gain/loss g/hd/day	Lamb growth rate g/hd/day	Ewe weight gain/loss g/hd/day	Lamb growth rate g/hd/day	Ewe weight gain/loss g/hd/day	Lamb growth rate g/hd/day
0	-360	35	-219	170	-119	291
0.1	-344	50	-210	178	-115	294
0.2	-327	65	-197	190	-105	304
0.3	-310	80	-184	203	-94	314
0.4	-293	91	-171	215	-84	324
0.5	-274	99	-158	228	-73	333
0.6	-257	110	-145	240	-62	342
0.7	-239	122	-131	252	-51	352
0.8	-224	133	-118	264	-39	359
0.9	-208	145	-105	277	-26	363
1.0	-192	156	-91	289	-12	368
1.1	-176	168	-78	301	-1	372
1.2	-159	180	-64	312	10	376

Now we move on to 1st X ewes with singles.

Highlighted cells show feed that's required to limit weight loss to around 160g/hd/day (approx 1.1kg / week).

Again, feeding rates will be influenced by amount of body condition on the ewe. Assumption in Grazfeed was lambing down in Fat Score 3.5.

What if I don't have a green pick and dry feed is minimal?

- The feeding rate would need to increase to **1.2kg/hd/day.**
- Daily feeding or use of self feeders is recommended in early lactation so that ewes receive a constant supply of feed.
- Providing roughage via hay becomes increasingly important as paddock feed becomes limited - **feed 1.2kg/hd/week of hay** (in addition to the grain).

Early lactation - 1st X ewes with twins

Twin bearing 75kg 1st X ewe - Lambing performance at 14 days into lambing

Kg of barley fed/day	Pasture height (green component)					
	0cm		2cm		4cm	
	Ewe weight gain/loss g/hd/day	Lamb growth rate g/hd/day	Ewe weight gain/loss g/hd/day	Lamb growth rate g/hd/day	Ewe weight gain/loss g/hd/day	Lamb growth rate g/hd/day
0	-505	6	-370	95	-270	181
0.1	-488	15	-362	102	-267	182
0.2	-471	24	-350	113	-256	188
0.3	-454	32	-338	121	-246	193
0.4	-437	41	-327	130	-235	198
0.5	-420	50	-314	138	-225	204
0.6	-403	60	-301	144	-214	209
0.7	-387	74	-288	151	-203	214
0.8	-373	81	-275	157	-192	219
0.9	-359	89	-261	164	-181	224
1.0	-344	97	-248	170	-170	229
1.1	-330	105	-234	177	-159	234
1.2	-315	113	-221	183	-148	238
1.3	-300	121	-208	190	-137	243
1.4	-284	127	-194	196	-125	247
1.5	-267	133	-181	203	-114	252

east

1st X ewes with twins.

Feeding rates and weight loss is much higher than previous examples.

Highlighted cells show feed that's required to limit weight loss to around 200g/hd/day (approx 1.4kg / week; or 5.5kg/month) where green grass is available.

What if I don't have a green pick and dry feed is minimal?

- As shown in the above table, the feeding rate would need to increase to **1.5kg/hd/day.** At this feeding rate ewes will lose around 270g/hd/day.
- Daily feeding or use of self feeders is recommended in early lactation so that ewes receive a constant supply of feed.
- Providing roughage via hay becomes increasingly important as paddock feed becomes limited - **feed 2kg/hd/week of hay** (in addition to the grain).

Merino weaners

Merino weaners @ 8 months of age. DAILY weight gain/loss (g/hd/day)

Kg of barley + lupin ration fed/hd/day	Pasture height (green component)			
	0cm	2cm	3cm	4cm
0	-101	30	55	77
0.1	-60	43	68	89
0.2	-18	59	84	105
0.3	9	77	101	121
0.4	29	95	118	137
0.5	51	114	136	154

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Finally, this table is for Merino weaners.

Your target growth rate (and feeding rate) will be driven by the current weight of your weaners. The lightest ewe weaners need to reach 25 kg (minimum) by 1 June if they are to reach a 40kg joining weight by Feb/ March next year.

The estimated growth rates in the table assumes that weaners are fed a ration containing 85% barley and 15% lupin grain, providing 13 MJ ME and 15% protein.

What if I don't have a green pick and dry feed is minimal?

- Give weaners access to good quality hay on an ad lib basis (in addition to the grain).