

# HEALTHY CALVES MAKE GREAT COWS



**G Shepherd**Animal Health  
Advice, Quality & Value

## Introduction

HEALTHY CALVES MAKE GREAT COWS, but calf rearing is certainly not easy!

Infections, especially scour, are far too common. It is important to prevent infections, for the calf's sake & to result in a good productive cow.

“The Balance of Disease” picture simply explains why any animal gets ill with an infection, whether it's caused by a virus, bacteria, Crypto or fungi.

So we need to **boost immunity to infections** and also **reduce the number of bugs that attack the calf.**

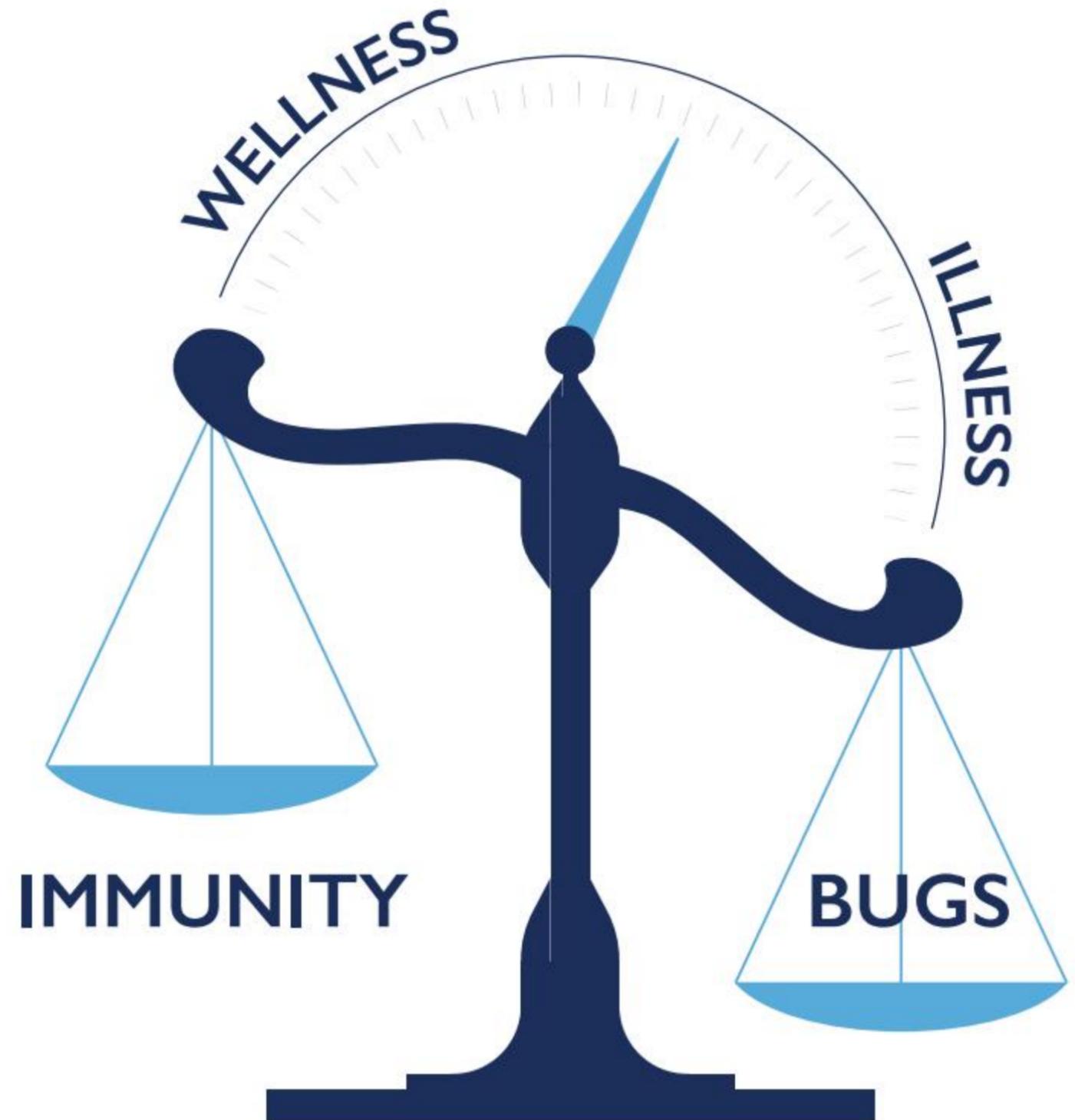
Your Vet does the vaccination advice, which directly targets certain diseases.

