

POULTRY HEALTH BULLETIN

An Inhouse Newsletter by Vamso Biotec Pvt. Ltd. dedicated to Poultry Customers *A Scientific Update*

Volume-II No.5 Sept 2008

From Editor's Desk...

Dear Customers,

We feel pleasure in presenting the new issue of our inhouse newsletter "Poultry Health Bulletin". Today's poultry is facing many challenges, one amongst them being the spurt of disease incidences that shatters the farm economy. A healthy flock is the key to poultry profitability hence minimization of the disease incidences will lower the production cost. It thus becomes important to have a clearer understanding of some of the major poultry diseases. With this view, the current issue of the newsletter carries an elaborative article on "Immunodeficiency Mediated Viral Infections in Poultry". The article gives an overview of important immunosuppressive diseases viz., IBD, MD, CIA along with certain diseases associated with immunosuppression viz., ND, HPS and ALC. We are sure that this article will give a new insight to the disease problems and the ways to tackle them. The present issue of the newsletter also contains a note on "Egg Drop Syndrome 76" under the disease update section.

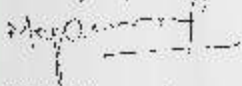
We take this opportunity to congratulate the winner of Quiz No. 8, who will be awarded with a token gift and certificate of appreciation. We appreciate your enthusiastic response to the technical quiz and request you to continue the same. Our thanks are also due for enthusiastically utilizing our services "Ask The Expert" and "Customer Loyalty Program".

We welcome contributory articles from our esteemed readers for publication in the subsequent issues of the newsletter.

Your suggestions and views for the improvement of the newsletter are highly appreciated.

Wish you a happy reading...

Thanks,



Mukesh Agarwal

Editor in-Chief - Mr. Mukesh Agarwal
Managing Editor - Dr. S. K. Pandey
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The information & views shared in the newsletter are directed towards upliftment of poultry industry. It does not necessarily imply the publisher's endorsement.

LATEST DEVELOPMENTS IN POULTRY INDUSTRY

New Avian Influenza vaccine developed

Vaxin has developed an Avian Influenza vaccine that can be rapidly produced and mass administered. This vaccine was recently featured at the Immunotherapeutics and Vaccine Summit in Boston. Kent Van Kampen, Vaxin's COO and an authority on vaccine development: "Our vaccine uses a neutered cold virus to carry a tiny snippet of influenza DNA, rather than the entire influenza virus," Van Kampen said. "When the immune system responds, it actually learns how to be immune to the target disease - avian influenza in this case." This vaccine has shown to provide excellent protection when administered to poultry before hatching. Vaxin has utilised these advances to develop a version of the vaccine that will soon be tested in humans.

Asia captures 34% of global output

As the rate of growth of Asia's poultry meat industries outstrips the world average, this region is capturing a greater share of global output. Currently Asia produces in excess of 31 million tones of poultry meat a year, which represent a 34% of the global total. Although outbreaks of highly pathogenic avian influenza have applied a brake to the rate of growth in chicken meat production during the past few years, expansion over the region as a whole has still managed to outstrip that achieved worldwide. Consequently, this region has captured an increasing share of global output. Ten years ago, chicken-meat production in Asia amounted to just over 16 mt or 31.5% of the global output. Between 1997 and 2007, the average annual growth for the region was almost 4.5% compared with less than 4% globally.

Organic chicken is better for you than non-organic chicken

Organic chicken has a higher concentration of healthy fats than conventional birds giving health benefits to consumers, according to Italian researchers. Led by Gianvito Martino at the University of Teramo, the group analysed 24 birds, half conventionally reared and half organic. They found that breasts from organic chickens contained nearly 30% more polyunsaturated fatty acids than conventional birds. Consequently, saturated fatty acids and mono-saturated fatty acids were more abundant in conventional chicken. As the researches pointed out, intakes of saturated fats by people is related to increased levels of LDL cholesterol in the blood and it is this LDL cholesterol which has been linked to heart disease, therefore, organic chicken may have role in reducing heart disease.

