

Feed budgeting

Do you know how much feed you need to buy?

Do you have the feed requirements of all your stock covered?

It's important to plan well before you buy.

How much feed do you actually need to buy?

Guesstimates aren't good enough. You need to do a feed budget to ensure that you know what quantities of each feed you need to buy each month to produce the monthly volumes of milk you require to generate budgeted milk income and profit.

There are a number of feed budgeting methods and tools available (paper and software based) and many dairy advisers who can readily assist you.

Doing a feed budget involves three steps:

Step 1:

Calculate your monthly feed demand

- Count how many animals there are to feed, and milk production/growth targets.
- Calculate the daily Metabolisable Energy (ME) requirements of each class of stock milkers, dry cows, yearlings and calves.
- Calculate tonnes of Dry Matter (DM) required for all stock each month, based on animals' daily Metabolisable Energy (ME) requirements and stock numbers.

Step 2:

Calculate your total feed deficit for each month

- Calculate tonnes of home-grown DM available each month (pasture, other standing crops, silage and hay on hand).
- Subtract tonnes of home-grown DM from tonnes of DM required for all stock each month.

Step 3:

Calculate quantities of each bought-in feed you require each month

- Describe what feeds you intend to buy to fill the feed deficit for each month.
- Formulate diets for each class of stock—milkers, dry cows, yearlings and calves.
- Using these diets and the stock numbers from Step 1, calculate the total tonnes of each feed that need to be bought each month.

Key tips

- ✓ Develop a month-by-month feed budget for the full year.
- ✓ Make realistic allowances for feed wastage based on your feeding system.
- ✓ Revise your feed budget when circumstances change.

It may be well worth getting an adviser to help you do your feed budget, or to at least double check it.

Here is a more detailed description of the feed budgeting process using an example.

Step 1: Calculate your monthly feed demand

a. Count how many mouths there are to feed month-to-month.

Example:

Start by counting your milkers and monthly production targets.

Cow production	Nov	Dec	Jan	Feb	Mar	Apr
Milking cows	400	400	400	400	380	360
Litres per cow	23.0	21.5	20.0	18.5	17.0	15.5
Fat %	3.90	3.90	3.95	4.00	4.10	4.20
Prot %	3.20	3.30	3.35	3.35	3.50	3.50

Av. liveweight of milkers (kg) 500

Farm production

Litres	276,000	266,000	248,000	207,200	200,260	167,400
Fat	10,746	10,397	9,796	8,288	8,211	7,031
Protein	8,832	8,798	8,308	6,941	7,009	5,859

Now add all the other stock on the farm. Be sure to do an accurate head count.

Dry stock on-farm	Nov	Dec	Jan	Feb	Mar	Apr
Dry cows	0	0	0	0	0	0
Yearlings	120	120	120	120	120	120
Calves	150	150	150	150	150	150

b. Calculate each animal's daily Metabolisable Energy (ME) requirements, month-to-month.

Example:

Be realistic about the ME requirements of different classes of stock. See top of the next page. For milkers, adjust ME requirements for expected liveweight gain or loss, depending on stage of lactation.

Energy requirements (MJ ME/day)	Nov	Dec	Jan	Feb	Mar	Apr
Milking cows	200	195	190	185	180	180
Dry cows	–	–	–	–	–	–
Yearlings	82	85	87	90	92	94
Calves	43	46	50	53	56	59

c. Calculate tonnes of Dry Matter (DM) required for all stock each month.

Example:

Each of these numbers is calculated as follows:
 Number of animals (from a. above) x
 Daily ME requirement (from b. above) x
 number of days in month ÷ 11 MJ
 (assuming each kg DM = 11MJ ME)
 ÷ 1000

Dry matter requirements (tns DM/month)	Nov	Dec	Jan	Feb	Mar	Apr
Milking cows	218	220	214	188	193	176
Dry cows	0	0	0	0	0	0
Yearlings	27	29	29	28	31	31
Calves	18	19	21	20	24	24
Total	263	268	264	236	248	231

Feed budgeting

Daily ME requirements for different classes of stock.

Milking cows

70–90 MJ ME for maintenance (depending on liveweight) plus 5-5.5 MJ ME per litre milk*



Dry cows (550 Kg, no liveweight change)

90–100 MJ ME



Calves (depending on size)

40–80 MJ ME / day



Yearlings (depending on size)

80–100 MJ ME

Bulls (700 kg, no liveweight gain)

90–100 MJ ME



* Additional energy is required for live weight gain, walking activity and to cope with adverse weather conditions.

If necessary, seek help from an adviser to calculate ME requirements.

Step 2: Calculate your total feed deficit for each month

Example	Nov	Dec	Jan	Feb	Mar	Apr
Irrigated pasture (ha)	85	85	85	85	85	85
MJ/kg DM	10.3	9.9	9.7	9.7	10.2	10.5
Kg/ha/day	70	65	55	50	45	40
Total pasture available at 11 MJ (tns)	167	154	178	105	109	97
Dry land pasture (ha)	0	0	0	0	0	0
MJ/kg DM	10.1	9.3	8.6	8.0	9.3	11.0
Kg/ha/day	50	20	5	0	5	30
Total pasture available at 11 MJ (tns)	0	0	0	0	0	0
Home-grown silage, hay, crops at 11 MJ (tns)	40	50	55	55	40	40
Feed deficit						
Dry matter deficit at 11 MJ (tns)	56	64	81	76	99	94

This is the animals' DM requirement (from Step 1) less the amount of home-grown DM available (pasture, other standing crops, silage and hay on-hand).

If necessary, seek help from an adviser to estimate quantities of pasture and other home-grown feeds on-hand.

Step 3: Calculate quantities of each bought-in feed you require each month

a. Describe what feeds you intend to buy to fill each month's feed deficit.

What are the dry matter, metabolisable energy (ME), crude protein (CP) and neutral detergent fibre (NDF) contents of the grains or concentrates, hay, silage and co-products you intend to buy?

b. Formulate diets for each class of stock—milkers, dry cows, yearlings and calves.

Example:

Milker diet (kg DM/cow/day)	Nov	Dec	Jan	Feb	Mar	Apr
Pasture	11.5	10	8.5	7.5	7	6
Home-grown hay	2.5	3	2	1	0	0
Home-grown silage	0	0	1.5	2	2	2
Grain/concentrate	4.5	5	6	5	5	5
Bought-in hay	0	0	0	1.5	3	3
Bought-in silage	0	0	0	0	0	0
Bought-in co-products	0	0	0	0	0	0

Ensure formulated diets are nutritionally well-balanced, and will maintain sound rumen function and feed conversion efficiency. If necessary, seek help from a nutrition specialist.

c. Using these diets and the stock numbers from Step 1) calculate the total tonnes of each feed that needs to be bought each month.

Example:

Brought in feed requirements (tns DM/month)	Nov	Dec	Jan	Feb	Mar	Apr
Grain/concentrate	56	64	81	60	62	59
Bought-in hay	0	0	0	16	37	35
Bought-in silage	0	0	0	0	0	0
Bought-in co-products	0	0	0	0	0	0

Make realistic allowances for feed wastage based on your feeding system (see Fact Sheet 12).

Revise your feed budget when circumstances change (e.g. available feeds, number of animals to be fed).