G Shepherd Animal Health help prevent calf illness by improving broad spectrum immunity, good feeding & reducing challenge from bugs. Please read on...

Dr Graham Shepherd  
MRCVS

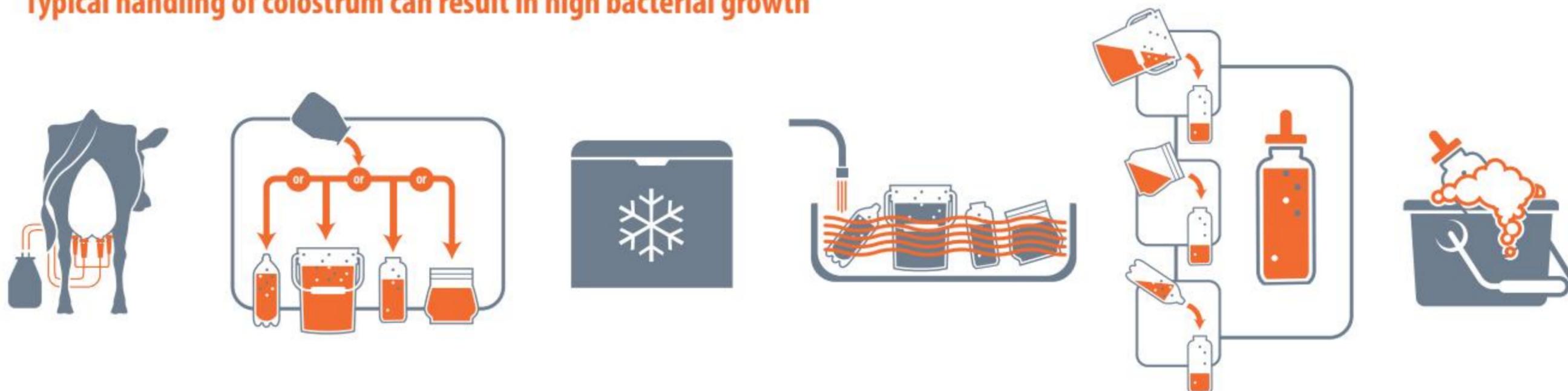


## The Balance of Disease



# Handle Colostrum Hygienically, Feed Plenty & Give a Second Feed

Typical handling of colostrum can result in high bacterial growth

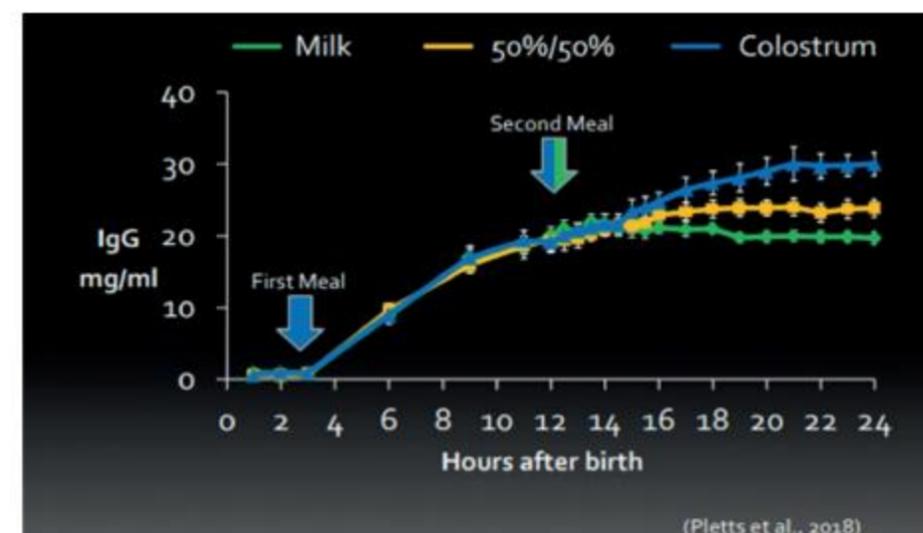


Bacterial Growth in Colostrum at Room Temperature



FACT: A second feed of colostrum improves immunity by 50%.