IMMUNODEFICIENCY MEDIATED VIRAL INFECTIONS IN POULTRY

Poultry is one of the fastest growing industries in India. Poultry production has been rising in India at the rate of 8-10% per annum and India has emerged recently as fourth and sixth largest in egg and broiler production, respectively. Poultry alone accounts for 1% of total GDP and 10% of contribution made by agriculture to total GDP of the country. Besides it supports the livelihood of about two million people. There has been a lot of advancement in the production systems of poultry together with the upgradation of genetic make up to maximize the yield. The geneticists are always in the look out of better performance through genetic selection. In spite of many developments happening in the poultry sector, a number of serious concerns still hover around the industry, for which the scientists have not been able to provide a suitable answer. Immunodeficiency has been one such concern that affects health and profitability of the farm along with the safety of the produce. An attempt is being made through this article to understand various immunodeficiency mediated viral infections in poultry.

There are many infectious diseases, which directly or indirectly affect the immune system, thereby causing immunosuppression. A few among them are Infectious Bursal Disease, Marek's Disease, Chicken Infectious Anaemia, Hydropericardium Syndrome, Newcastle Disease and Avian Leucosis Complex.

Infectious Bursal Disease (IBD)

It is caused by Type-1 Avibirna virus. It is an acute, highly contagious viral disease and causes severe and prolonged immunosuppression in chickens of early age (2-16 weeks). IBD is characterized by destruction of lymphocytes in the Bursa of Fabricius and to a lesser extent in other lymphoid organs. The virus has got lymphocidal action particularly against B-lymphocytes and thereby causes immunosuppression. Both humoral mediated immunity (HMI) and cell mediated immunity (CMI) are affected, though CMI is affected only transiently. The transmission or spread of the disease can occur by direct contact (bird to bird), contaminated litter and feces, caretaker, contaminated air, equipment, feed, servicemen and possible insects and wild birds.

IBD occurs in two forms *viz.*, subclinical and clinical. Subclinical form occurs in chickens less than 3 weeks of age. Chickens present no clinical signs of disease, but experience permanent and severe immunosuppression. The subclinical form is more common than clinical form because of regular vaccination in breeding farms.

The clinical form usually occurs in chickens from 3 to 6 weeks of age. The prominent symptoms include ruffled feathers, a slight tremor at onset of the disease, strained defecation, loss of appetite and dehydration. Affected birds have a tendency to sit and when forced to move, have an unsteady gait. Vent picking is common and whitish diarrhoea frequently develops. A sudden rise in body temperature is followed by a drop to subnormal temperature, prostration and death. Birds surviving the initial infection will recover rapidly within two weeks. Large scale mortality occurs nearing 80-90% and the recovered birds are highly immunosuppressed and show poor response to vaccine for RD, IB, MD, IBH, ILT, CIA and Coccidia.

Postmortem lesions include dehydration and changes in the bursa, skeletal muscle, liver and kidneys. All affected birds have bursal changes characterized by swelling, change in shape (oblong), colour (pink, yellow, red, black) and the formation of a gelatinous film around the bursa. Within a few days, the bursa shrinks to half its normal size or smaller.

Vaccines are available but must be carefully used. If given correctly, good immunity can be developed. For problematic farms, it is recommended to measure maternal antibody levels of ELISA and calculate day(s) of vaccination accordingly. There is no specific treatment for IBD and indiscriminate medication with certain drugs may severely aggravate mortality.

Marek's Disease (MD)

Also known as Fowl Paralysis. It is caused by an oncogenic (tumour inducing) a- Herpes virus. MD affects chickens from 5 to 35 weeks of age, usually under 16 weeks. Most deaths from MD occur between 10 and 24 weeks of age, although in some cases the disease may not appear until later in life. It causes morbidity up to 100% and mortality up to 40%. The exposure to MDV occurs by horizontal infection. Infected birds shed "dander" (feather dust) contaminated with virus which can be distributed by wind, equipment and personnel. The virus is resistant to environmental exposure and can remain viable for long periods in houses especially if units are not decontaminated between cycles. Two types of disease are present *viz.*, Classical type and Visceral type. Classical type (Nervous form) is common in white layers of age between 6-16 weeks whereas the visceral type with tumours in various internal organs usually occurs between 16-35 weeks.

