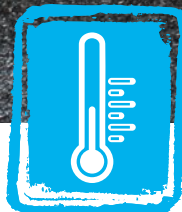


Fine Tuning Calf Rearing

The **#CALFMATTERS**
Guide to Continuous
Improvement in your
Early-Life Calf Health
Management



Protect



Monitor



Treat



For more information visit

www.calfmatters.com



Boehringer
Ingelheim

CALVING - TICKTOCK THE CLOCK STARTS

This calf, dairy or beef, is an investment. Whether it yields a return depends on keeping the calf healthy. From the minute the calf lands, the clock starts to ensure a healthy and productive life.



FACT

The average dairy heifer costs £1800 to produce¹, pays back her rearing costs midway through second lactation and leaves the herd within 3.6 lactations at 6 years of age².

ASSISTED CALVING

If a calf needs help, is it an early warning of a herd problem such as a mineral deficiency? Or just a "one off"?

Traction farmer vet

Easy pull

No assistance

SO WHAT?

A calf that has needed a pull may want supplementation with colostrum and or Bovine Concentrated Lactoserum.

FACT

A calf born following an assisted calving is nearly 3 times more likely to die before weaning and more likely to have inadequate absorption of colostrum antibodies (FPT - failure of passive transfer)³.

DIP NAVEL

The calf is born without any immunity and the navel is open to the environment. It's important to close that door quickly and ensure that the maternity ward is as clean as possible.

FACT

Prevention of navel ill is based on good maternity pen hygiene, ensuring adequate good quality colostrum and navel antiseptics.

FEED COLOSTRUM

The cow's placenta prevents antibody transfer from dam to calf before birth. Passive transfer refers to antibody absorption from colostrum across the baby calf's gut wall. This wall shuts within 24 hours and optimal transfer occurs before 4 hours.

SO WHAT?

If a calf doesn't receive enough good quality colostrum, it will not have the immunity needed to thrive, and is more likely to end up sick or dead.

FACT

DAIRY: Recent studies report figures of 21-48% of calves with FPT⁴.
BEEF: 22-31% of beef calves have FPT^{5,6}.

QUANTITY

3 litres or 10% BW within 2-4 hours, followed with a similar feed within 12 hours

QUALITY

Collect as soon as possible from dam. At least 50g/litre of IgG. Quality can be affected by various factors including time of collection, yield of cow, parity and length of dry period

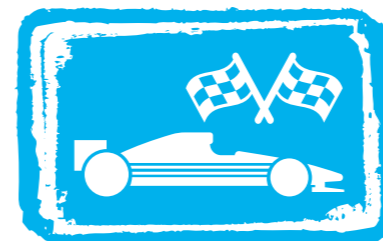
QUICKLY

The calf's gut closes shortly after birth so ideally feed within 2 hours

SQUEAKY CLEAN

Bacteria grow well in colostrum so ensure that collection and storage methods are hygienic

		
Colostrometer Red <20mg/ml Yellow 20-50mg/ml Green >50mg/ml	Refractometer Brix >22%	Blood Sample IgG >10g/l ZST >20 units Brix >8.4% Total Protein >5.5g/dl



Fine Tuning Calf Rearing

WHAT IS YOUR CURRENT PERFORMANCE?

Assess current operation performance - how is it measured? If we're looking at early calf health, we're focused on maximising immunity and getting as many antibodies into every calf as quickly and efficiently as possible. So our measure is blood antibody (serum IgG) concentration.

WHAT IS YOUR PERFORMANCE GOAL?

Serum IgG concentrations over 5.5g/dl between 2 and 7 days post birth. Ensuring minimal disease, minimising antibiotic usage, minimising variation in growth rates and maximising the production of your calves.

WHAT IS THE MOST APPROPRIATE IMPROVEMENT PATH FROM CURRENT TO DESIRED PERFORMANCE?

Continuous improvement should be the focus rather than radical change. Focus on aspects that relate to the key performance objectives - **quality** of colostrum, **dependability** of getting the right amount in every time, **speed** of getting colostrum in as soon as possible, **flexibility** in the system so objectives are met whoever is on calf duty - so changes in process yield the best return on cost investment.