Ref Pletts et.al. 2018



FACT: Bacteria Reduce Colostrum Absorption. Ref RE James 2008

FACT: Improved Colostrum Policy at Veeman Dairy, Colorado saw an 82% drop in medication & a 60% drop in any disease

**FACT: HEALTHY CALVES MAKE GREAT COWS**

# COLLECT & TEST YOUR COLOSTRUM QUICKLY & EASILY

## PORTABLE MILKER

**How long is it before you get colostrum out of your new calved cows?**

Colostrum quality decreases at 3% per hour. So a 12 hour wait until the next milking is a 36% drop!

**How long does the calf wait to get colostrum?**

Antibody absorption drops at 5% per hour. So a 10 hour wait = 50% reduction in absorption.

**These two problems obviously add up. If the calf has to wait for late-milked colostrum = a 65% worse off calf!**

Features:

- Oil free, graphite vane vacuum pump
- Proper vacuum reserve tank
- ¾ HP single phase motor on 13 amp plug
- 40L stainless steel milk churn

Options:

- Electric or Dual Power
- Single & Double Cluster

From £795



### Effect of Time on Colostrum Quality



Eaglebrecht et.al. 2016

*"Received the mobile milker today. It is very sturdy and well built. The motor and pulsator are very quiet."*

*Jon Cook*



# Measuring Colostrum Quality

You can measure colostrum QUALITY with a Colostrometer or Refractometer. Both measure specific gravity, so it's just personal preference.

Good colostrum will show a 'green level' with the Colostrometer, or read 22 and above on the Brix Refractometer scale.



Refractometer  
**£40.00**



Colostrometer  
**£40.00**

# So, it's weak (60% often is!). What can be done?

Fortify it with our **First Thirst Colostrum**: adding a 225g feed to the calf's colostrum will lift the quality by the equivalent of an extra litre. This way, you are making use of your home grown colostrum as well, that is unique to your farm. Our First Thirst Colostrum can also be mixed with water or milk if no colostrum is available.

Price:  
**10 feed  
£125**

**44 feed  
£500**



*"Calf health has improved dramatically since pasteurisation, testing all colostrum with a refractometer and the Perfect Udder Colostrum Management System – in fact, it has never been better"*

*Michael Kyle, Dumfries*



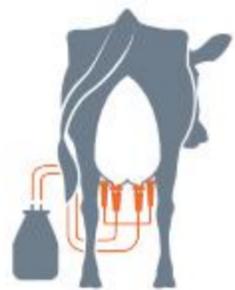
# COLOSTRUM MANAGEMENT SYSTEM



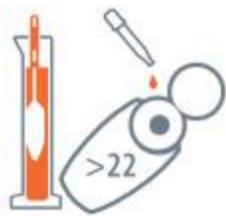
A popular system to tidy up colostrum handling. There are 3 sizes of bags to suit different sizes of calf, first and second feeds, or different qualities of colostrum. The date and quality of colostrum can be marked on the bag. A NEW “dough-nut” shape is being introduced to increase surface area and so speed heat exchange.

- Strong colostrum bags in boxes of 50
- Store in the bag
- Thaw in the bag
- Feed from the bag
- 3 teats & 3 feeding tubes (included)
- Bin the bag. Hygienic. Less Bugs.

Call us to discuss the Perfect Udder Colostrum System.