In nervous form, the nerves, particularly the sciatic nerves (the main nerves to the legs) are affected. The birds are unable to

stand, become paralyzed and slowly waste away from lack of food and water. In most cases the paralysis comes on quickly. Sometimes the wings or neck are involved. In some cases the iris is involved and this can lead to blindness. When the birds are autopsied the affected nerves can sometimes be seen to be swollen.

In visceral form, greyish-white tumours are found in the ovaries, liver, spleen, kidney, heart and other organs. Sometimes the liver and spleen are swollen without distinct tumours being present. Birds may show signs of depression, paralysis, loss of appetite, loss of weight, anaemia (pale combs), dehydration (shrunken combs), and sometimes diarrhoea. Some birds die without any clinical signs being noticed.

MD is immunosuppressive and causes increased susceptibility to other diseases. The virus is lymphotropic and has affinity for T-cells including apoptosis causing continued destruction of immune cells in thymus and bursa. The virus also causes neoplastic transformation of T-lymphocytes with increased expression of surface marker MATSA (Marek's Associated Tumour Specific Antigen). MD causes transient suppression of HMI and marked suppression in CMI.

Diagnosis is based upon flock history and disease manifestations. Accurate diagnosis may depend on results of laboratory procedures.

A vaccine is available that is extremely effective (90% +) in the prevention of MD. It is administered to day-old chickens while the birds are in the hatchery. Some vaccines are given at 18 days of embryonation (*in ovo*). Use of the vaccine requires strict accordance with manufacturer's recommendations in a sterile environment. There is no specific treatment for MD.

Chicken Infectious Anaemia (CIA)

CIA is caused by Circo virus and is characterized by aplastic anaemia, generalized lymphoid atrophy and concomitant immunosuppression. The infection is widespread in young broilers, replacement parent and laying strain pullets. The virus is immunosuppressive and may be responsible for stunting and for secondary viral and bacterial infections including dermatitis. The pathogen of CIA is synergistic with IBD virus and MD virus. The virus has got affinity for lymphocyte and thereby causes transient depletion of T-cells in bursa of fabricius, spleen and complete atrophy of thymus. Further it causes degeneration of haemopoietic cells in bone marrow leading to hypoplasia of bone marrow. Circo virus also increases susceptibility for Adenovirus and Reo virus and causes impairment of HMI response to ND vaccine. While CIA can act as an immunosuppressant, its association with other immunosuppressive agents can make CIA infections increasingly severe. CIA infected chicks have diminished resistance when vaccinated against ND or Infectious Laryngotracheitis.

The extent of economic loss (mortality, decreased production and secondary infection) depends on the age at which the chickens are infected, the level of maternal antibody protection and concurrent infection with other immunosuppressive viruses. Both vertical and horizontal routes of infection occur under commercial conditions. Clinical signs are anaemia, weight loss and depression and the affected chicks are pale and stunted. Bluish discoloration of the wing (gangrenous dermatitis) can also occur (Blue wing disease). Susceptible chicks have diminished HMI and CMI responses and reduced ability to respond effectively to vaccination.

Control in chickens can be afforded by administration of a live vaccine orally or via drinking water. Exposure of pullets to infected litter before egg production will produce protective maternal immunity in the progeny.

Hydropericardium Syndrome (HPS)

Also known as Inclusion Body Hepatitis and Angara disease. It is caused by Avian Adenovirus Type-1 (AAV), the most common serotype being 4 and 8. While Adenoviruses are not considered severe immunosuppressant, they are opportunistic in nature and can cause some detrimental problems with immunosuppressed birds. The disease has been reported in the flocks whose immune system was compromised due to IBDV or CIA infection. Infected litter and fomites and transovarian transmission are important means of viral spread.

