Take home messages

- ✓ Costs of milk production have risen significantly. Measure your costs.
- ✓ Monitor feed efficiency and use MOC.
- ✓ Well managed grass is the cheapest feed for dairy cows.
- ✓ Effective nutrient management planning will reduce fertiliser costs.
- ✓ Clover has potential to reduce fertiliser inputs.

For further information please contact your local Dairy Adviser or:

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Challenges and Opportunities for your Dairy Farm

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Wednesday 15th June 2022

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Farm Profile

David is a new entrant to dairying, having commenced milk production in 2013. The family farm was previously beef, sheep and cereals.

Area farmed	50 ha
Stock	110 dairy cows 30 heifers reared each year – sent to a contract rearer
Soil type	Medium loam
Cropping	5 ha hybrid rye (Maize the previous two years)
Labour	David and his father John

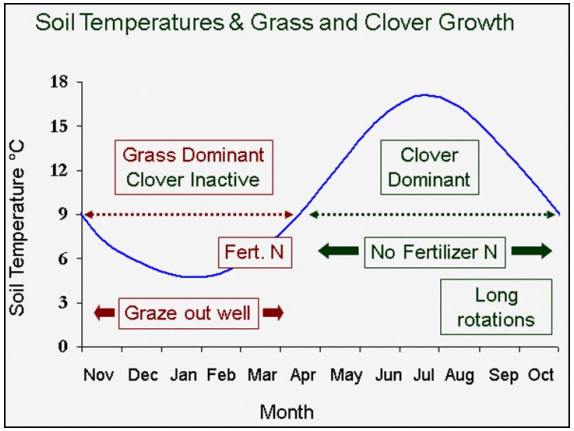
Current performance

Milk yield	6,420 litres (Milk sold to Lakeland)
Milk from forage	2,440 litres
Milk composition	**Butterfat** 4.69% **Protein** 3.69%
Concentrate fed	1.79 tonnes/cow 0.28 kg / litre
Margin over Concentrates	£1,657 /cow
Replacement rate	27%

Reseeding and Clover

- Reseeding pays dividends
- Select poorest performing fields to reseed
- Soil analysis essential before reseeding
- Consider alternatives (conventional reseeding, regeneration, rejuvenation) to ploughing.
- A grass/clover sward fertilised with 50 kg N/ha can sustain a similar output to that from a grass sward fertilised with 200 kg N/ha. Therefore, clover can reduce the costs by £255/ha (save 150kg N/ha, urea at £780/t).
- High protein, high ME feed. Highly digestible and can drive intakes and performance.
- Clover content of 30% needed to fix enough N to replace chemical fertiliser.
- Distribution of the clover throughout sward is equally important.
- Management, soil type and proper plant nutrition will influence clover performance, persistency, N fixation and DM yield.

The diagram below shows the interaction between grass and clover growth.



Forage and Costs

- **Maximise and utilise stocks of quality forage on your farm**

Production cost (£/tDM) ratio of grazed grass compared to other feeds

	Grazed grass	3 cut grass silage	4 cut grass silage	Concentrate (£370/ t)
Ratio	**1.0**	**1.9**	**2.2**	**4.0**

Impact of Silage Quality of later cutting

	Target cutting date	Cutting delayed by 2 weeks
D-value	**72**	**66**
ME (MJ/ kgDM)	**11.5**	**10.6**
Silage intake (kg DM/ cow/ day)	**11.6**	**10.1**
Concentrate (kg/ cow/ day) for cow yielding 30 l/ cow/ day	**8.5**	**10.9**

43 t extra concentrate required to feed 100 cows over 6 months

Taking action

- Assess existing silage stocks
- Implement a nutrient management plan (target slurry applications)
- Assess grass quality before cutting later
- Achieve an effective wilt (25 – 30 % DM/ 24 hours)
- Minimise in silo losses
- Assess silage quality
- Develop a feed plan

Grazing Management

- Walk the farm and assess how much grass you have
- Increasing grazed grass in the diet should be viewed in the same way as setting up a winter ration – assess grass weekly so you can accurately determine how much supplementation is needed throughout the season.
- Ideally, you want all your fields at different stages of grass growth.
- Grass should be grazed at the 2.5 to 3-leaf stage for maximum efficiency
- Pro-active management - minimise grass wastage
- Make use of technology to make life easier – Agrinet, rising platemeters, GPS, online calculators (https://www.daera-ni.gov.uk/services/daera-online-services)
- Still cost effective to sow regular fertiliser, especially through the good growth period.
- Grazing covers of 3000kg/DM down to 1700kg/DM.

Milk from forage targets

Target Milk from Forage (l/cow/day)

	Cows	Heifers
June	**18**	**14**
July	**16**	**12**
August	**14**	**10**
Sept	**12**	**8**

Soil and Soil Health

- A healthy soil looks good, feels good and smells good
- Monitoring of soil health is required to better manage and protect your soils.
- In the long term, improving soil health will cut costs, improve efficiencies and increase productivity.

Indicators of soil health

- pH and nutrient availability
- Soil structure
- Level of compaction
- Soil biology

Importance of lime

Optimum performance pH is 6.0-6.5 in mineral soils and 5.3-5.8 in peaty soils

Soil P and K Indexes: What do they mean?

Soil Index		What the index means
0	Deficient	Risk to production- requires slurry and/or fertiliser
1	Low	Likely to limit production. Requires slurry and/or fertiliser
2-	Optimum	Continue with usual slurry and fertiliser policy
2+	Optimum	Continue with usual slurry and fertiliser policy
3	High	No yield response
4+	Excessive	Risk to environment

- For P index 3 and above soils redistribute slurry to more suitable fields and use zero P fertilisers

What is in slurry?

Available nutrients (Spring Application, using LESSE on a P Index 2- soil)							
		kg@11m^3/ha			Units @1000gal/ac		
	DM%	N	P	K	N	P	K
Cattle Slurry	6	11.4	13.2	24.8	9.2	10.6	19.8

- Use Low emission Slurry Spreading Equipment (LESSE)
- Apply organic manures and chemical fertilisers to match dry matter yield

Production Costs

- Based on CAFRE 2020/21, financial benchmarking data concentrates and forage account for 67% of total variable costs.
- In 2020/21, the average concentrate cost on farms benchmarked was £258/t and fertiliser cost was £230/t.
- An average increase of £50/t for concentrate equates to an increase in variable costs of approximately 1.61ppl.
- Each £100/t increase in fertiliser cost equates to an increase in variable costs of approximately 0.75ppl.
- In 2020/21, the top 25% of Dairy farmers used more feed and fertiliser but also achieved higher output, offsetting the additional feed and forage costs through better feed efficiency.
- CAFRE Benchmarking shows the difference in cost of production between top 25% and bottom 25% of dairy farms is 8.55ppl.

What is your cost of production?

- Benchmarking / Margin over Concentrates
- Measure to Manage
- www.cafre.ac.uk/CAFREcashflow

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