Teagasc
Agriculture and Food Development Authority

WORKSHOP 6:

MANAGING YOUNG CALVES FOR BETTER HEALTH OUTCOMES

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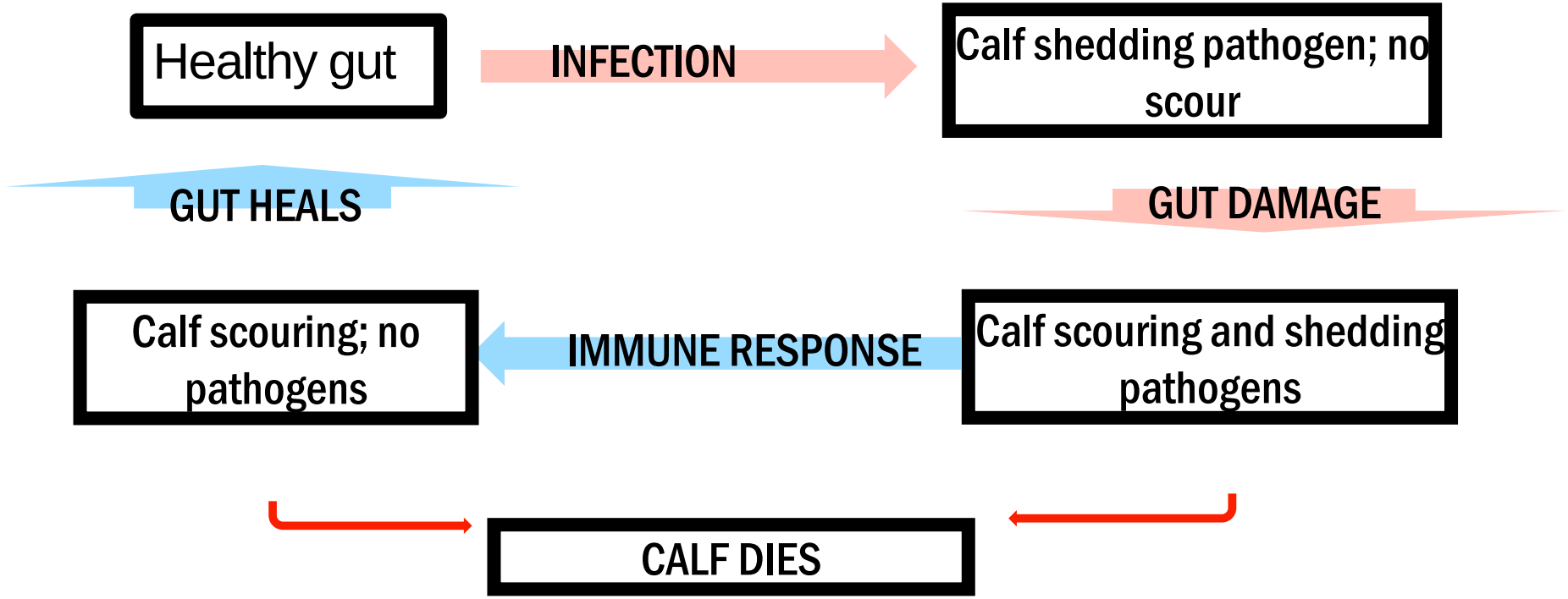
NATIONAL DAIRY CONFERENCE Wednesday, 27 November Limerick Racecourse

An Roinn Talmhaíochta,
Bia agus Mara
Department of Agriculture,
Food and the Marine