Chicks and young chickens are commonly affected. Infection with lone strain of AAV may result in minimal hepatic disease; however if birds have been infected with immunosuppressive viruses (IBD, CAV, MD) the clinical disease becomes evident. Sudden mortality is usually seen in chickens <6 weeks old and as young as 4 days of age. Mortality ranges from 2-40%, especially when birds are <3 weeks of age, however there have been outbreaks in which mortality has reached 80%. Mortality rates also vary depending upon the pathogenicity of the virus and infection with other viral and bacterial agents.

The clinical signs include depression, ruffled feather, feed refusal and poor feed conversion, pale comb and wattles, gangrenous dermatitis and anaemia. Post mortem lesions are excessive straw-coloured fluid distending the pericardium and oedematous lungs. PM lesions include fatty and /or haemorrhagic liver, pale bone marrow (anaemia), and haemorrhages in the skeletal and heart muscles. Atrophy of spleen and bursa due to early IBDV or CAV infections are also a common finding.

Treatment is by usage of good water sanitation (e.g. treatment of drinking water with 0.1% of a 2.5% Iodophor solution). Antibiotics are recommended to reduce secondary invaders which may cause dermatitis and anaemia. The disease has been brought under control by the use of formalin-inactivated vaccines,

prepared from infected liver homogenate, and inactivated cell culture vaccines. Avoid stress and vaccinate against IBD to help control the disease.

Newcastle Disease (ND)

Also known as Ranikhet disease. It is caused by Paramyxovirus. ND strains are classified as lentogenic (low virulent), mesogenic (moderately virulent) or velogenic (highly virulent). ND is a contagious viral infection causing respiratory and nervous disorder in several species of fowl including chickens and turkeys. Although the ND virus has not got any specific affinity for cells of immune system, but it affects actively dividing cells as well as other vital systems like respiratory and alimentary systems, which indirectly causes immunosuppression by subjecting the birds to stress condition. NDV spreads primarily through direct contact between healthy birds and bodily discharges of infected birds. The disease is transmitted through infected birds droppings and secretions from nose, mouth and eyes. NDV can survive for several weeks in a warm and humid environment on birds feathers, manure and other materials. Virus is destroyed rapidly by ultraviolet rays in sunlight. The virus can be transmitted by contaminated equipment, shoes, clothing and free-flying birds.

ND virus is so virulent that many birds die without showing any clinical signs. The clinical signs are extremely variable depending on the strain of virus, species and age of birds, concurrent disease and pre-existing immunity. Recovered birds are not considered carriers and the virus usually does not live longer than thirty days on the premises. The signs most frequently observed are nasal discharge, excessive mucous in the trachea, cloudy air sacs, casts or plugs in the air passages of the lungs and cloudiness in the cornea of the eye. The disease in young chickens begins with difficult breathing, gasping and sneezing. This phase continues for ten to fourteen days and may be followed by nervous symptoms. If nervous disorders develop, they may consist of paralysis of one or both wings and legs or a twisting of the head and neck. The head often is drawn over the back or down between the legs. Mortality may vary from none to total loss of the flock. In adult chickens, respiratory symptoms predominate. Only rarely do nervous disorders develop. If the flock is laying, egg production usually drops rapidly. When this occurs, it takes four weeks or longer for the flock to return to the former production rate. During the outbreak, bright greenish watery diarrhoea, small, soft-shelled, off-coloured and irregular-shaped eggs are produced. Mortality in adult birds is usually low but may be fairly high from some virus strains. The flock history, signs of a respiratory nervous disorder and other typical lesions often may be sufficient to allow a tentative diagnosis. Haemorrhages at the tips of the proventriculus gland are the pathognomonic lesion. Usually, however, the disease cannot be

differentiated from infectious bronchitis and some of the other respiratory infections, except by laboratory methods.

