Milk Hygiene

Colostrum

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Definition

- Mammalian females: **first** udder production
- continuous change from **pure colostrum** to **milk**

(24 to 72 h depending on the species and individual effect)

→ always changing along the time

- with strong milk smell and sweet taste »

- **Colostrum** is the pre-milk liquid that mothers produce at birth.

- Commonly referred to as "**babys first milk**"

- colostrum is the left over mixture of materials present in the mammary gland and ducts at delivery.

- It slowly becomes mixed with newly secreted milk, yet it differs from mature milk in composition.

- This special milk is yellow to orange in color and thick and sticky.

- It is low in fat, and high in carbohydrates, protein, and antibodies to help keep your baby healthy.

1. Feeding Colostrum

- 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 animal protection against certain diseases.

2. Feeding Colostrum

- The animal is not born with antibodies in their system, so it is vitally important that the young animal get colostrum as quickly as possible.
- The animal can absorb antibodies more quickly in the first hours of its life.
- It should be hand fed if the animal is too weak to suckle the mother.
- Colostrum should be fed to the animal for as long as it is available, usually 3 – 4 days.

3.Feeding Colostrum

- **It is exceptionally important for the animal to get colostrum in the first 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.**

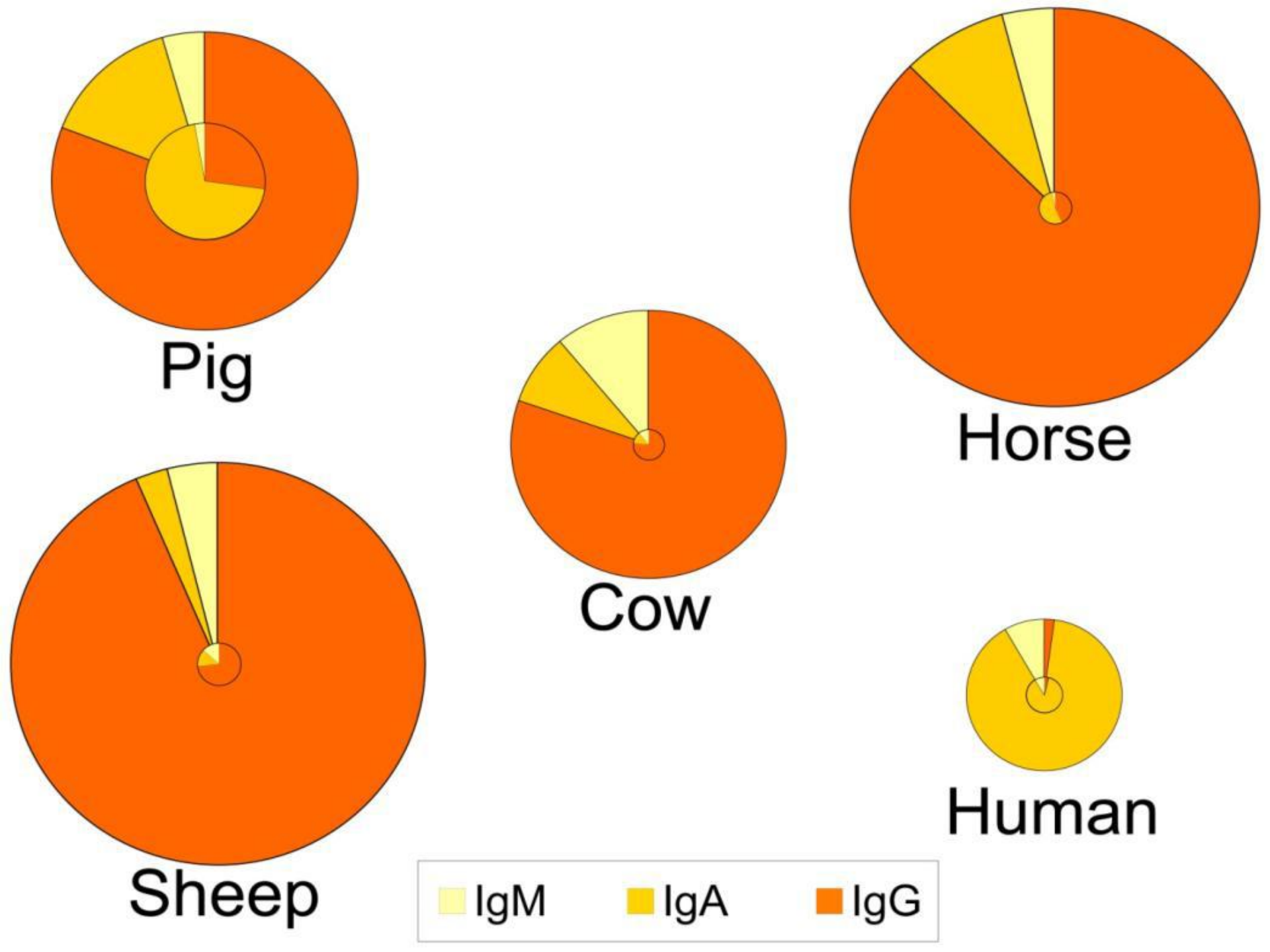
- There are over 90 known components in colostrum.
- The primary components, divided into two classes, are immune factors and growth factors.
- Colostrum also contains a precise balance of vitamins, minerals and amino acids.
- All of these factors work together in perfect synergy to restore and maintain health.
- Colostrums Immune Factors : Immune Factors in colostrum have been shown to help the body fight off harmful invaders suchas viruses, bacteria, yeast and fungus.
- Each factor plays a specific role in our bodys defense against these attackers.

