

Animal disease prevention: Hygiene in the animal environment

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We have talked about vaccination, now we want to talk about a cheaper but much more important way of preventing animal diseases: hygiene.

Commonly, disease occurs when a disease-causing organism gets access inside the body of an animal or **infects** the animal. This can happen through the natural openings: nose, mouth, vagina, sheath, eyes etc. Disease-causing organisms can also enter the body through abrasions or breaks in the skin, including wounds etc. Infections can result in localised conditions e.g. abscesses or more systemic disease e.g. Colibacillosis.

However, it must be understood that the animal has an incredibly robust defence mechanism, including the tough skin, secretions, reflexes, antibodies etc. Most infections only result in disease when they occur in large enough quantities.

Why is it important to maintain hygiene in the animal environment?

If animals are being kept in captivity or in enclosed spaces, they are forced to be in more direct contact with each other than is natural. This means the chances of disease transmission through the air, skin contact etc are higher. More importantly, it means that animals are in contact with their faeces for prolonged periods, which can be a health hazard.

Animal droppings or faeces contain micro-organisms which are **normal habitats** of the digestive system. E. Coli is an example in most animals, including humans. In rabbits, the **coccidia** protozoa is a normal habitat of the digestive system of the healthy rabbit. What this means is that in the normal animal, the immune system manages to keep the micro-organism in check, and the two co-exist without any disease occurring. However, when there is poor hygiene or excessive accumulation of faeces in the environment, microbes accumulate and **infect** the animal in large numbers and the coexistence or balance is broken, and disease or pathology happens.

Effects of poor hygiene

Poor hygiene, including the build-up of faeces, results in the built-up of micro-organisms voided with faeces. This means the animal is living in an environment with increasing numbers or burden of micro-organisms. This increasing burden of micro-organisms in the animal's environment results in loss of balance between the immune system of the animal and the micro-organisms. In other words, the immune system becomes over-burdened, overwhelmed and overpowered.

Another important thing to note is that the environment, even in the absence of faeces, contains millions of environmental bacteria. A lot of these are not pathogenic (they do not cause primary disease). However, their importance comes by contaminating wounds and other openings, and taking advantage of already-ill animals. This is called secondary bacterial infection. In other words, they are opportunistic infections. If you can think of abscesses, wound infections, some forms of mastitis etc, these are all caused by the skin being breached by environmental/opportunistic infections.

So what does this mean for you?

To start with, it is important to understand how dirty or unhygienic environments lead to diseases. Then it becomes easier to appreciate the role of cleanliness in disease prevention. What does it mean?

What to do?

Clean the animal environment regularly. This point is essential. Bacteria and other microbes accumulate in faeces and dirty environments until they reach dangerous levels. Prevent that by cleaning your animal accommodation regularly; keep plenty of clean bedding in place; do not overcrowd the animals; remove diseased animals to prevent contamination of the environment.

Another important practice is to rest animal houses or keep them empty in between batches. 2 weeks is the recommended minimum. Longer is preferable. This helps to disrupt the life-cycle and starve the microbes and parasites.

How regularly should you remove bedding? Use your judgement, common sense. The rule of thumb is: listen to the smell! In poultry establishments especially, the ammonia smell tells you when the bedding has been soiled and needs changing or topping.