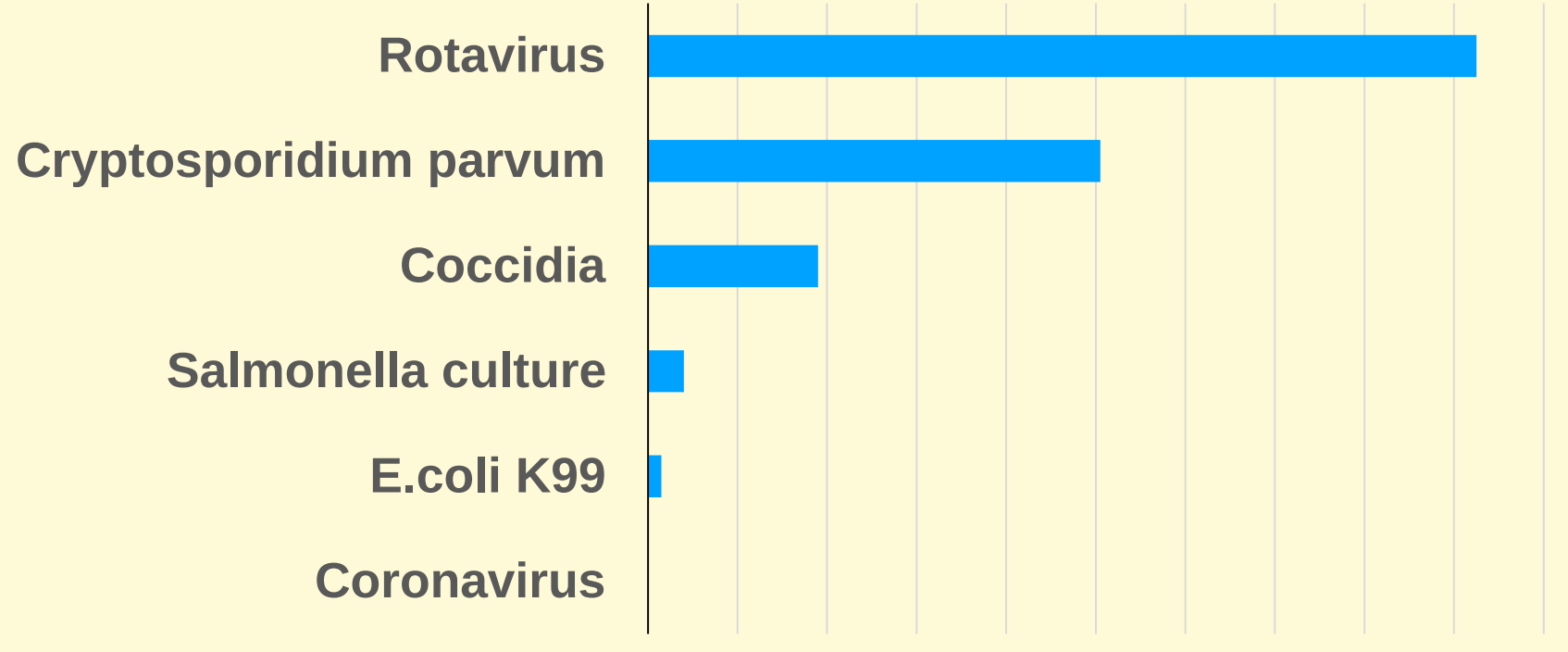
Regional lab findings on calf scour

Ian Hogan
Research Officer
Limerick RVL
27th November 2024

Story of a Scour…



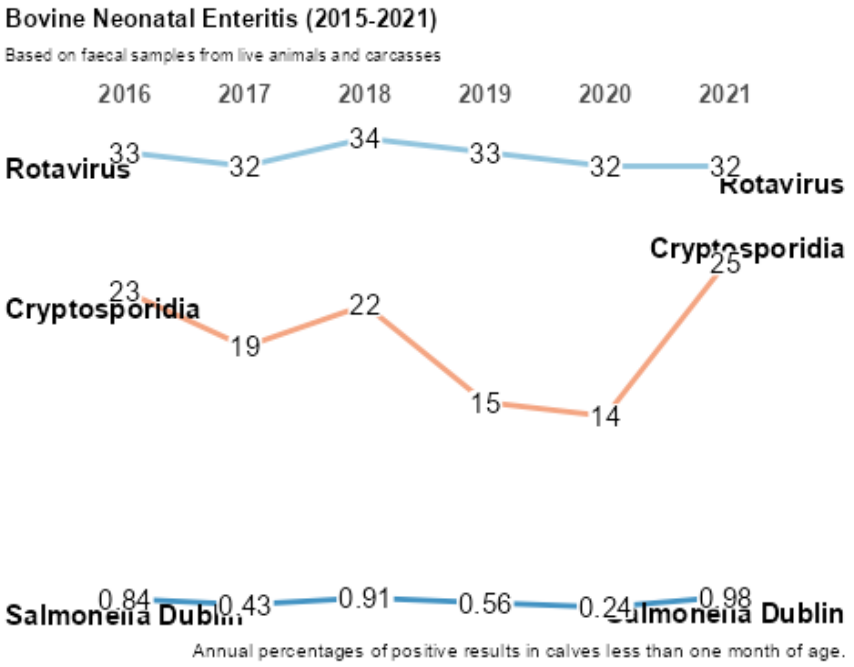
The causes of Scour



	Coronavirus	E.coli K99	Salmonella culture	Coccidia	Cryptosporidium parvum	Rotavirus
Positive	0	3	8	38	101	185

