

## Heifer Rearing Checklist

- Good intakes of quality colostrum in the first 24 hours of life are critical to get calves off to a good start.
- Avoid losses due to calf diarrhoea and pneumonia.
- Calves need to have doubled their birth weight by weaning.
- Calves should be eating 1.5kg/head/day of concentrates over 3 consecutive days prior to weaning.
- Calves need to be averaging 0.7-0.8kg/day growth rates (DLWG) to hit the optimum target calving age of between 22-24 months.
- Heifers should be bulled at 60% of their adult weight at 13 – 15 months of age.
- Ideally all vaccination courses should be completed at least four weeks prior to service.
- Ensure good heat detection, or use synchronisation protocols to get heifers served.
- Feed to maintain growth rates of 0.7-0.8kg up until calving, at a BCS of 2.5-3.0.
- Feed appropriate minerals and trace elements during the rearing process to avoid deficiencies.
- Aim to calve down at 22 – 24 months of age.
- Monitor:
  - Colostrum intakes – using total protein measurements in newborn calves.
  - Growth rates – using wither heights or a weighband.
  - Medicines Records – how many calves are you having to treat?
  - Age at 1st calving.



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## DAIRY HERD HEALTH & PRODUCTIVITY SERVICE

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## HEIFER REARING CHECKLIST



## DAIRY HERD HEALTH & PRODUCTIVITY SERVICE

### Post Colostrum

Most dairy calves go onto a milk replacer. Correct quantity and concentration are the most important factors for achieving target growth rates.

- Milk replacer should ideally be high protein and low fat.
- The minimum amount of milk a calf should receive each day is 10% of body weight over two feeds (DairyCo).
- Calves should have course mix at 19-20% crude protein offered to them from birth; this encourages them to eat hard feed earlier and stimulates better rumen development.



### When to Wean?

- Calves need to have doubled their birth weight by weaning.
- Should be eating 1.5kg/head/day of concentrates over 2 consecutive days (Quigley 2001).
- Beef- at 6 ½ months when 75% of nutrient requirement is from sources other than milk.

### Fit not Fat

- The most critical point for frame growth is between weaning and puberty.
- 75-80% of frame is put on before 12 months old (Kelly 2010 DairyCo).
- Heifers should aim to calve down between BCS 2.5-3.0. If they are too fat before puberty they will lay down fat cells in the udder and will not give as much milk in lactation.



### Aims

- Monitoring BCS and weight in heifers is important so they can be bulled at the optimum time.
- The aim is to calve heifers down at 22-24 months old.
- Heifers should be bulled at 60% of their adult body weight (DairyCo).
- At present 15% of heifers do not make it to first calving (Brickell et al 2009).

### Fed not Forgotten

- Often heifers can be out in a field and forgotten about. To achieve optimum efficiency:
- Heifers need a rising plane of nutrition at service.
  - They should be fed concentrates if required when out at grass to ensure adequate growth of 0.7-0.8kg DLWG up until calving and a BCS of 2.5-3.0. (DairyCo).
  - Assessment of forage quality is important.



### Taking all the Costs into Account

- It is not only the direct costs such as feed, bedding, vet fees services etc. that need to be taken into account.
- Culling rates need to be considered. 24% of heifers do not make it to their 2nd calving and a heifer will not start making you any money back before half way through her second lactation. (Brickell et al 2009).

## Weight Gains in Growing Calves



## Bulling Heifers

## Feeding Heifers – Costs of Production



### Aims

- Calves need to be averaging 0.7-0.8kg/day growth rates to hit the optimum target calving age of between 22-24 months (DairyCo).
- Feed conversion efficiency is highest in the 1st few weeks of life.

### What to Monitor for Maximum Efficiency

- Birth weight.
- Total Proteins- good measure of passive transfer.
- Weight gains – easily measured when handling calves, can use a weigh cell or weigh tape to see DLWG.
- Treatments- how many and what for?
- BCS and wither height-useful when looking at suitability for breeding.

### Why Monitor Growth Rates in Calves?

- 1 in 7 dairy calves and 1 in 13 beef calves die before 6 months old (EBLEX annual report 2012).
- The cost of bought in replacements is £1400-£2000 whereas a homebred animal is £900-£1200 (Greenmount heifer benchmarking).
- Heifers should be correct size at bulling and calving to reduce calving difficulties.

Growth Targets				
Age	% Mature Weight	Weight Kg (Av Holstein)	Weight Kg (Av Jersey)	Weight Kg (Av Belgium Blue)
2m	11-12%	80	52	83
6m	30%	180	130	207
9m	40%	280	174	276
Mating	55-60%	420	265	380
Pre-Calving	85% beef	636	395	600
2nd Calving	92%	644	403	690
Calving	100% beef			

(DairyCo Feeding+)

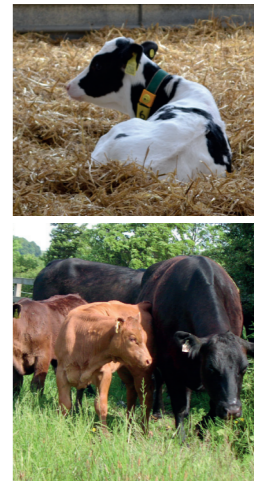
### Getting Heifers in Calf

- Main issue is heat detection- use aids such as tail paint.
- Heifers should be on a rising plane of nutrition 3 weeks before and 6 weeks post service to ensure implantation occurs.
- Fertility increases up to the 3rd oestrus cycle after puberty therefore we want heifers to have reached puberty and be cycling at least 6 weeks prior to serving.
- Synchronisation can be a useful tool for getting heifers pregnant. Can be used in dairy and beef.
- Ideally any primary vaccination course needs to be completed 4 weeks prior to the start of service.

### Calve heifers sooner rather than later

Calving Age	22-23m	24-25m	26-28m	32-36m
Calving Assistance	17%	17%	27%	67%
Cows still alive at 5 years	86%	62%	41%	33%
Total 5 year Milk Yield	25,031 L	20,395 L	16,671 L	8,029 L
Cost of Rearing	£1,171	£1,171	£1,227	£1,503
Lactations before Payback	2.4	2.4	2.9	3.1

(DairyCo, 2010)(Kingshay)



### Beef Heifers

- They should be fed a straw and silage based diet or restricted grass diet when there is an abundance of grass to prevent over-conditioned heifers.
- Pre-calving minerals are important, know where there are deficiencies prior to calving.
- BCS should be increased prior to service to ensure the best conception rates.