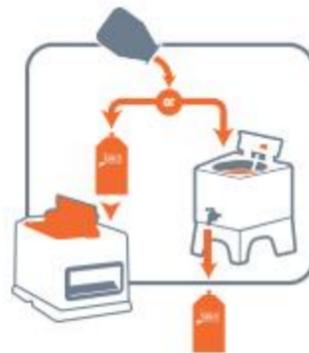
Collect



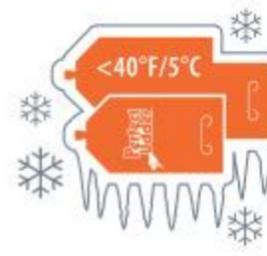
Test



Record



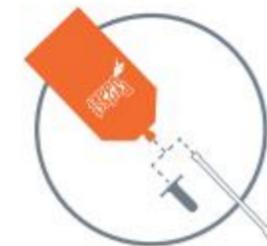
Pasteurize



Store



Warm



Feed



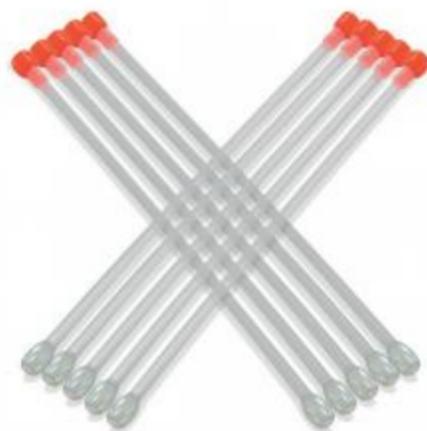
Discard



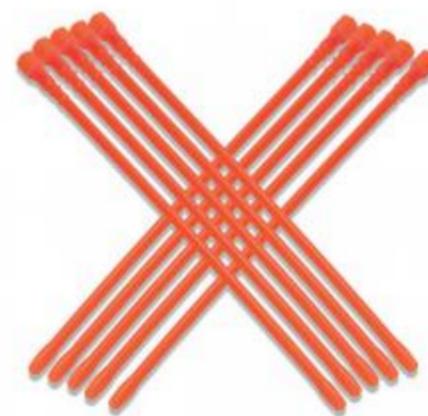
# FILLING BAGS, THAWING & FEEDING



New slightly smaller & softer teats, 3 included in each kit of 50 bags



The Standard Feeding Tube for calves over 35 kg, 3 included in each 4 L, 50 bag kit.



The Small Feeding Tube for calves under 35 kg, 3 included in each 3 L, 50 bag kit.



“Deluxe Feeding Tube” for those who like to lift the bag up high.



Simple Bag Filler, attaches to a bench or shelf.



“RockaFilla” Bag Filler  
The bags clamp on to the measured reservoir. For “power-users”. Dishwasher safe.



“Bag Caddies” convert the bag into a rigid holder with hand grip & shoulder strap. Orange for 2L & 3L. Grey for the new larger 4 L “doughnut” size.