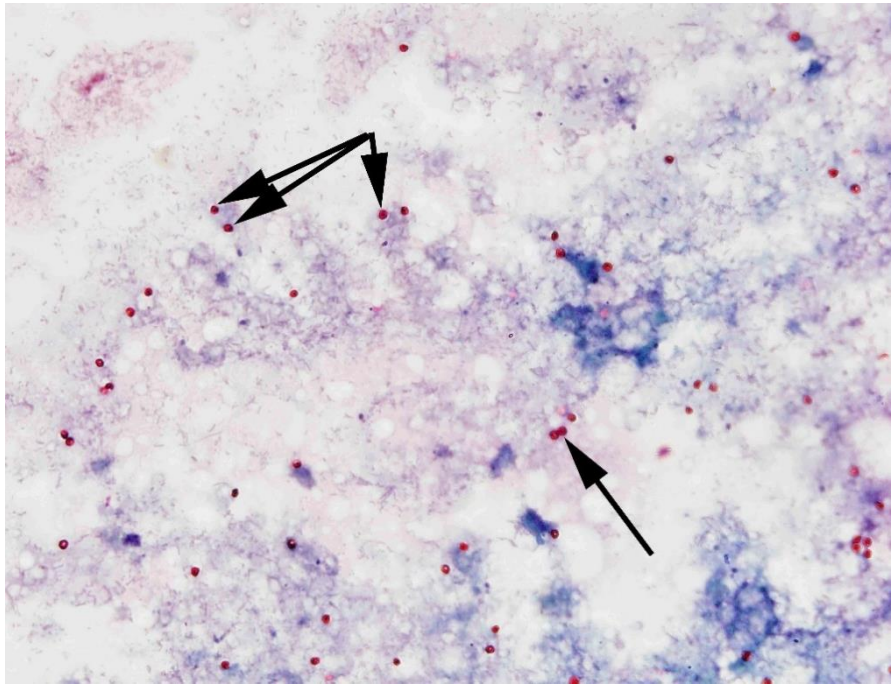
Rotavirus

- Most common cause of scour
- First two weeks of life
- Dehydration and electrolyte loss
- Few needed for infection; large numbers shed
- Vaccine; colostrum crucial



Cryptosporidia

- Protoazoa
- Affect calves from five days on
- Die of dehydration AND starvation
- Hygiene is critical
- Halofuginone is a preventative dose
- New vaccine available



Salmonella

Salmonella Dublin

- Historically most common
- Decreasing over last ten years
- Causes scour and abortion
- Severe disease, temperature
- Moderate to high mortality
- Risk to humans

Salmonella **typhimiurium**

- **Less common**
- **Scour, rarely abortion**
- **Very high mortality**
- **High risk of human infection**

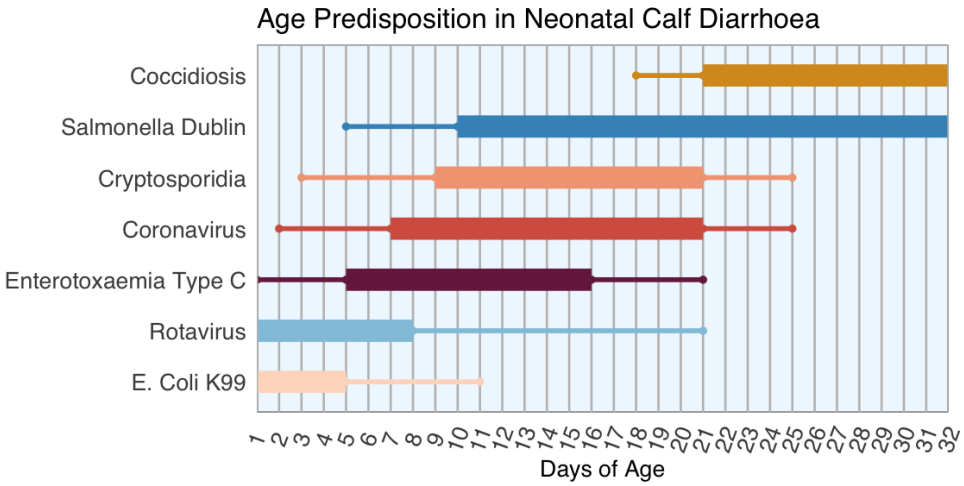
Less common causes of scour

Coronavirus

- less common
- more severe than rotavirus
- one to two weeks.

