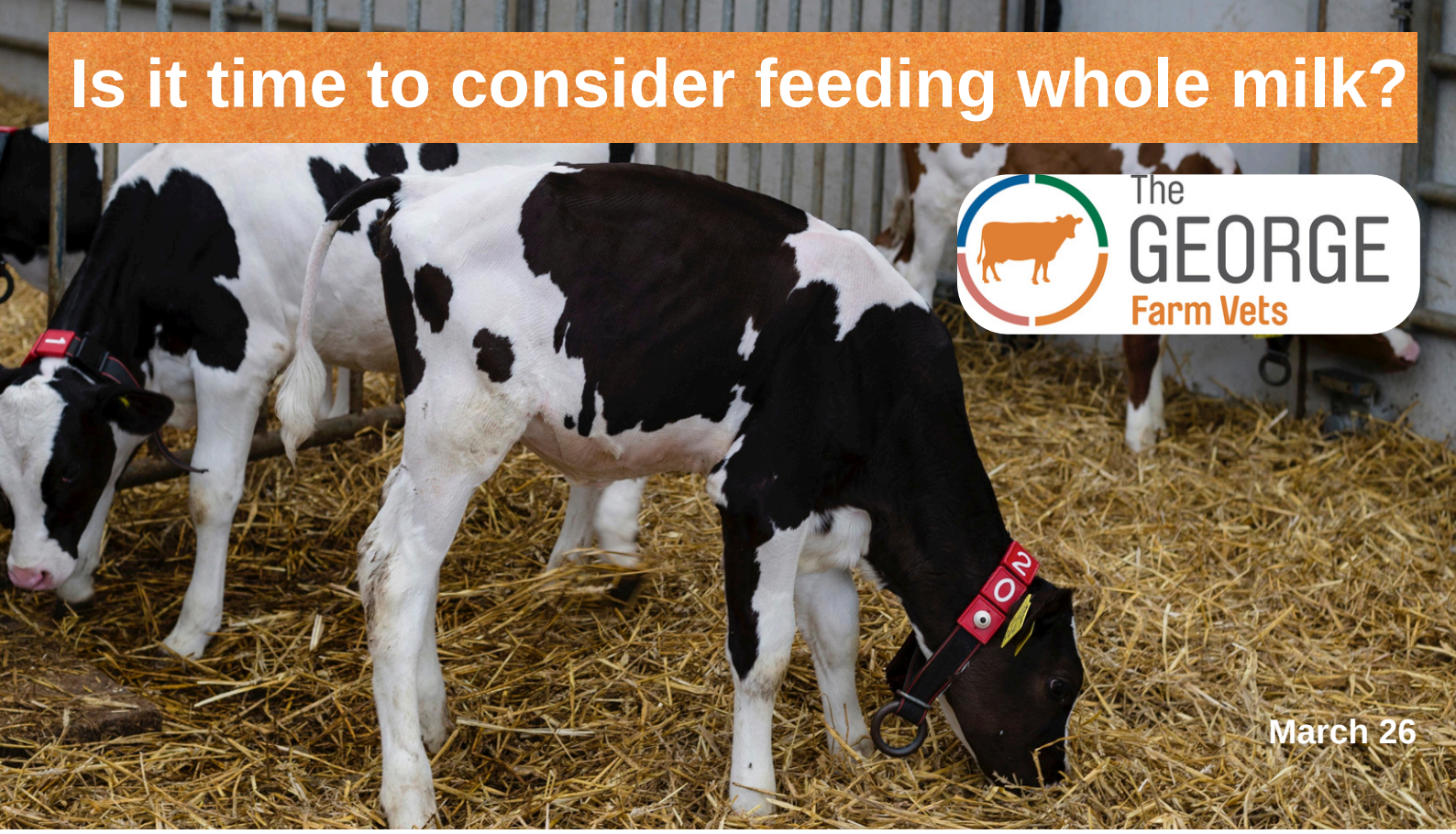
Is it time to consider feeding whole milk?