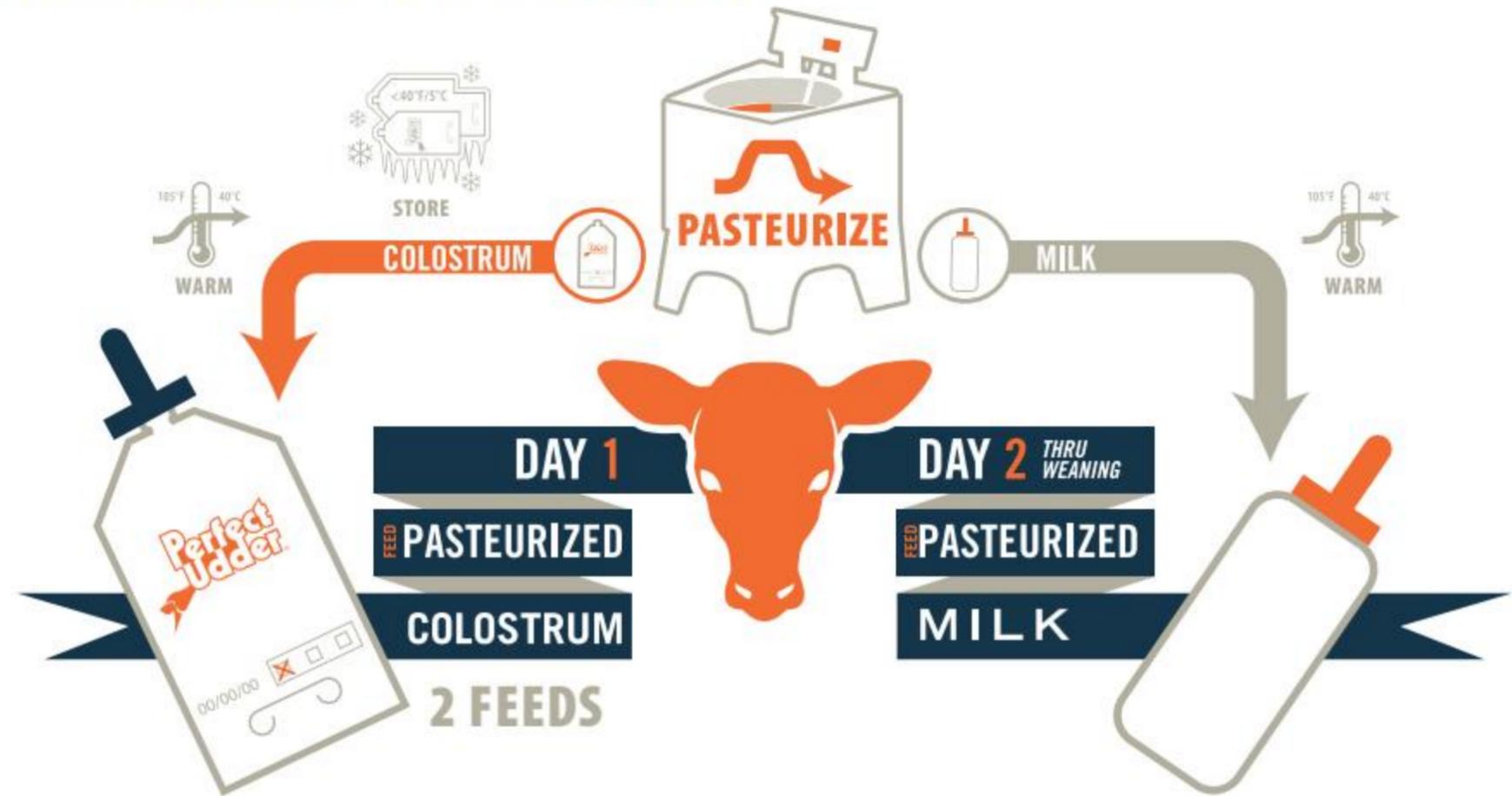


“Matilda” Pasteuriser & Thawer

# PROVEN PASTEURISATION SYSTEMS

## For Colostrum & Milk

No calf health conversation starts or stops with one product or one solution. That's why Dairy Tech, Inc designed its Perfect Udder Pasteurisation Systems to provide you with everything you need to capitalise on the benefits of pasteurizing colostrum and milk on your farm. When your dairy starts with healthy calves, you will improve the production of your cows and the overall longterm health of the herd.



3 SIZES AVAILABLE  
2L, 3L & 4L

- PASTEURIZE
- REFRIGERATE OR FREEZE
- WARM
- FEED

...ALL from the Same Bio-Secure PERFECT UDDER® COLOSTRUM MANAGEMENT Bag!

**Perfect Udder**  
COLOSTRUM MANAGEMENT SYSTEM

"We just weaned our first pen that were reared completely on pasteurised milk - it took two of us to bolus them - they are giants!!"

Jo Butler,  
Chippenham



## COLOSTRUM PASTEURISER & THAWER

- Accurate pasteurisation & thawing of colostrum
- PID control gives unrivalled temperature control
- Handles two Perfect Udder bags at a time
- Kills disease causing bugs
- Improves antibody levels in the calf
- Proven longterm yield and health benefits for your herd

### Proper Handling of Colostrum



DairyTech  
INCORPORATED

*"I love Matilda and find her very user friendly, easy and quick - VERY HAPPY!"*

*Bryony Symms, Dorset*



# FEEDING REAL MILK TO CALVES OFTEN GIVES THE BEST RESULTS.

- Real cows milk has much more feed value and digestibility than most powdered calf milk
- Pasteurisation is now widely accepted to reduce disease challenge including Johnes
- Did you know milk replacer is pasteurised, not sterilised?
- All our machines have timers to help your calf feeding regime

DT228L owner, Jim Thornley of Kirkham states:

*"Our DairyTech pasteuriser is absolutely great - calf health has never been better"*



## Milk & Colostrum Pasteurisers

38L, 114L, 228L

All Pasteurisers have accurate "PID" Controls

# LARGER PASTEURISERS FOR COLOSTRUM & CALF MILK:

- Accurate control
- Simple
- Pre-set feeding times



60L to 500L Batch Size

*Alison Myerscough,  
Lancashire says:*

*"• user friendly  
pasteuriser*

*• 2 years on - no issues  
with either calf health  
or machine*

*• Highest DLWG in  
Calf Health Club"*

*Malcolm Fell,  
Cumbria:*

*"Calf health  
infinitely better since  
pasteurising the  
colostrum - no doubts  
about that! Growth  
Rates on pasteurised  
milk have improved  
so much we are now  
Airing heifers at 12  
months old"*



## **Duecinox Colocare**

4 bag Colostrum  
pasteuriser & thawer



# REAL MILK FEEDING

From the barrage of marketing we see from the large milk powder companies, you'd be excused for thinking that Calf Milk Replacer was the only way, the cheapest way and the best way to feed your calves.

**The best solution is whatever gives you healthy fast growing calves, that grow into great cows.**

Real Cows Milk takes some beating because it is well balanced and highly digestible, but can carry some infections.