Using the #CALFMATTERS early-life process flow chart overleaf, will support you to build a solid foundation of quality on which you can build layers of dependability, speed, flexibility and cost-savings.

DOES IMPROVEMENT ALWAYS STICK?

Use the #CALFMATTERS early-life process flow chart to hone your process and make use of checklists to ensure improvement is bedded in and to avoid 'experienced user' errors. Remember, it is not the rate of improvement that is important, it's the momentum.

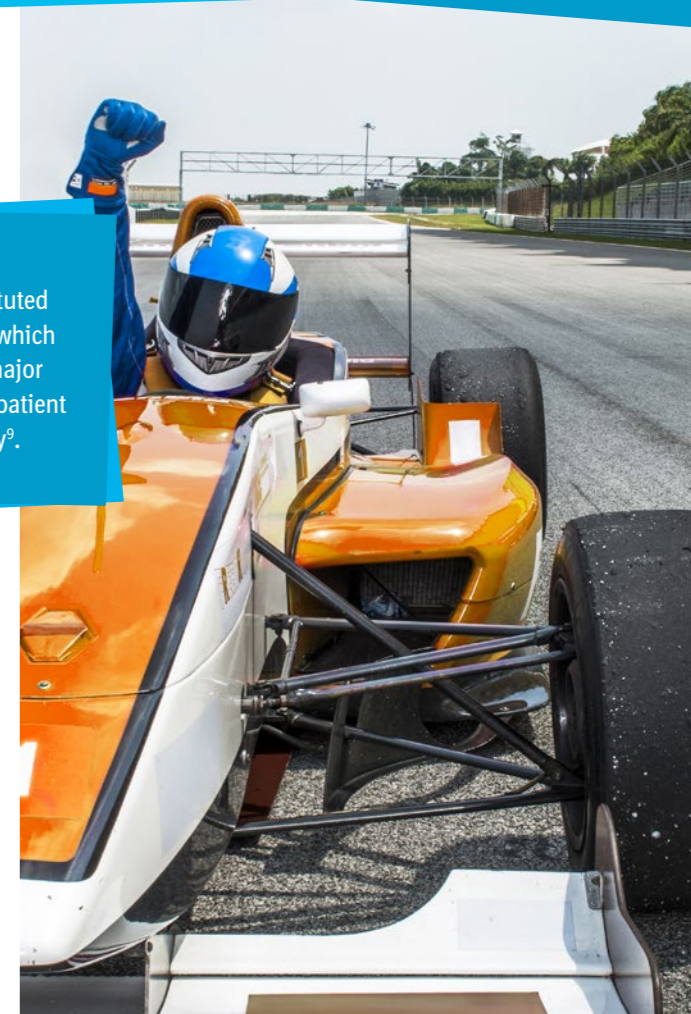
The #CALFMATTERS early-life process flow chart will itself be being improved with your feedback throughout the year. Go to www.calfmatters.com for latest updates and to download a final version later in the year.

WHY IMPROVE YOUR CALF REARING?

These key success factors for optimal calf health have remained consistent, and you'll already be undertaking many optimal calf rearing practices. Significant changes shouldn't be needed. Instead, the focus of any improvements will be on making small changes to current practices, to make the process of calf rearing, and in particular the early days of life, as efficient as possible. It's all about kaizen.

Think of the first days of a calf's life as a pit stop. Your farm may be performing well, but could performance be any better?

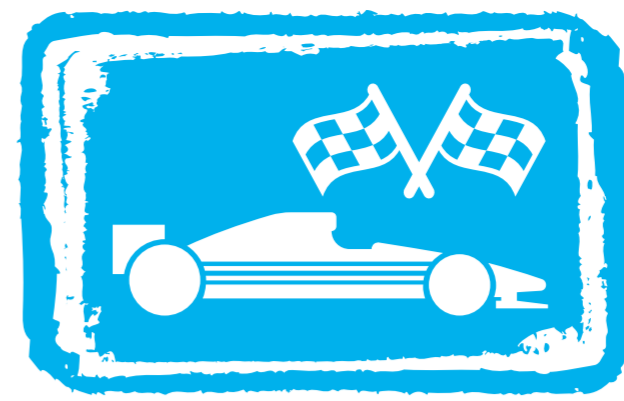
You may already be familiar with the Toyota Production System (TPS). Kaizen is one of the 12 pillars of the TPS and essentially means continuous improvement⁷.