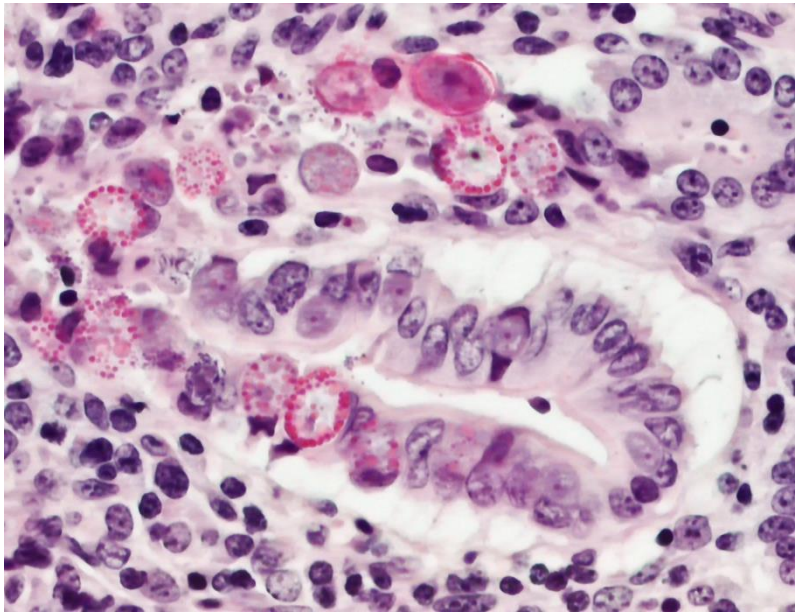
E.Coli K99

- newborn calves in their first fiv
- Enterotoxins
- Calf pen hygiene and colostrum



Coccidia

- Scour, blood and straining
- From 3 weeks to 6 months of age
- Subclinical infections lead to poor growth rates
- Prevention more effective than treatment
- Hygiene is critical



Summer Scour Syndrome

Described in Ireland, UK and Australia

Symptoms

- Diarrhoea and Weight Loss
- Dairy calves up to 12 months
- After turnout to grass.
- Unresponsive to medicines
- Common pathogens are not consistently detected
- Some animals display oral and oesophageal ulcers

Treatment and Care

- EARLY INTERVENTION
- DIET OF HAY AND WATER
- Milk may make the problem worse
- Ruminal buffer?
- Addition of pelleted straw or chopped hay to the meals fed to calves

Colostrum Management

Dr. Emer Kennedy

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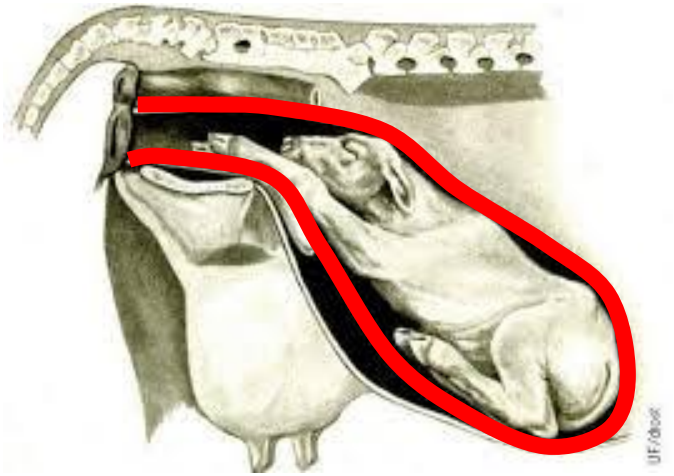
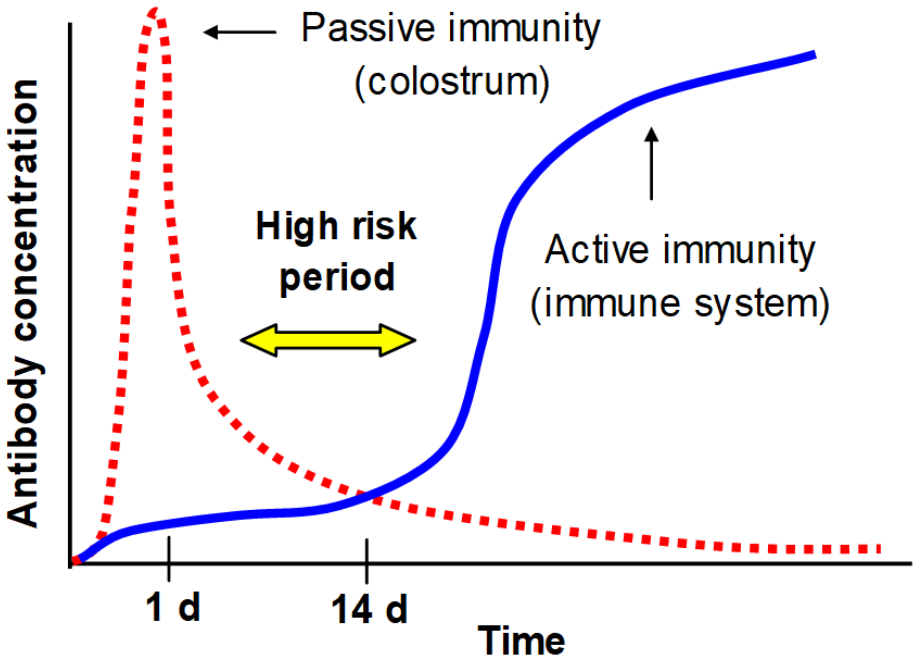
Agriculture and Food Development Authority