Vaccination is practiced widely and is the recommended method for prevention. Several types of vaccines are available but the most successful and widely used is the mild live virus vaccine known as the B1 and La Sota types. The vaccines may be used by drops into the nostril or eye, addition to the drinking water or applied in spray form. Broiler chickens are usually vaccinated when seven to ten days of age. Chickens kept for egg production are usually vaccinated at least three times. The vaccine is given when birds are approximately seven days, again at about four weeks and a third time at about four months of age. Revaccination while in lay is commonly practiced. There is no treatment for ND. The disease does not always respect even the best management programs, but good "biosecurity" practices will help reduce the possibility of exposure to ND virus. ND is not reported to cause immunosuppression but is associated with the flock suffering from stress and immunosuppression.

Avian Leucosis Complex (ALC)

ALC is a complex of viral diseases with various manifestations such as Lymphoid Leukosis (LL), Myeloblastosis, Erythroblastosis, Osteopetrosis, Myxosarcomas, Fibrosarcomas and other tumours. Compared to LL, other constituent of the ALC are not so frequent in field conditions. Lymphoid Leukosis affects chickens worldwide with susceptibility varying considerably among different strains and types of stock-egg layers are generally more susceptible to LL. Morbidity is low but mortality is high. Mortality tends to be chronically higher than normal for a prolonged period. Egg production is somewhat reduced. There may be increased susceptibility to other infectious diseases due to damage to the immune system. Vertical transmission is most important by infection of the egg white in infected breeders (who are long-term carriers), lateral transmission is poor but infection may occur by the faeco-oral route, especially in young birds.

LL characteristically produces lymphoid tumours, particularly in the liver and spleen. The tumours may also affect other visceral organs such as ovary and lungs. Affected birds may die without preliminary symptoms, but the disease usually is chronic in nature and affected birds show loss of appetite, progressive emaciation and diarrhoea. Clinically affected birds invariably die. Losses due to the disease are most severe shortly after onset of egg production, but losses will continue for as long as the flock is retained. Clinical diagnosis of LL is based upon flock history and disease manifestations. The lymphoid disease cannot be readily distinguished from the visceral form of MD; however, there are some features that aid in differential diagnosis. There is no treatment for LL. Although the disease cannot be prevented completely, there are certain steps that can be taken to help

control the level of infection within a flock. Some steps are maintenance of good hygiene, all-in/all-out production, control of arthropods, and eradication i.e. checking of antigen in the albumen is a basis for eradication.

MANAGEMENT OF IMMUNOSUPPRESSION IN POULTRY

- a. **Strict Biosecurity Measures-** Immunosuppressive pathogens (IBD, MD, CIA) are a potential threat to immunity. They also invite other opportunistic pathogens (ND, HPS, *E. coli*, Coccidia). Practicing strict biosecurity measures will minimize the exposure of pathogens, thus avoiding a potential threat to immunity.
- b. **Scientific Vaccination Program-** Vaccination is the only way to develop immunity against serious pathogens suppressing immunity. Not only vaccine administration, but doing it in a scientific way to get best response to antigen is the key to protection. A scientific vaccination program can be charted out considering certain important below stated parameters:
 - ❖ Type of the vaccine (killed/live attenuated/ subunit/ recombinant vector) to be administered for best results
 - ❖ Proper time of vaccination- Depending upon the pathogen type and the maternal immunity level, the vaccination day and time to be decided
- c. **Vaccine potency and route of administration to be carefully checked**
- ❖ Proper storage of the vaccine
- ❖ Disease incidence in the flock and adjoining area, type of flock and result of the vaccine being used
- d. **Stress Management-** Since stress is a major cause of immunosuppression in poultry; it should be avoided or minimized. This can be done by improving the management practices. The use of antistressors and adaptogens will also assist stress management.
- e. **Quality Nutrition and Water Sanitation-** Good nutrition is very important for proper immune functions. The role of nutrients like Vitamin A, E, C, Selenium, Zinc, fatty acids and amino acids is well defined to boost immune functions and ensure health of the flock.

