



Prevent or Treat a Disease..... Which Do You Think Is Better

Prevention is always better and profitable than cure. Don't you think this is a fact? Well let us find out if we could justify this statement.

Micobes are ubiquitous. They are here, there, everywhere! All of us definitely are/should be aware of this. Microbes are both useful and harmful. Well let us focus on the harmful microbes, the one of real concern. How do we get rid of them.....or could we ever get rid of them.....or is it partially or completely getting rid of them...the subsequent information should be helpful to answer such questions.



The poultry sector is the fastest growing and the most hygiene-conscious sectors of livestock breeding. With the intensive methods of farming wherein large number of birds are reared together, the chances of contracting infections and spreading diseases are also quite high.

When microbes are everywhere, it's so easy for those little but harmful creatures to attack the birds. The common routes through which a bird, in fact any living being, could contract an infection or disease are through water, feed, air or contact. This clearly indicates the importance of providing a clean environment to the birds which would invariably enhance the birds' performance.



This makes it clear that keeping an infection or disease out of the flock is very critical and at the same time keeping a clean healthy environment is not as easy as it sounds. It demands a combined effort of **Good Management, Vaccination and Biosecurity**. The simplest and the most effective means to avoid or prevent any infections or diseases in a flock is to curtail access of microbes to the birds.

Good Management is definitely a very important parameter which decides the flock performance. Similarly **Vaccination** also plays a critical role to fight diseases. Unfortunately the viral or bacterial vaccines that are used today may become of no use to treat the same disease tomorrow because of the ever changing bacteria and viruses or development of a new strain or variant each time, which is termed the antigenic diversity. There also exist certain drawbacks like the vaccination failures due to inappropriate vaccine storage and transport conditions, low immunity levels of birds etc. There are also chances where in a vaccinated flock can get affected. So the most critical parameter we are left with is **Biosecurity** which when practiced stringently could help avoid disease in the flock and thus synergize the profitability of Good Management and effective Vaccination.



As mentioned earlier microbes are ubiquitous and hence it is difficult for one to imagine an environment completely free of microbes. Rather it isn't essential to keep an environment completely free of microbes except under few circumstances like during the surgical procedures etc. where the requisite for a sterile environment is absolutely necessary. When we use the word sterile, it means an area or environment completely free of microbes. Biosecurity measures basically aim at **reducing** the number of pathogenic microbes to a minimum where in they do not pose any threat.

Poultry veterinarians have been attempting to control diseases by improving biosecurity practices. This emphasis on controlling diseases by biosecurity practices rather than relying on vaccines and/or antibiotics has resulted due to changes in the industry itself.



Well let us look into what exactly the concept of Biosecurity is and its significance in today's largely growing Poultry industry.

The Concept of Biosecurity

The poultry producers and related industries face huge losses whenever there are any disease outbreaks. A disease outbreak is always unmanageable besides resulting in huge irreparable losses. One should realize that there are measures which could be effectively used for prevention of diseases in a flock.

We follow a number of hygienic measures for ourselves to keep us clean and healthy. For poultry, particularly in the modern intensive methods of rearing where thousands of birds are put together with access to the same feed, water and environment, one can imagine the level of sanitation that is to be maintained in order to keep them healthy and productive.

The major disease causing organisms are bacteria and viruses, which are in abundance everywhere and one could imagine their levels in a poultry house with thousands of birds put together. The feed, the litter, the air, the water, the farm equipment, the personnel, the wild birds or animals and rodents and last but not the least, the bird by itself could act as a mode for the transmission of infection from one bird to other. In particular the viral diseases are more threatening as their occurrence is almost always rampant with higher morbidity and mortality rates.

Disease outbreaks cost poultry producers and related industries heavy losses. To minimize these losses, disease-prevention methods must be followed, including practices controlling disease-causing organisms (pathogens) and their vectors. The term frequently used when discussing disease control practices is “Biosecurity”. The term “Bio” is from the Greek word ‘bios’ which means life. The definition of ‘security’ means freedom from risk or danger. When combined together the term “Biosecurity” means security against biological agents and specifically against infectious biological agents which include bacteria, viruses, protozoa, fungi, parasites and any other agents capable of introducing an infectious disease into a poultry flock. The objective of the program design should be such that the diseases are not brought onto the poultry farm and poultry are not brought to diseases.





Significance of Biosecurity

In the existing intensive poultry farming when an infectious agent enters poultry house or farm, there is the probability for its widespread dissemination within the house, on the farm, and to other farms if it is not controlled. When a devastating disease hits a poultry community, practically everyone is impacted. Poultry farmers can lose stock and houses may have to be empty while under quarantine or while tests are conducted. Not only does the farmer lose money but so do the integrators, banking institutions, and all allied industry businesses as well as utility companies. Sometimes, such conditions lead to loss of farming jobs as well, which affects the whole community.

A Biosecurity program should be an integral part of poultry farm disease prevention practices and should be flexible to allow changes as needed. Constant vigilance and common sense can play major roles in the reduction of mortality and condemnations from disease. A biosecurity program works only when everyone contributes to it. Prevention of disease is always less costlier, rather profitable than treatment, control and/or salvage.

When teamed with disinfection and sanitation procedures, biosecurity practices can eradicate or reduce pathogens to noninfectious levels. Inadequate biosecurity can contribute to Industry wide epidemics of highly pathogenic or exotic disease, resulting in quarantine and possible condemnation of flocks. Once contaminated with pathogens, poultry facilities are extremely difficult and expensive to clean, sanitize and disinfect.





Sources of Diseases in Poultry facilities

Diseases may be introduced by people - employees, service representatives, truck drivers, vaccination crews, veterinarians etc.



They may be transferred via new poultry - chicks, pullets, breeding males etc.

They may arise from previously contaminated and improperly cleaned premises/equipment etc.



They may be introduced by vectors - rodents, wild birds, insects, wind, water etc.





Biosecurity measures to help prevent diseases in Poultry farms



Poultry producers who implement a biosecurity plan to control pathogens and their vectors will reduce economic losses caused by diseases.

In order to effectively begin to develop a biosecurity program it is important to review the risk areas that may be present on a farm.

- ❑ Keep poultry houses locked; close from inside while inside.
- ❑ Flock manager and other caretakers should not visit any other poultry flocks.
- ❑ Separate clothing while working in the farm (including shoes, boots, hat and gloves) from those worn off the farm.
- ❑ On completion of work at the farm, change clothes completely and wash hands and arms before leaving premises.
- ❑ Essential visitors such as owners, meter readers, service personnel, fuel and feed delivery drivers, and poultry catchers and haulers must wear protective outer clothing, including boots and headgear, before being allowed near the flocks.
- ❑ Monitor vehicles entering premises for poultry pickup or delivery, feed delivery, etc., to determine if they have been scrubbed down and the undercarriage and tires spray-disinfected before entering.
- ❑ Clean and disinfect all coops, crates and other poultry containers or equipment before and after use.
- ❑ Sick or dying birds should be sent to a state laboratory for diagnosis. Commercial growers should contact their flock supervisor.
- ❑ Dispose of dead birds quickly and properly by burial or incineration.
- ❑ People handling wild game (especially waterfowl) must change clothes completely and bathe before entering poultry premises.
- ❑ Keep “restricted” signs posted at drive entrances.