Why is colostrum important?



- No transfer of immunoglobulins between cow and calf
- Placenta separates maternal and foetal blood supplies
- Calf is almost entirely dependent on absorption of maternal immunoglobulins from colostrum

Window of susceptibility



- Antibodies from colostrum protect calves until their own immune systems are fully functional
- Time between passive immunity provided by colostrum and the calf's own immunity creates a period where the calf is at greater risk of illness
- Avoid moving/mixing calves in the high risk period

Achieving adequate passive transfer (APT)

3 key factors for APT

1) Quality of colostrum

2) Timing of feeding

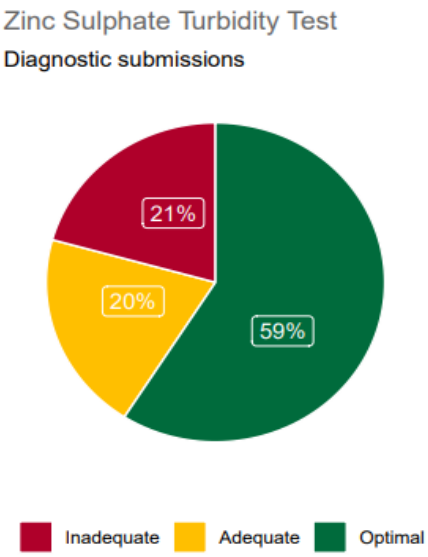
3) Volume of colostrum

ZST

- 20 + units = optimal
- 12.5 – 19 = adequate
- < 12 = inadequate

There are many negative consequences if APT is not achieved:

- increased risk of disease and death
- slower growth rates
- reduction in long-term productivity
- decreased milk production in later life
- increased culling rate during the first lactation
- delayed time to first insemination