- In addition, colostrum contains over 20 antibodies to specific pathogens including E coli, salmonella, rotavirus, candida, streptococcus, staphylococcus, and cryptosporidia

- **Colostrum actually works as a natural and 100% safe vaccine.**

- **It contains large quantities of an antibody called secretory immunoglobulin A (IgA) which is a new substance to the newborn.**

- **The disease-fighting properties of human milk do not disappear with the colostrum. Infact, as long as your baby receives milk, Baby will receive immunological protection against many different viruses and bacteria.**


Pig
Horse
Cow
Sheep
Human
IgM
IgA
IgG

Proline-rich Polypeptides (PRP)

- These small immune signaling peptides were independently discovered in colostrum and other sources, such as blood plasma.

- Hence they appear under various names, including Colostrinin, CLN, transfer factor and PRP.

- They function as signal transducing molecules that have the unique effect of modulating the immune system, turning it up when the body comes under attack from pathogens or other disease agents, and damping it when the danger is eliminated or neutralized.
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Is Bovine Colostrum Safe and Effective in Human?

- Research has shown that bovine colostrum is easily assimilate by humans and is up to 40 times richer in immune factors than human colostrum.
- Also, the research shows that only cow 'colostrum contains special glycoproteins and protease inhibitors which are extremely effective at protecting the destruction of colostrum's active components by adult human digestive enzymes and stomach acids.

- There have been **no contra-indications**, side effects or allergies reported through thousands of years of human use of bovine colostrum.

- only colostrum from dairy cows has been shown to be **safe**, **natural**, **effective** and **biologically transferable** for human use.

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Health benefits of Colostrum for adults

- People originally got interested in bovine colostrum because of the high antibody levels.
- Bovine colostrum is used to boost the immune system and it is used in hospitals to treat patients with head injuries to assist the body in repairing faster the nervous system.
- Colostrum is used to improve mood, to slow and reverse aging and to kill bacteria and fungal growth.
- Colostrum is being advanced as a treatment for chronic diarrhea and Leaky Gut Syndrome.
- For all that the development of colostrum science is still in its infancy.

- However, you don't need to wait for the science. Enough is known to demonstrate that colostrum is a safe health supplement for adults taken at the reecommded dose.
- You can take it in powder or capsule form. As a powder it can be added with water and mixed with food.
- It is also not just for the young. People of all ages can benefit from colostrum including woman during pregnancy.
- It can be fed to children but only as a supplement to a healthy diet and always only at the recommended dose.


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Colostrum side effects

- Colostrum is a high-protein, low fat and reduced lactose dairy product. If you can drink milk without any problem then you can probably take colostrum.
- Some people may feel bloated and if this occurs lower the dose.
- Some people are more sensitive to milk than others; the principal is the same for colostrum. Colostrum naturally contains low levels of lactose and during the production process lactose is reduced further meaning that lactose intolerant persons should be less sensitive to colostrum than they are to drinking milk.

Freezing Colostrum

- Because colostrum is so important to newborns, producers must often make provision to have a source of colostrum available if and when the dam doesn't provide enough high quality colostrum for the calf.
- Therefore, storage of colostrum is necessary.
- The two most common means of storing colostrum are refrigeration and freezing.

- **Refrigerating colostrum**: Colostrum can be refrigerated for only about 1 week before quality (Ig concentration) declines.

- If you refrigerate colostrum, be sure that the refrigerator is cold (33-35°F, 1-2°C) to reduce the onset of bacterial growth.

- Thus, it is important that colostrum be stored in the refrigerator for only a short time.

- **Freezing colostrum**. Colostrum may be frozen for up to a year without significant decomposition
- of Ig.