

SAFE IMMUNO GUARD

Immuno Modulation

Both CMI (Cell Mediated Immunity) & Humoral Immunity



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The ability of birds to fight against infections and disease is determined by its capability to invade pathogens. The body protects itself against foreign materials such as virus and bacteria through its immune system. Immune system triggers the action of lymphocytes i.e white blood cells (WBC) or macrophages (Scavengers in the body). These lymphocytes are produced by BURSA & THYMUS termed as B-cells & T-cells respectively. B-cells migrate to spleen where they produce antibodies by antigen. This is referred to as HUMORAL IMMUNITY.

The thymus, which is found in neck of the birds, produces T-cells that work in cooperative with macrophages to kill invading bacteria or virus. This is referred to as CMI (Cell Mediated Immunity). Generally HUMORAL IMMUNITY is the main defense against bacteria. While CMI is critical for protection against virus.

Day old chicks (DOC) with inadequately developed immunity system have to depend on the immunity passed by the mother. The short-lived immunity is through the immunoglobulin's passed on the chick from mother. The success of this system depends on adequate vaccination and antibody titer of breeding hens. The higher the titer levels in the hens greater the transfer to the chicks. The most important factor in protecting all chicks seems to be the uniformity of titer in breeding hens. The resistance power of chicks is to a greater extent, influenced by mother.

For instance

During outbreak of AI/VVND, indications of severe temperature, 20-80% mortality (in all age groups) are seen. In spite of vaccination during chick stage, mortality prevails up growing phase. Due to vaccination, the mortality through prevalent during growth phase. During outbreaks, in addition to mortality, severe depressions in feed intake with severe drop in egg production also occur.

In the mean while, due to low or no feed intake, production drops by 20-25% or more. Recovery is slow and prolonged (upto 20 days) and production loss continues with at a rate of around 10% less than the normal level.

All these are due to breakdown of immunity. Any effort in the dietary medication may not result in full recovery.

To pre-empt such outbreaks and also to sustain such outbreaks, preparing the bird to fight the onslaught is to create a conductive defense mechanism (Immuno-Modulation).

Although the virus can act as an antigen and ensures the CMI & Humoral immunities through the current vaccination programme, yet it is incomplete unless some immune-modulators are pumped into the bird either at outbreak stage or on a prophylactic basis.



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A number of factors have been shown to have detrimental effect on the activity of immune system. These include stress, toxins, diseases, nutrition, infectious pressure etc. it is therefore essential to duly address these factors to maintain the immune system. All these factors, cannot be eliminated, rather can be minimized Eg. Stress, infectious pressure etc. Mycotoxins are to be dealt with all seriousness because they are called the “silent killers” even at the so called lowest “safe level” can cause immune suppression, specially the aflatoxins.

All these detrimental factors always knocking at our door to get entrance. Hence we have to be much more careful about them. To make the immune system remain active, we offer you “safe immune gourd” which will enhances the function of B-cell 7 T-cells and make them active to fight against different foreign materials and antigens.

Mechanism:

- **Vitamin-E:** is an anti-oxidant and an immune stimulant at the level of all lymphoid organs (spleen, thymus & bursa) and also at the level of Erythropoiesis (for increased oxygen carrying capacity of RBC’s at bone, Liver & Spleen).
- **Selenium:** is an antioxidant in conjunction with VIT-‘E’
- **Probiotics:** Secondary complications are reduced due to competitive exclusion of pathogens and also helps to bring about cell mediated immunity at gut level.
- **Unidentified Growth Factors (UGF):** UGF of both vegetable and animal origin to enhance the immune status and bring about better performance. so called unidentified growth factors have been reported throughout the history of poultry and aqua nutrition studies. Natural ingredients claimed to contain such factors are most often animal proteins or fermentation by products (Summers et al., 1959; Al-Ubaidi and Bird, 1964; Dixon and Cough, 1970; Waldroup et al., 1970). Ingredients contain unidentified growth factors are claimed to improve chick growth and reproductive performance (Morrison et al., 1956; Touchburn et al., 1972). Bhargava and sunde (1969) described a chick assay for quantitation of such unidentified factors.
- The mode of action of these unidentified factors is far from clear. That response may still occur could related to truly unidentified nutrients or, more likely, to changes in feed palatability and/or quality (Alenier and Combs, 1981; Cantor and Johnson, 1983), mineral chelation, or simple improvement in the balance of available nutrients.
- Some unidentified growth and hatchability factors may improve performance under certain stress conditions.
- Unidentified growth factors are not protein or amino acids but are other non-lipid or non-mineral compounds.
- Most of the UGF is obtained from products of fermentation and mainly from probiotics.
- **Trace Minerals in chelated form:** trace minerals in chelated form bound to amino acid so that they get absorbed efficiently in the gut. The essential trace minerals that enhance phagocytic activity are dependent on superoxide dismutase which may contain CU, Zn, Mn supporting the role of these essential trace minerals in the immune response.

Both in Broilers and Layers, liver is an all important organ that orchestrates the process of various nutrients availability in the body. The immune status will simultaneously enhance the liver activity.

Thus the post disease affected birds are driven to get back to normal level of protection(at times 1-2% higher) following inclusion of safe immune gourd @ 1-2 kgs per ton for 10 to 15 days which cannot accomplished by any other feeding/management/health corrective measures.

Based upon this, putting the chicks with 0.1% safe immune gourd in their diets starting from day old till culling could reduce the incidence of AI, VVND, Gumboro, Mareks, IB, Coccidiosis, Salmonellosis, CRD, EDS, E.Coli, Mycoplasmosis etc. and even in cases of outbreak, the mortality and morbidity will be lower and transitory as well.

Type of Birds	Feed Consumption	Period	Requirement of Safe Immuno Gourd	Benefits	Added Benefits
Breeders	70 kgs	up to 42 Weeks	70 g	10% of Egg Production i.e 15 eggs	Mortality be Considered
Layers	45 kgs	up to 42 Weeks	45 g	7% of egg Production i.e 21 eggs	Mortality be Considered



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