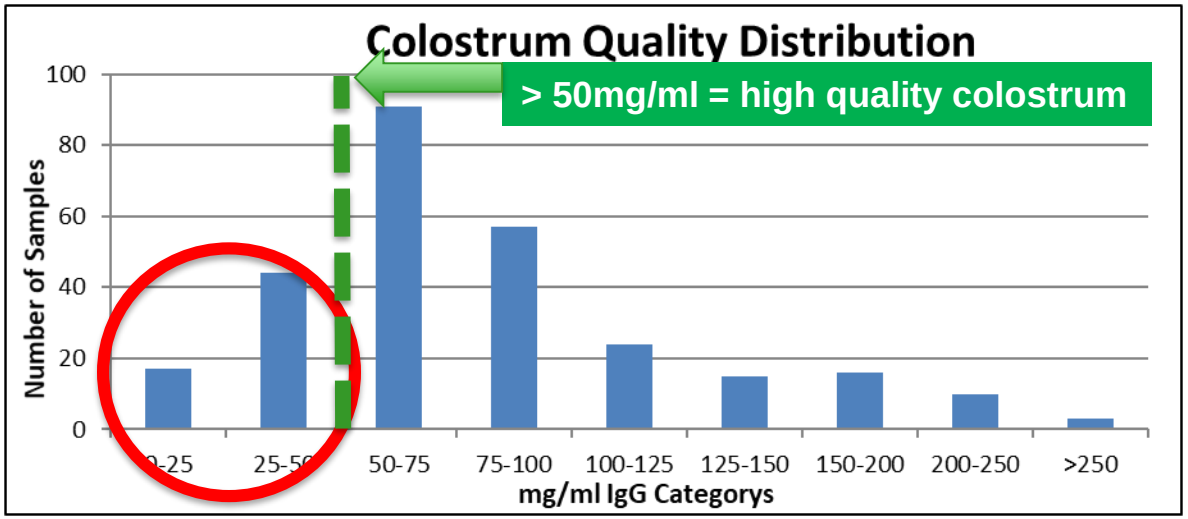


Source: DAFM 2023

Table 6.1.: Zinc Sulphate Turbidity Test Results in 2022.

Submission type	Status	No. of samples	Mean	Percentage
Diagnostic	Optimal	271	28.4	59
Diagnostic	Adequate	93	16.3	20
Diagnostic	Inadequate	95	6.6	21
Carcass	Optimal	60	26.3	24
Carcass	Adequate	61	15.8	24
Carcass	Inadequate	132	5.8	52

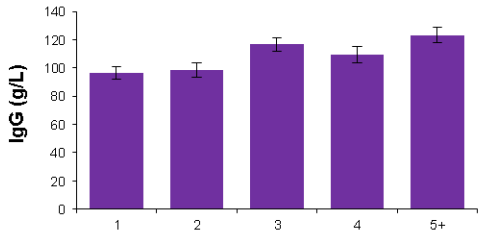
Q. Quality of colostrum on commercial Irish dairy farms



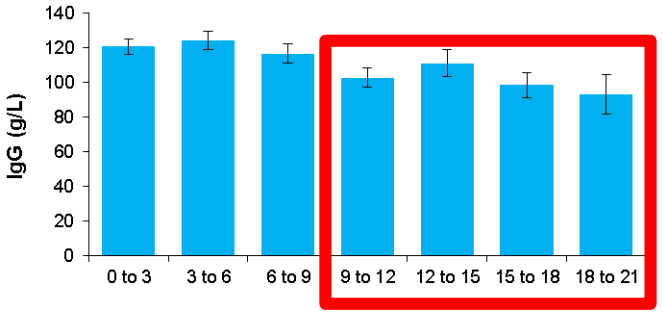
- **Average = 84 mg/ml IgG (max 325, min 0)**
- **22 % of samples below threshold (Across 50% of farms)**
- **Large variation within herds**
- **Need to test colostrum before feeding!!!**