## Interesting points:

- Pasteurisation makes raw milk into a safer feed if you have certain diseases on your farm e.g. Johnes, T.B., Salmonella, Mycoplasma.
- American studies have shown 12.5% of powdered calf milk replacer samples to contain live Johnes Disease bacteria (ref: Kunkel, McGuirk et.al. 2015).
- a 20% fat replacer mixed at 12.5% DM results in a "Milk" fed to the calf at 2.5% fat! It's the same with a 20% protein powder. And is that replaced fat & protein as digestible as that in real milk?
- a 27% protein milk replacer mixed at 12.5% DM results in a 3.4% protein feed, so that is comparable with real milk, but the fat level and overall digestibility of the replacement ingredients needs to be questioned.

## Tips on feeding Real Milk:

- Feed fresh milk at body temperature.
- Cleanliness is next to Godliness! Have a good cleaning program of all equipment.
- Feed at consistent times.
- Ensure the bucket is 16 inch higher than the calf's hooves, so milk goes into right stomach. Beware of bedding raising the "floor".
- Pasteurise if you have health & hygiene issues that it can help.



# KRYPTIC-PRO SUPPLEMENT FOR MILK OR REPLACER

Kryptic-Pro is a feed supplement that is specifically designed to improve gut function in the young calf.

To be added to the milk fed to calves from day 3 to day 17 of life.

**It has a broad spectrum approach:**

- acidifying the stomach, so killing more bugs
- clotting the milk in the stomach for a slower digestion and slower exit from the stomach, so the small intestine is not overloaded
- improves growth and feed efficiency especially under disease challenge or heat stress
- provides Vitamin C which can be deficient in calves and is proven to reduce diarrhoea
- Charcoal, kaolin, yeast cell wall beta-glucans & oligo-saccharides all join in the science to bind bugs, bind toxins, and improve immunity.

**The effect is to improve digestion of milk, reduce gut upsets and so reduce antibiotic use.**

**Q. Healthy Calves make what?**

**A. Great Cows!**

**Correct!!**



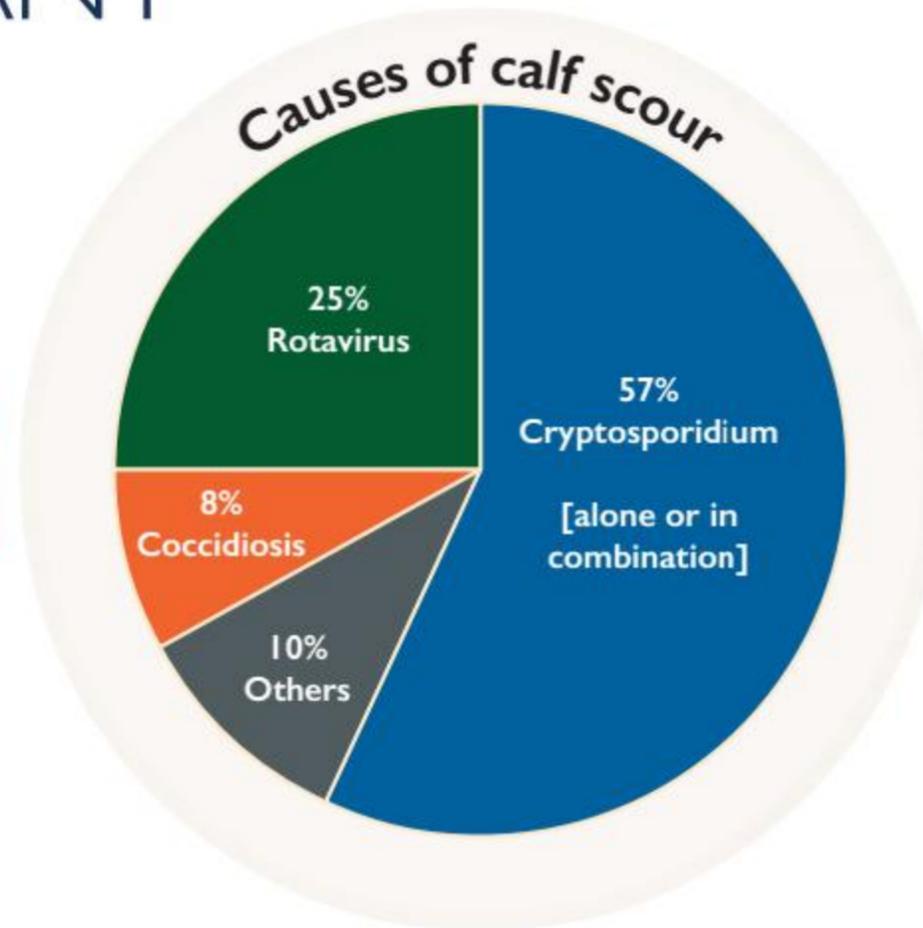
*"During batch calving we had severe gut upsets in the calves. Mixing Kryptic Pro into the milk did a good job. We did not lose a calf and the whole batch are now back on track"*

*Dairy Farmer, Cheshire*

# SWORDSMAN DISINFECTANT



Healthier Calves  
More Growth  
More Milk



- Kills Crypto – Proven to reduce by 99.99%
- Kills Salmonella, Staph. & E. coli (Abbot Analytical EN1656 with soiling)
- Kills Ringworm fungi & yeasts (Abbot Analytical EN1656 with soiling)
- Contains EU Biocidal Product Regs approved biocide.

