

## MANAGEMENT

### Nutrition management

- # Feed in = investment in future
- # Feed as if you would feed a baby (hygienically)
- # Colostrum intake – 3-4 litres or 10% of BW within 2 hours of birth
- # Second similarly sized amount within 12 hours (See Colostrum quality)
- # Milk replacer = >13% birthweight in milk replacer (at 125g/litre) (> 25% CP) + cold weather allowance
- # Concentrate calf starter from 3 days of age and >2kg at weaning
- # Concentrate + forage to maximise rumen development

### Health management

- # Disease information recorded
- # Treat at correct time as per protocol
- # Vaccination as standard
- # Calf health scoring daily
- # Protocols in place and used

### Sourcing management

- # Calves sourced from known supplier
- # Optimise genetics for calf health and welfare
- # Optimise dam feeding for delivery of fit calf

### Environment management

- # Reduce disease challenge = Stocking density + bedding + hygiene
- # Housing by age group
- # Use both natural + artificial airflow
- # Avoid changes at high risk periods

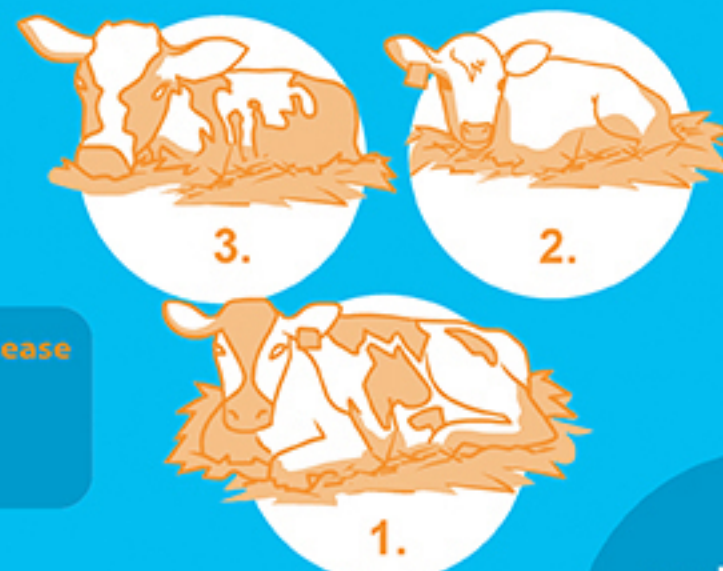
Temperature	50kg calf, <3 weeks	50kg calf, >3 weeks	75kg calf
20 °C	0	0	0
10 °C	0.9	0	0
0 °C	1.8	0.9	1.4
-20 °C	2.7	1.8	2.7

\*Additional milk replacer (L)

Source: Teagasc

Calf weight	Approximate age	Minimum (statutory) area	Recommended area
45 kg	0 months	1.5m <sup>2</sup> /calf	2m <sup>2</sup> /calf
46 kg to 99 kg	0 to 2 months	1.5m <sup>2</sup> /calf	3m <sup>2</sup> /calf
100 kg to 149 kg	3 to 5 months	1.5m <sup>2</sup> /calf	4m <sup>2</sup> /calf
150 kg to 199 kg	5 to 7 months	2m <sup>2</sup> /calf	5m <sup>2</sup> /calf
200 kg to 199 kg	More than 7 months	2m <sup>2</sup> /calf	6m <sup>2</sup> /calf

\*AHDB Dairy (2016)



**Higher nesting score associated with reduced disease**

- 1 – Legs entirely visible when lying down
- 2 – Legs partially visible when lying down
- 3 – Legs generally not visible when lying down

# #CALFMATTERS

## Calf Health and Welfare Blueprint

### Vet is key part of the prevention package

- # Designated quarterly calf health review
- # Review calf health and welfare checklist to identify weaknesses

### Maximise defences/resilience

- # Maximise colostrum protection (see Colostrum quality)
- # Maximise nutrition (see Nutrition management)
- # Water hygiene +/- non-antibiotic water treatments
- # Probiotics
- # Calves delivered unaided / free from disease
- # Appropriate vaccination of calves as standard
- # Non-vaccination only where metrics show it's not needed
- # Long term genetic selection for resistance
- # Pre-condition suckled calves
- # Vaccinate cows for scour pathogens



## PREVENTION

### Reduce challenge/stressors

- # Hygiene of feeding/water equipment and food/water itself
- # Hygiene of bedding – Clean and well drained
- # Environment – Clean to touch, drainage in place, disinfect between batches
- # Air – Ventilation (natural + artificial) minus drafts at calf level
- # Guide for calf housing (AHDB)
- # House in age groups from same farms and appropriately stocked
- # Minimise stressful events together



**Tips and tricks to help calf rearing go from good to great**

## MONITORING

### Related cow metrics

- # Weight at first calving
- # Stillbirth rates
- # Untagged calf mortality
- # Age at first calving = 24

### Environmental scoring

- # Nesting
- # Building temperature
- # Hygiene [Dry and clean knees]
- # NH4 detectors: Ammonia <20 ppm (CIGR)
- # Humidity – <75-80%
- # Airflow – <0.5m/s

### Colostrum quality

- # Hygiene: ATP tests/coliform counts
- # Quality: Brix = >22 %<sup>2,3</sup>
- # Transfer: Serum IgG >20 g/l TP >10 g/dl<sup>4</sup>

### Vaccine monitoring

- # Temperature loggers from practice to farm fridge
- # Doses used = enough to protect all animals?