Q. What factors affect colostrum quality

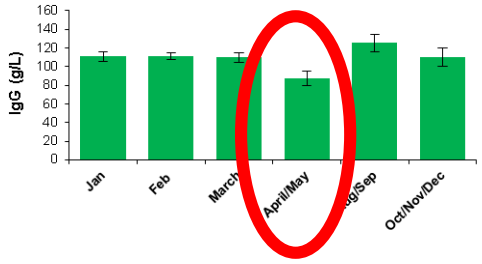
(1) Parity



(2) Time interval



(3) Month of calving

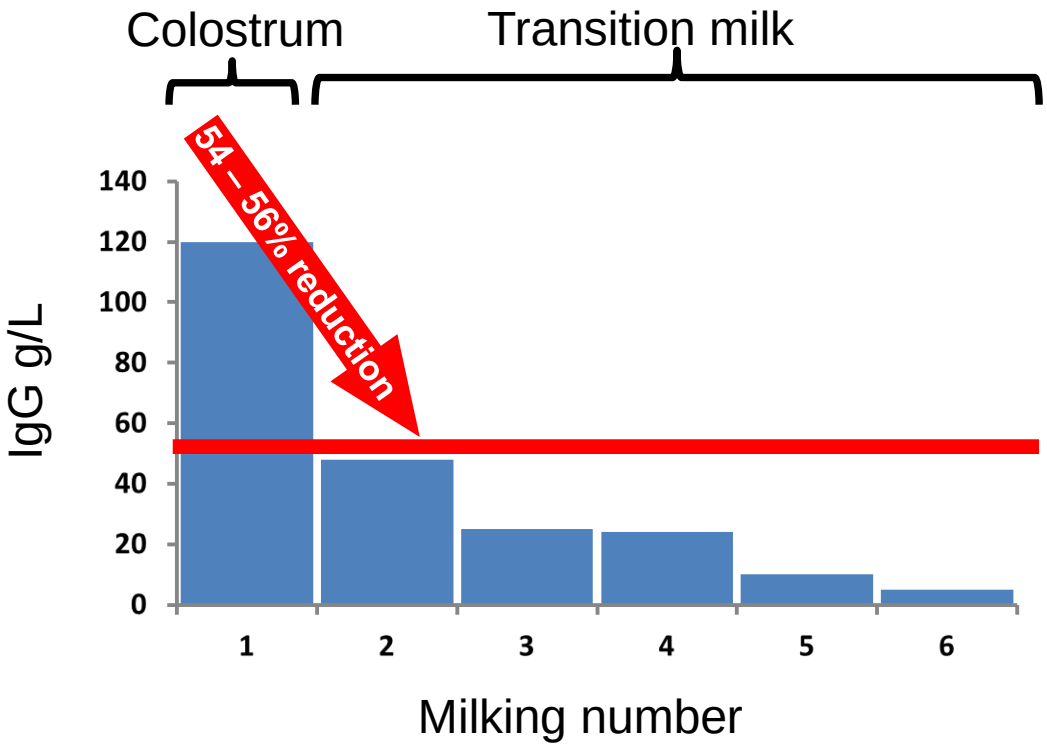


Other factors:

- Volume
- Length of the non-lactating period (if less than 3 wks)
- Breed of cow

**from Moorepark samples*

Q. How does colostrum quality change between milkings?



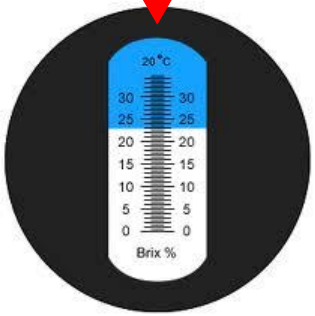
Testing colostrum quality

Look through eye piece

What you see through the eye piece

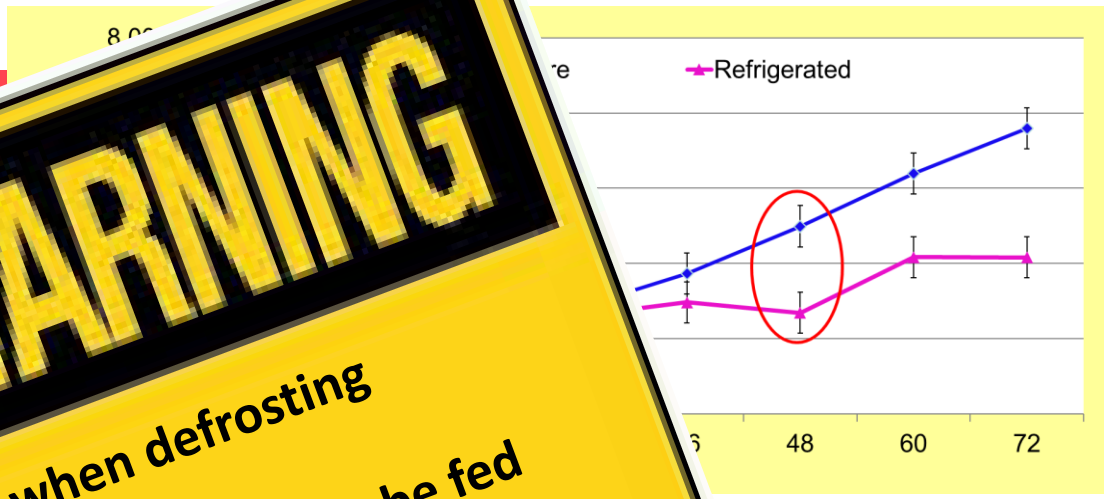
Place few drops of colostrum here

Refractometer



Values greater than 22% represent high quality colostrum suitable for calves 1st feed

Q. How should colostrum be stored?



Colostrum lasts up to hours in a fridge

olostrum lasts up to 1 year in a freezer

Colostrum 1 2 3

1. **1st** milking only

2. Feed within **2** hours of birth

3. Feed **3** litres

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Any Questions ?

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