The only proven “Crypto” disinfectant that is :-

- UK developed,
- UK tested (Moredun Research, Edinburgh) &
- UK manufactured & sold by a UK owned company.

*“I’ve tried numerous disinfectants historically claiming the world, TK Swordsman works & does what it says on the tin.”*

*Stephen Tomkinson, Staffs*

Coverage **approx. 1000 m<sup>3</sup> per 5 litre** container, at the Crypto dilution of **1 in 30**

# TK GOLDdust DRY BEDDING POWDER

- Great for calf pens, lambing pens & dairy cow cubicles
- Absorbs moisture
- Reduces bacteria & viruses
- Contains DEFRA approved disinfectant
- Use 100g /m<sup>3</sup>/ every day

*"30 odd years ago, back at vet school, I remember an old Scottish vet ranting away in a lecture that EVERY ANIMAL NEEDS A DRY BED! That message has stuck with me. Wetness grows bugs and stresses young animals.*

*TK GOLDdust is no substitute for drainage and plenty of straw, but will absorb moisture and activate its disinfectant if it gets wet. Due to a liquid diet there is a lot of urine produced by calves, so their bedding is always getting wet."*

*Graham*

**Packaging:** 25kg sacks on half and full tonne pallets

**Price:** Please call for prices



# DIARID

## CALF BOLUS

- Aids loose dung in calves
- Contains no antibiotics
- Binds toxins and excess fluids
- Easy to use

### DIRECTIONS:

GENTLY INSERT THE BOLUS INTO THE CALF'S MOUTH USING THE APPLICATOR, OVER THE BACK OF THE TONGUE, SO IT IS SWALLOWED.

TAKE CARE NOT TO CAUSE DAMAGE OR CHOKER THE CALF.

IF IN ANY DOUBT SEEK VETERINARY ADVICE.

### FEEDING RATE:

3 BOLUSES PER DAY FOR  
3 CONSECUTIVE DAYS.



*"Life-Guard Electrolyte & Diarid Bolus working really well on our farm, and saved a lot of calves"*

*Stephen Tomkinson, Staffs.*

- A natural combination of Charcoal & Kaolin
- For nutritional gut upsets
- Opportunity to reduce antibiotic use if not specifically needed
- Rehydration may still be required

# LIFE-GUARD

## CALF ELECTROLYTE

A high specification electrolyte powder

- Strong & Effective Formulation
- **LIFE-GUARD** - Simple to use
- **LIFE-GUARD** - Oral Rehydration



- An ideal oral rehydration drink for scouring calves.
- Life-Guard contains Charcoal and Kaolin to absorb toxins, giving the grey colour.
- While we include dextrose and amino acid, calves benefit from the midday milk feed on day two to give proper nutrition to the gut lining.
- Calves without a suck reflex need a Vet.

### MIXING INSTRUCTIONS:

Mix 1 Sachet with 2L warm water. **DO NOT** feed mixed with milk.

**Day 1** - No milk. **2L Electrolyte solution twice or three times daily** depending on calf size and degree of dehydration and depression. The calf may be dosed using a feeding tube by a trained person, if it does not drink, but has a suck reflex.

**If a calf does not have a suck reflex, Veterinary attention is vital.**

<b>Day 2</b>	<b>AM</b>	2L Electrolyte
	<b>NOON</b>	1L of milk, not within 4 hrs of an electrolyte feed
	<b>PM</b>	2L Electrolyte

**Also allow access to clean drinking water at all times.**

**Additional therapy & prevention advice may be required against infectious agents under the direction of a Veterinary Surgeon.**



# 4 MYTHS ABOUT PASTEURISING COLOSTRUM & CALF MILK

## 1. “Pasteurising ‘kills’ Antibodies.”

**SOMETIMES!** Excess temperature and/or heating time will damage the good antibodies ( also known as Immunoglobulins) in colostrum.

