

# Calf Rearing

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- Cows can be reared naturally by suckling the cow or artificially away from the mother.
- In dairy farming all rearing is done artificially as the farmer could not allow for the loss of milk.
- Calves being reared may be reared for two main reasons:
  1. Heifer calves being reared as replacements for the dairy herd.
  2. Heifer or bull calves being reared as weanlings or fattened up for beef production.
- Whatever the final purpose of the calf, the principles of rearing are the same.

# 1. Feeding Colostrum

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- ⦿ There are many differences between colostrum and normal milk and they are summarised below:
- ⦿ Colostrum is a more concentrated material and contains large amounts of highly digestible materials.
- ⦿ Most importantly however is the higher levels of protein in colostrum, much of which is made up with *immunoglobulins*.
- ⦿ These substances are known as antibodies, which give the calf protection against certain diseases.



# Feeding Colostrum - 2

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- Unlike the human baby, the calf is not born with these antibodies in their system, so it is vitally important that the young calf get colostrum as quickly as possible.
- The calf can absorb antibodies more quickly in the first 12 hours of its life, and the calf should ideally consumed 2 – 3kg of colostrum in this period.
- It should be hand fed if the calf is too weak to suckle the mother.
- Colostrum should be fed to the calf for as long as it is available, usually 3 – 4 days.
- Excess colostrum can be used to feed other calves.

# Feeding Colostrum - 3

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- It is exceptionally important for the calf to get colostrum in the first 12 hours of its life.
- Research has shown that the majority of deaths, illnesses and failure to grow properly in the first three months, are down to the improper intake of colostrum.
- If the cow dies during birth, colostrum from another cow may be used.
- Also it is important to freeze excess colostrum for this purpose.
- If none is available, a replacement can be produced from milk, eggs, cod liver oil and castor oil.

## 2. Feeding Milk and Milk Replacer

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- Milk is the food ideally suited to the digestive system of the calf.
- It is however app. 160% the cost of milk replacer and 300% the cost of concentrate ration.
- The calf however cannot digest concentrate ration at an early age, as its rumen (stomach) has not developed fully.
- The normal procedure, therefore, is to feed the calf using the following sequence of feeds:
  1. Colostrum
  2. Milk
  3. Milk Replacer
  4. Concentrate ration.



# Feeding Milk and Milk Replacer - 2

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- The quicker the calf can be weaned onto ration the better, as this means less cost.
- However, this may not happen until the calf is 5 - 6 weeks old.
- The digestive system of the calf is very sensitive and is easily upset.
- It is only in recent years has the use of milk replacer been perfected by most farmers in the rearing of calves.
- Milk replacer is prepared by mixing 125g milk replacer powder to every 1 litre of water.