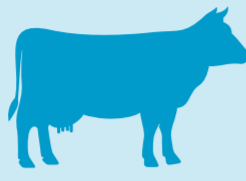








FACT
The NHS has instituted kaizen principles which have resulted in major improvements in patient care and efficiency⁹.

OPEN HERE FOR YOUR KAIZEN EARLY-LIFE PROCESS FLOWCHART

EARLY-LIFE PROCESS FLOWCHART

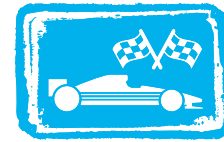


Fine Tuning
Calf Rearing

TIME	TO DO	ABOUT YOUR PROCESS	KIT NEEDED	ACTION NEEDED
DAY 0 HOUR 0	 Calving	Needs for calving area: Where are cows calved: Why: Other options: .....	..... ..... .....	..... ..... .....
DAY 0 HOUR 0	 Calving Alert System	Needs for calving alert: System used: Why?: Other options: .....	..... ..... .....	..... ..... .....
DAY 0 < HOUR 1	 Transport Calf	Transport needs: Method used: Why?: Other options: .....	..... ..... .....	..... ..... .....
DAY 0 < HOUR 2	 Dip Navel	Needs for navel dipping: Method used: Why?: Done where?: Other options: .....	..... ..... .....	..... ..... .....
DAY 0 < HOUR 2	 Feed Colostrum	Goals of colostrum feeding: Method used: Why?: Other options: Source of colostrum: How is it prepared?: How is it quality checked?: Other options: Equipment cleaning: How is it cleaned?: Where is it stored?: Why?: Other options: .....	..... ..... ..... ..... ..... ..... ..... ..... ..... ..... ..... .....	..... ..... ..... ..... ..... ..... ..... ..... ..... ..... .....
DAY 0 < HOUR 3	 Housing	Needs for housing: Housing used: Why?: Other options: .....	..... ..... .....	..... ..... .....
DAY 0 < HOUR 6	 Second Feed	Needs for second feed: Method used: Why?: Other options: .....	..... ..... .....	..... ..... .....
< DAY 7	 Checking Immune Resilience Success	What's our immunity goal?: Method used: Why?: When tested?: Other options: .....	..... ..... .....	..... ..... .....
DAY 10	 BRD Immune Protection	Goal for BRD protection: Method used: Why?: When?: Other options: .....	..... ..... .....	..... ..... .....

#CALFMATTERS

This campaign is brought to you by Boehringer Ingelheim Animal Health, proud providers of the #CALFMATTERS range of solutions. Fine tuning your calf rearing, from good to great.



Fine Tuning
Calf Rearing

OUR PRODUCTS



Locatim®

An oral treatment for neonatal calves less than 12 hours of age, of concentrated lactoserum that contains high levels of IgG against *E. coli* F5 (K99). All doses are concentrated and standardised to produce reliable levels of stated immunoglobulins. For the reduction of mortality, caused by enterotoxigenic *E. coli* F5 (K99).



Bovalto® Respi 3 & 4

For active immunisation of cattle in the absence of maternally derived antibodies against parainfluenza 3 virus, bovine respiratory syncytial virus and *Mannheimia haemolytica* serotype A1. Bovalto® Respi 4 is also indicated to reduce virus excretion due to infection with bovine viral diarrhoea virus.

- Targets the key respiratory pathogens in a single vial
- Ready-to-use for practical handling
- Small injection volume to reduce discomfort to calves
- Use from 2 weeks of age*
- Rapid onset of immunity - 3 weeks post - primary course
- 6 months' continuous protection*



Bovalto® Respi Intranasal

For the active immunisation of calves from the age of 10 days against bovine respiratory syncytial virus (BRSV) and bovine parainfluenza 3 virus (PI3V).