**However, the settings used by our machines do not significantly damage the colostrum antibodies. The settings and accuracy of the temperature control are important to prevent overshooting the target temperature.**

Research from Godden, Smolenski et al. in J. Dairy Sci 95:4029-4040 on 1071 calves showed higher antibody levels and lower disease in the calves fed pasteurised colostrum, compared to raw colostrum.

## 2. “Pasteurisation doesn’t kill Johnes Disease.”

**WRONG** in the case of specialist pasteurisers. Research from Godden, McMartin et al. in J. Dairy Sci. 89:3476-3483 showed that MAP (Johnes bacteria) was not detected after pasteurisation in the pasteuriser made by DairyTech Inc.

A decade has passed since then and improvements have been made in the accuracy of the control systems. We have datalogger reports showing very accurate temperature control in the machines we supply. It is possible some MAP survive, but are low numbers significant?

The settings and accuracy of the temperature control are important to prevent “yoyo-ing” of the milk temperature.

## 3. “Calf Milk Replacer is always safe.”

Interestingly, researchers in Madison & Belfast, Kinkel, McGuirk et al. showed 12.5% of Calf Milk Replacer samples to contain live Johnes bacteria. Previously researchers had shown 44% of powdered milk products to be positive for Johnes. But is the level significant?

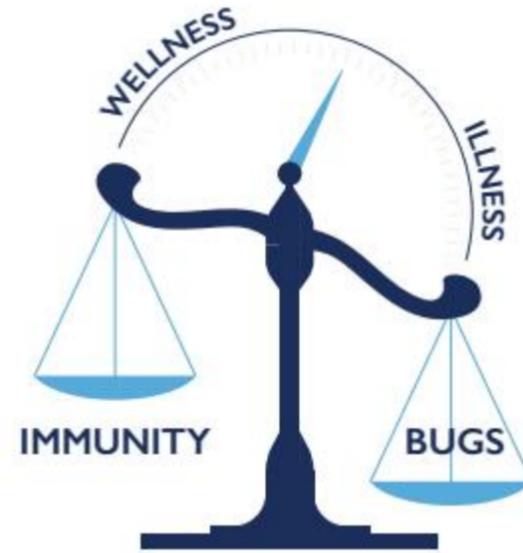
## 4. “Pasteurisation of calf feeding milk is a recent innovation.”

**WRONG-**

- Crichton & Biggar , Rowett Research, Aberdeen showed benefits in TB control in calves from pasteurisation in 1938
- M’Candlish & Black (1935) West of Scotland Agricultural College showed improved growth in calves fed pasteurised milk
- Wilson, Minett & Carling in 1937 showed benefits in TB control in calves fed pasteurised milk over raw milk.

CONTROL OF JOHNE’S DISEASE IS A “NUMBERS GAME”, IN SUCH THAT EVERYTHING MUST BE DONE TO LOWER THE INFECTIOUS DOSE AVAILABLE TO THE CALVES.

PASTEURISATION IS ONLY A PART OF A CONTROL PLAN. COLOSTRUM & MILK ARE NOT THE ONLY ROUTES OF INFECTION. CALVES CAN EVEN BE BORN WITH THE INFECTION.



## The Balance of Disease



### IMPROVE IMMUNITY

Feed Plenty of good quality colostrum promptly, and hygienically.

#### Helped by using:

- Perfect Udder System
- Matilda Pasteuriser & Thawer
- First Thirst Colostrum
- Colostrometer
- Refractometer

+

### REDUCE DISEASE CHALLENGE

#### Assisted by:

- Pasteurisation of colostrum & calf milk
- Perfect Udder System
- TK Swordsman Disinfectant
- TK GOLDdust Bedding Powder
- Cleaning program for feeding equipment

+

### GOOD NUTRITION

#### What works best for you?

- We would recommend Pasteurised Real Milk
- Kryptic Pro to improve milk digestion, and reduce irritating nutritional gut upsets

### HELP WITH INEVITABLE UPSETS

#### For Loose Dung & Fluid Loss:

- Diarid Bolus
- Life-Guard Electrolyte sachets

**We are sure that your calves do really well, but if they need to do even better, give us a call!**



# G Shepherd Animal Health

Advice, Quality & Value

## ALSO AVAILABLE:

- Fresh Cow Products
- Foot Health Products
- Liquid Energy feeds and equipment
- Sheep Health Products
- Full Dairy Hygiene Range
- Dairy Equipment, Spares, Liners etc.



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