# Feeding Milk and Milk Replacer - 3

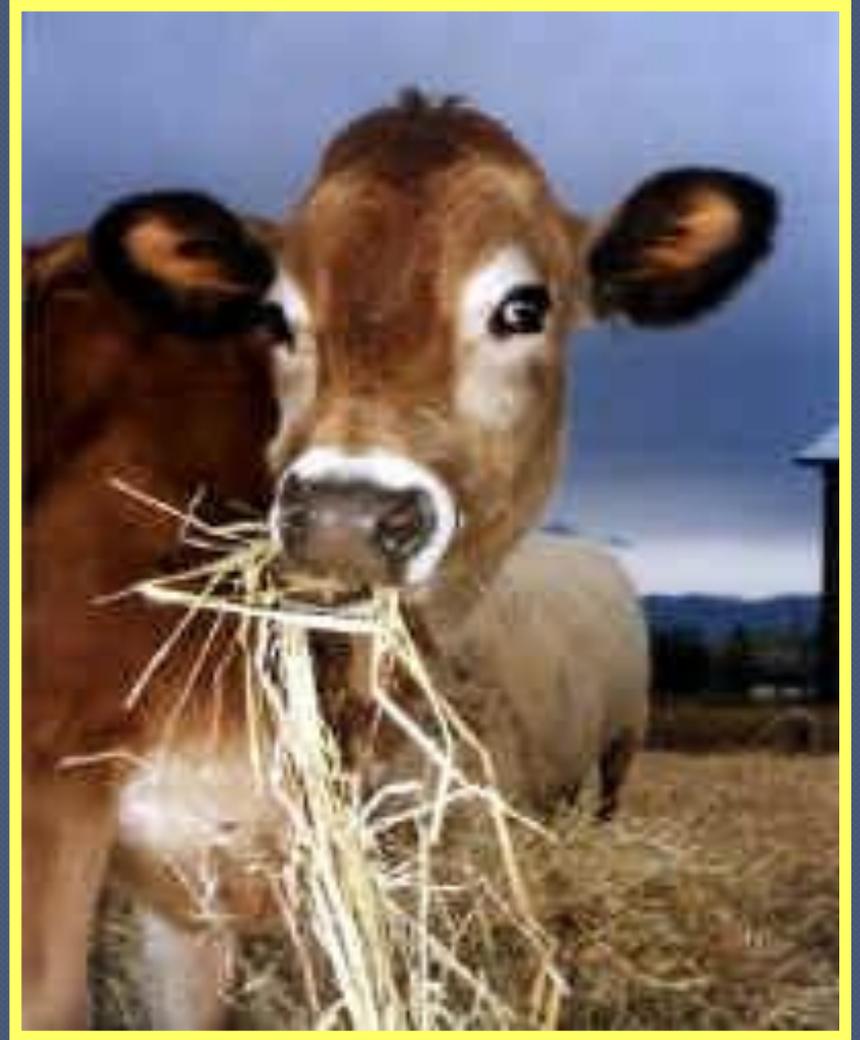
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- It must be fed gradually as the calf may react to it. This is usually done over a period of 4 –5 days.
- Bucket fed calves are given 2 litres of milk replacer twice daily at body temperature.
- They may also be fed using an automatic feeder, where the calf can have as much as they wish.
- However this is only used with large amounts of calves, as the cost is much higher.

### 3. Weaning onto Hay and Concentrates

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- Hay, concentrates and water should be available to calves as soon as they stop drinking Colostrum.
- At first the level of hay and concentrates they consume will be very low, but this will increase as the calf gets older.
- Both foods not only provide essential materials for the calf's growth, but also contain microorganisms, which help develop the calf's rumen flora and enable it digest fibrous material.



## Weaning on to Hay and Concentrates - 2

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- By the time the calf is four weeks old, he / she should be eating 300-400 g of concentrates daily.
- When the calf is weaned from milk replacer, he / she should be eating 500 g a day.
- At this time the calf is allowed onto grass, but is still fed concentrates, hay and water.

## 4. The Calf on Grass

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- Calves should be allowed onto grass until the weather is warm.
- The change from warm housing to cold outdoor conditions can cause a shock and can disturb the calf's growth.
- Meals should be fed for 2 – 3 weeks after being put onto grass, to help the calf adjust to the new diet.
- Calves are selective grazers, and should always be kept on fresh, palatable grass and certainly should not be left graze pastures bare.

# The Calf on Grass - 2

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- They should graze under a leader – follower system.
- They should always graze in advance of older cows.
- This also inhibits the spread of stomach and lungworms.
- When grass is scarce at the end of the summer, concentrates should be fed.
- When calves are housed for the winter, they should weigh 200kg.

# The Replacement Heifer

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- Cows need to be replaced in the herd at the rate of 20% per year.
- The main reasons for replacing are:
  1. Poor milk yield with age
  2. Infertile
  3. Disease
  4. Injury to udders
  5. “Grading up”
- Grading up means replacing lower yield cows with better calves which should give higher yields.
- The rearing of replacement heifer calves is the same as previous.

# Target Weights

- Jan 15<sup>th</sup> - Birth
- April 15<sup>th</sup> – 72.5 KG
- November 1<sup>st</sup> – 200 KG
  - The calves should be fed good silage and concentrates over the winter to ensure they reach their next target.
- May 1<sup>st</sup> – 300 KG
  - Heifers reach puberty at 8 – 12 months, but should not be in calf until 15 months and they must weigh 300KG.
  - Otherwise there would be serious calving problems.
  - If the calf is got in calf at May 1<sup>st</sup>, it will calve in Mid – February at just two years old.
- November 1<sup>st</sup> – 450 Kg
- Mid – February – 500 – 525 KG

# The Replacement Heifer

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- The farmer must remember that the heifers even after giving birth are not yet fully grown.
- Therefore, the cow must be fed for growth after birth as well as maintenance and production of milk.