- Efficacious in the presence of maternal antibodies
- Early vaccination from 10 days of age
- Immunity during critical periods
- Antigens with proven efficacy against recent isolates*
- Unique vaccination experience



Bovalto® Pastobov

For active immunisation of cattle to reduce clinical signs and lesions of *Mannheimia haemolytica* A1 induced respiratory disease.

First injection: At the minimum age of 4 weeks.
Second injection: 21-28 days later.



Metacam® 20 mg/ml solution

Cattle: For use in acute respiratory infection with appropriate antibiotic therapy to reduce clinical signs in cattle. For use in diarrhoea, in combination with oral rehydration therapy, to reduce clinical signs in calves of over one week of age and young non-lactating cattle. For adjunctive therapy in the treatment of acute mastitis, in combination with antibiotic therapy. For the relief of post-operative pain following dehorning in calves.



Diakur® Plus

Nutritional supplement to stabilise water and electrolyte balance in young calves suffering from digestive disturbance, or that are under stress caused by changes in feed or the environment. A unique formula containing hydrophobic citrus fibre which supports the elimination of pathogenic bacteria from the intestinal tract. Supports fast absorption of electrolytes and water, and can be fed with milk, milk replacer or water.

* For calves from immune dams or where the immune status of the dam is unknown, the vaccination scheme should be adapted at the discretion of the veterinarian to take into account potential interference of maternally derived antibodies with the response to vaccination.

1. Boulton *et al.* (2017) *Animal* 11: 1372-1380
2. Hanks and Kosaibati (2018) Key Performance Indicators for the UK national dairy herd. University of Reading.
3. Barrier *et al.* (2013) *The Veterinary Journal* 195: 86-90
4. Johnson *et al.* (2017) *Vet Record Open* doi:10.1136/
5. O'Shaughnessy *et al.* (2015) *Irish Vet Journal* 68: 1
6. Todd *et al.* (2018) *Preventive Veterinary Medicine* 159: 182-195
7. Slack and Brandon-Jones (2018) Improvement. In: Operations and Process Management, 5th ed. Ch. 12
8. Phillippe-Reversat *et al.* (2017) *Acta Vet. BRNO* 86: 325-332
9. NHS (2018) Lean programme resources. improvement.nhs.uk/resources/lean-programme/ [Accessed on 20.12.20]

Bovalto® Respi Intranasal, nasal spray, lyophilisate and solvent for suspension contains bovine parainfluenza 3 virus (PI3V), modified live virus, strain Bio 23/A 10^{5.0} - 10^{7.5} TCID₅₀ and bovine respiratory syncytial virus (BRSV), modified live virus, strain Bio 24/A 10^{4.0} - 10^{6.0} TCID₅₀. Bovalto® Respi 3 Suspension and Bovalto® Respi 4 Suspension for Injection contains inactivated bovine respiratory syncytial virus, strain BIO-24, inactivated bovine parainfluenza 3 virus, strain BIO-23 and inactivated *Mannheimia haemolytica*, serotype A1 strain DSM 5283. Bovalto® Respi 4 also contains inactivated bovine viral diarrhoea virus, strain BIO-25. Bovalto® Pastobov contains *Mannheimia haemolytica* type A1 antigen. Metacam® solution for injection 20mg/ml for cattle, pigs and horses contains meloxicam. UK: POM-V. Locatim®, oral solution for neonatal calves less than 12 hours of age, contains bovine concentrated lactoserum containing specific immunoglobulins G against *E. coli* F5 (K99) adhesin $\geq 2.8 \times 10^{10}$ /ml *microagglutination method. UK: POM-VPS. Advice should be sought from the prescriber. Further information available in the SPCs or from Boehringer Ingelheim Animal Health UK Ltd, RG12 8YS, UK. Use Medicines Responsibly. Diakur® Plus is a nutraceutical (non-medical product). Locatim® is a registered trademark of Biokema. Bovalto® is a registered trademark of the Boehringer Ingelheim Group. Diakur® and Metacam® are registered trademarks of Boehringer Ingelheim Vetmedica GmbH, used under licence. ©2020 Boehringer Ingelheim Animal Health UK Ltd. All rights reserved. Date of preparation: January 2020. BOV-0006-2019

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