GRASSLAND DEVELOPMENT CENTRE
CANOLFAN DATBLYGU TIR GLAS

316.01 WORKING OUT FORAGE COSTS

Why bother?
You need to know production costs to make informed decisions to improve your business. For example, if your farm can produce moderate yields of maize, would growing whole-crop cereals be a cheaper option? or should you buy a standing maize from a neighbour at £400/acre?

Keep it simple
It is easy to get tangled up in very detailed costings – this guide aims to produce accurate and worthwhile figures…… on the back of an envelope.
Work in units that you're comfortable with.

Example - Grass silage costs (40ha 1st cut @68DM clamped)

A) Work out costs on an area basis

Rental Value Everything grown on the farm carries a rental value – if you weren't growing silage you could let the land, (£250/ha/year is a standard figure). 1st cut silage normally produces about 40% of the total annual yield.

Establishment and grassland management
Reseeding costs average 250/ha – so for a 5year ley, that means £50/yr. Allocate 40% of that expense to 1st cut silage. Include weed control expenses on the same basis.

Inputs
These are limited in grassland but with crops like maize, include sprays and possibly plastic.

Machinery
Most contractor operations are easy to allocate on an area basis. If using your own machinery and time, the calculations can get very complicated (depreciation, maintenance costs, fuel and labour) it is simpler to use published figures as a start.

Other costs
Some costs like additive and sheeting may be recorded on a per clamp basis – simply divide the total by the area going into the clamp.

Example costs per ha

Rental value (£250x 40%)	=£100
Reseeding costs	=£20
Fertiliser (400kg 21:8:11) → £155x 0.4	=£62
Slurry application	=£25
Rolling	=£21
Fertiliser spreading	=£6
Mowing	=£17
Tedding/rowing	=£14.50
Carting/clamping	=£107
Additive → £800/40	=£20
Sheet and sampling costs →£120/40	=£3
Total/ha	**= £395.50**

B) Work out yield of kg dry matter (DM)

You need to assess yield to work out costs/kg DM. Roughly guessing yields is the biggest mistake that people make when calculating costs – it makes more sense to have a rough idea of your costs per acre – and an accurate assessment of yield. Select the method most practical for your farm.

Method 1 - Crop assessments

Cutting, drying and weighing grass from a known area (eg four 50x50cm quadrats) can give a fair assessment of yield. This is time consuming – and variation within, and between fields, can be high.

Method 2 – Recording trailer/bale weight

Sending a few trailers across a weigh bridge will give an average weight that can be multiplied up for a total harvest yield. Dry matter % can be done at harvest or use analysis of a clamp sample.

Method 3 – Estimating yield from clamp size.

Calculating the volume of the clamp and multiplying by the bulk density of the crop gives a good idea of total DM yield. Bulk density varies with chop length, consolidation and moisture (DM %)

For clamps of 3m in height: –
Grass silage @ 20%DM = 720kg/m^3
@ 25%DM = 655kg/m^3
@ 30%DM = 610kg/m^3
Maize silage @ 30%DM = 750kg/m^3

Method 4 - Use feeding information to estimate yield

Use the weight of silage in mixer wagons and total up daily rations to estimate clamp contents; this also takes account of losses during harvest and ensiling.

D) Work out costs p/kg

Divide your total area costs by the estimated yield
eg) £395/20t fresh = £19.75/t of fresh silage = 1.975p/kg fresh silage

To convert costs of fresh yield into DM costs → $DM = \text{fresh weight} \times \frac{100}{\%DM}$

So at 25%DM = a cost of 7.9p/kgDM

E) Quality

Don't forget forage quality is still key to profitable milk and meat production. Reducing forage costs by growing bulky low D crops is a false economy.

For more information on forage costing contact IGER GDC (01970) 823157/3026

For information on field operation and contractor costings see:
John Nix – Farm Management Pocketbook – published by the Andersons Centre
SAC Farm Management handbook –
The Agricultural Budgeting and Costings book – Agro Business Consultants Ltd