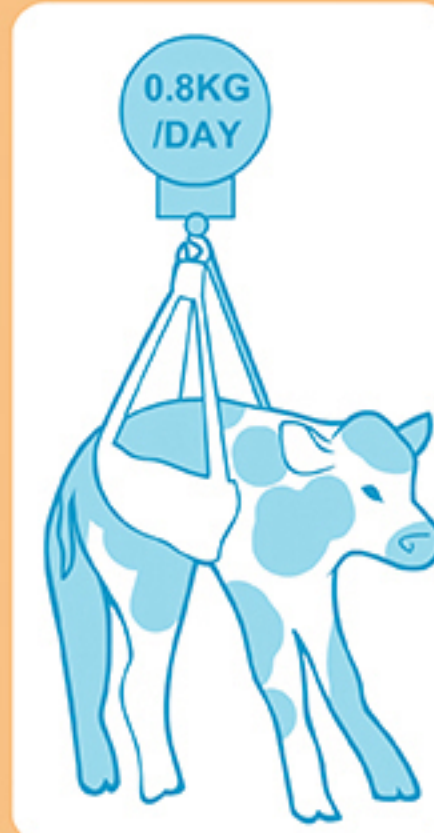
### Calf metrics

- # Wisconsin calf scoring chart
- # California calf scoring chart

### Calf temperature recording = <39.5 °C

- # Weights
- Note arrival/birth weight
- Weigh tapes vs crush
- DLWG = >0.8 kg / day<sup>1</sup>
- # Teagasc heifer growth calculator
- # US scanning of lungs
- # Morbidity (all treatments)
- # Mortalities per day on holding
- # Post mortem SOPs
- Full vs targeted
- Perform PMs during video call with your vet

# Medicines used (always available, as is mortality)

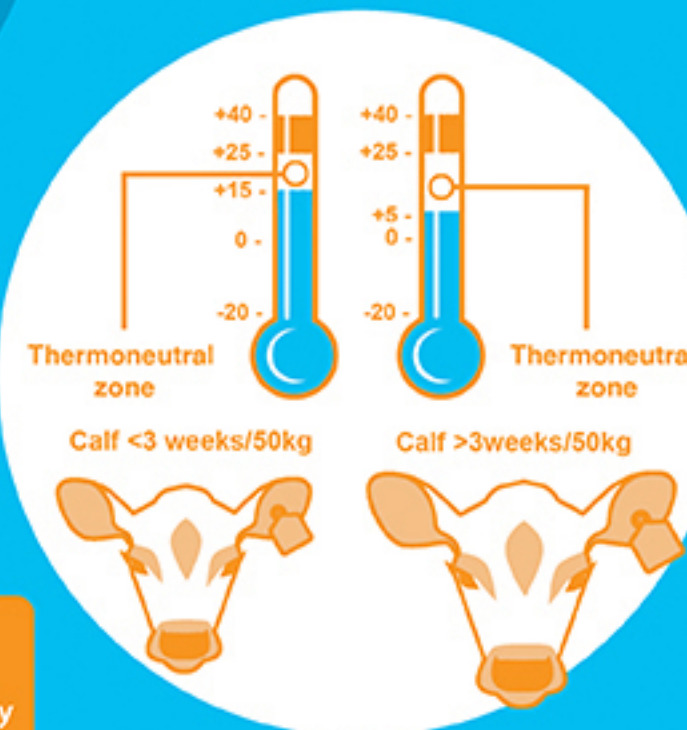


### Supply chain metrics

- # Request abattoir results
- # Request or supply disease prevalence/susceptibility markers in purchased calves
- # Request or supply info from origin farm on antimicrobial/vaccine sales (vet to provide)

### Treatment metrics

- # Medicines sales (threshold alert)
- # Health scoring/treatment follow ups
- # No. of treatments vs DLWG
- # Screening for disease (temperature recording – on calf / regular checking)



### Staff management (the team is key)

- # Training
- # Enough to do the job
- # Collaboration
- # Set roles
- # Stockmanship scoring
- # Protocols for all (consistency) – Set and review (+ve reinforcement)
- # Separate enterprise to main herd
- # Measure appropriately: Medians and range
- # What's the goal?

### Goals

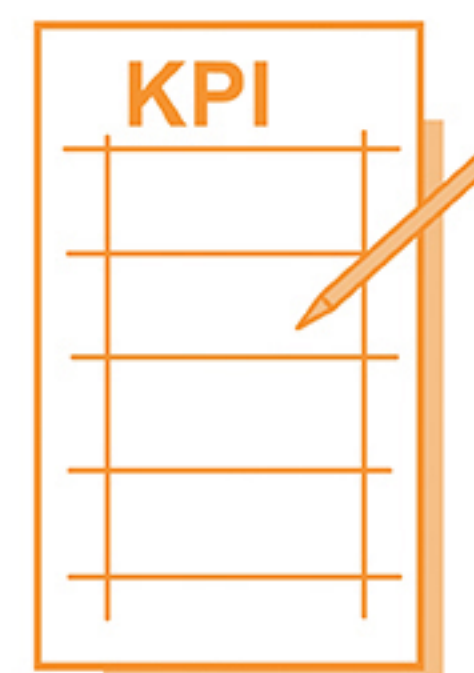
- # Consistent benchmarking within farm and amongst farming groups to enable realistic goals and incentive. Alters perception of the norm.
- = Separate calf rearing cost of production
- = Lifetime monitoring/EID

## TEAM WORK

### Pick your metrics

- # 5 max
- # Review and change 1 quarterly

## KPI



CURRENT COST OF PRODUCTION

GOAL

/heifer or kg

/heifer or kg

References: 1. Sherwin VE et al. (2016) In Practice 38: 113-122 2. Biemann V et al. (2010) J Dairy Sci 93: 3713-3721 3. Van deputte S et al. (2014) Vet Record 175: 353-354 4. Deelen et al. (2014) J Dairy Sci 97: 3838-3844 5. Esmay & Dixon (1986) AVI Westport 166-167: 256

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