# ColostrumIsGold: Science and Facts

## About Colostrum
- Provides antibodies that form the main parts of an acquired immune system. This can reduce or prevent the need for antibiotic treatments in the new-born or older animal.
- The new-born animal has little body fat, which means it is highly dependent on the fats and carbohydrates in colostrum as a source of energy to maintain body temperature and growth. Insufficient energy supply at birth can lead to hypothermia.
- Colostrum provides other nutrients, including: vitamins A, D and E which help increase the absorptive and digestive capacity of the digestive system; enzymes and proteins which suppress growth of certain bacteria and contribute to the immune system.¹

## Feeding Guidelines
**Calves:** Feed high quality (>50 mg/ml of antibody) colostrum at 10% of body weight ideally within 2 hours of birth but definitely within 4.

**Lambs:** Rule of thumb is 210–290 ml/kg body weight in the first 24 hours of life to give essential levels of natural immunity. But importantly, the first feed should be within 2 hours of birth.

**Pigs:** New-born pigs should suckle within 30 minutes of birth to meet energy requirements, and consume over 200ml of colostrum in total in the first 24 hours.

## Sheep Facts
- Lambs fed adequate quality colostrum at birth do not succumb to Watery Mouth.²
- A large number of lambs born in the UK currently receive oral antibiotics as protection:
  - Oral antibiotics were prescribed to 49% of flocks covering approximately 64% of total antibiotic usage on sheep farms.³
  - A veterinary student survey on farms of housed sheep at lambing time suggested 68% of sheep farms used prophylactic oral antibiotics in neonatal lambs.⁴
  - A questionnaire survey of sheep farmers supplying lambs deadweight suggested that 26% of farms gave prophylactic oral antibiotic to all neonatal lambs born on their farm.⁵
  - There is no significant difference in the productivity levels between flocks using prophylactic antibiotic for neonatal lambs and those that used none.⁵
  - 50% of neonatal lamb E. coli are resistant to spectinomycin (most common Watery Mouth treatment).⁶

## Pigs Facts
- Higher colostrum intake (200ml) improves the survival rate up to weaning.⁷
- Colostrum intake above 290ml per pig at birth has led to 6-week weights being 2kg heavier.⁸
- The smaller the interval between birth and first suckle, the lower the levels of pre-weaning mortality.⁸

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Cattle facts

- Over 30% of dairy farmers now test the quality of the colostrum before feeding it but just 5% of dairy farmers are feeding colostrum in the first 2 hours of birth, the ideal timeframe.
- It is estimated that almost of third of pre-weaning calf deaths occurring in the first 3 weeks of life can be attributed to failure of passive transfer.
- Up to 50 percent of calves do not receive enough colostrum and only 30 percent have sufficient levels of colostral immunity.
- A calf needs to suck continuously for approximately 20 minutes to consume enough colostrum from the cow; 46% of calves born to second parity or older cows and 11% of calves born to first-calf heifers failed to suckle within 6 hours after birth.
- Calves with low antibody levels are more likely to become ill and more likely to die before weaning. Conversely, higher concentrations at 1-2 days of age are linked to better health, lower mortality and higher daily liveweight gain, with animals reaching target weights more quickly:
  - Calves with low antibody levels were 1.6x more likely to become ill and 2.7x more likely to die before weaning. Higher antibody concentrations were linked to better health, lower mortality and higher liveweight gain; at 205 days, calves were on average 3.5kg heavier.
  - Calves with high antibody levels from colostrum reached target first service weights sooner.
  - Antibodies from colostrum helped protect calves from death and poor performance from septicaemia and pneumonia, with effects lasting up to 6 months of age.
  - Calves with good colostrum status were a third less likely to die and half as likely to experience illness.

<table>
<thead>
<tr>
<th>Colostrum status (ZST units)</th>
<th>Low (0-10)</th>
<th>Marginal (10-20)</th>
<th>Good (&gt;20)</th>
</tr>
</thead>
<tbody>
<tr>
<td>% of calves</td>
<td>18</td>
<td>32</td>
<td>50</td>
</tr>
<tr>
<td>Mortality %</td>
<td>9.8</td>
<td>4.1</td>
<td>3.2</td>
</tr>
<tr>
<td>Illness %</td>
<td>31.6</td>
<td>23.0</td>
<td>15.1</td>
</tr>
<tr>
<td>Pneumonia %</td>
<td>5.2</td>
<td>3.2</td>
<td>1.4</td>
</tr>
</tbody>
</table>

(ZST = Zinc Sulphate Turbidity)


More information, resources and tweets from www.ColostrumIsGold.org

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12 MSD Animal Health Hub: Colostrum [https://www.msd-animal-health-hub.co.uk/DNOMF/Colostrum](https://www.msd-animal-health-hub.co.uk/DNOMF/Colostrum)