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With the recent milk price pressure and looming penalties for over production, now could be a good time to consider the switch from feeding calves milk powder to whole milk. As well as potential financial benefits, feeding whole milk has the potential to improve calf health and growth rates by providing calves with the most biologically natural diet.

However, the decision to start feeding whole milk isn't straightforward. There are a few factors to consider before switching to a whole milk feeding regime such as disease risk and how to ensure milk feeding is kept hygienic and consistent.

Whole milk vs milk replacement powder composition

Whole milk has an extremely good fat and protein % and would match or even exceed high end milk powders. Another big advantage of whole milk is that all products are dairy-based and very easily digested by calves. Replacement powders rely on some vegetable-based ingredients which are not as easily digested and converted to growth by calves

Whole milk also contains many bioactive components such as enzymes and growth factors which promote gut development and allow for optimal nutrient absorption.

On the down side, there will be some variation in fat/protein % of whole milk depending on stage of lactation and diet.

	Whole milk (as dry matter)	Milk powder (as dry matter)
Protein	26-27%	18-25%
Fat	26-28%	18-23%
Lactose	36-38%	30-50%
Minerals/ash /other	5-7%	6-10%

Many prefer the consistency which milk powder provides; however, mixing accuracy and water temperature can significantly affect performance.

How does it stack up financially?

This is difficult to calculate exactly but we have to take into consideration milk powder cost, feeding rate and calf growth rate. The table gives a rough guide on what a litre of made up milk replacer costs.

Due to the higher digestibility and protein/fat %, calves usually require less whole milk compared to replacer to achieve similar growth rates. Therefore, many farms would be likely to see a financial advantage by feeding whole milk.

Milk powder price per ton	Feeding rate (grams per litre)	
	135g/L	150g/L
£2,100	28.4p/L	31.5p/L
£2,300	31.2p/L	34.5p/L
£2,500	33.8p/L	37.5p/L
£2,700	36.5p/L	40.5p/L

What are the potential pitfalls of feeding whole milk?

Disease risk- TB, Johnes, Salmonella, Mycoplasma etc can be transmitted through feeding whole milk.

Hygiene- whole milk requires hygienic harvesting, storage, transport. Can easily become contaminated and provide ideal conditions for bacterial growth.

Inconsistencies- will fluctuate in composition, can be harder to feed a consistent temperature

Dump milk from cows under antibiotic treatment should not be fed to calves. It can cause digestive problems as well as increasing the risk of antibiotic resistance forming.

Logistics/Existing set up- difficult to implement when youngstock are kept on a separate site, many have installed automated feeding systems which may not be compatible with feeding whole milk

How can we mitigate these risks?

Pasteurisation- the process of heating milk at a target temperature for a given duration of time, resulting in a reduction in the concentration of viable bacterial and disease risk.

There are many different pasteurisers on the market depending on the volume of milk needed and their set up cost generally ranges from 5-12k.

A pastueriser can also make the feeding of transition colostrum easy and safer. This can have a multitude of benefits on calf health and performance.

Tips for using a pasteuriser

- Don't rely on pasteurisation to sterilize milk- it will reduce bacterial load but will not make up for unhygienic harvesting/storage of milk
- Always ensure pasteurisers and all associated equipment such as feeders are kept scrupulously clean
- Ensure the pasteuriser is adequately maintained so that you can be sure it is working optimally
- If storing pasteurised milk, it should be refrigerated (4°C) in lidded containers and used within 3 days
- Labour and timings need to be considered. Pasteurisers need to be empty, clean and disinfected by the end of milking, ready to start the pasteurisation cycle

Conclusion

Whilst feeding whole milk does come with its potential financial and calf health advantages, it's a switch which should be considered carefully. With ongoing TB and Johnes challenges, most farms would need to implement a pasteurisation system which comes with a significant set up, running and maintenance cost. Ultimately, the best choice depends on each farms individual circumstances. It's important to weigh up with potential benefits of feeding whole milk with the risks and costs associated with feeding it.

All the best,
Zoe