Drinking water being a potential source of infection, an eye should be kept on water sanitation.
- e. **Managing Mycotoxin-** Mycotoxins (Aflatoxin, Ochratoxin and Trichothecenes) leads to immunosuppression hence their level needs to be regularly checked and maintained. Aflatoxin B1 (AFB1) is the most potential threat hence a close watch to be kept on its level.

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ASK THE EXPERT

Ask The Expert is a specialized service being initiated by Vamso Biotec Pvt. Ltd., that connects the poultry customers all across India to the experts of poultry industry. This service can be used to get an answer to any of your query pertaining to the field of poultry nutrition, disease and management. Your query will be answered by the top most poultry experts in India.

Send in your query to us through post, fax or E-mail and get an answer within 15 days by the top most poultry experts of the country.

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Please mention "Ask The Expert" on the envelope or postcard.

CUSTOMER LOYALTY PROGRAM

Customer Loyalty Program is the service being initiated by Vamso Biotec Pvt. Ltd. for its loyal customers. This service can be utilized to get your poultry feed analyzed from one of the best feed analytical laboratory in India.

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VAMSO BIOTEC PVT. LTD. PARTICIPATION IN ILDEX INDIA 2008



company brochures, literatures and technical bulletins. A special attraction was display and distribution of newsletters 'Poultry Health Bulletin' and 'Vet Tech Bulletin'. A lot of poultry and livestock customers came forward to enroll themselves for the subscription of the newsletter. Apart from the key Indian visitors, a lot of rush from foreign buyers including those from Bangladesh, Pakistan,



Vamso Biotech Pvt. Ltd. was an active participant in ILDEX India 2008. The company displayed its vision, motto, business areas, landmarks achieved and state of the art R&D and manufacturing facilities through an attractive expo in its stall. The important marketing, R&D and sales persons were present to provide quality service to the visitors from all facets of the industry. The technical interaction with the visitors was well supported by the



The company also distributed gifts to the visitors including key rings, pens and an attractive carry bag. As a mark of its service to the customers the company also distributed free complimentary tea and coffee.



The participation of Vamso Biotech was highly appreciated by all type of customers and during the three day exhibition more than 500 customers visited the stall.



Muscat, Thailand, Nigeria and France was seen. The renowned scientists from various universities also visited the stall for understanding the unique solutions being marketed by the company and scope of tie up for scientific research. An interview of Dr. S.K. Pandey, GM, was also recorded by several agencies during the show.



EGG DROP SYNDROME 76

- ❖ Egg drop syndrome is an acute to chronic disease affecting laying birds, i.e., laying chickens, ducks and guinea fowl.
- ❖ It is caused by Avian Adenovirus. All chickens are susceptible, but brown layers are most susceptible.
- ❖ It can spread vertically, through the embryonated egg, by faeco-oral routes and by contaminated water. The virus often remains latent until the chick reaches sexual maturity, then it is excreted in the eggs and droppings to infect susceptible contacts.
- ❖ Clinical disease occurs during sexual maturity. Spread from house to house may take 5-10 weeks.
- ❖ Clinical signs include loss of colour in pigmented eggs, thin-shelled, soft-shelled or shell-less eggs and a reduction in production up to 40%. Watery albumin and reduction in size of the egg, inappetence, dullness and diarrhoea may occur. Birds tend to eat the shell-less eggs, which therefore may be missed unless a search is made for the membranes.
- ❖ In flocks in which there is some spread of virus and some of the birds have antibody (usually 10-20%), the condition is seen as a failure to achieve predicted production targets.
- ❖ Poor egg shell quality and a decrease in egg production, in an otherwise healthy flock, are strongly suggestive of egg drop syndrome.
- ❖ Post mortem lesions include inactive ovaries and atrophied oviducts, uterine edema, exudates in the shell gland, flaccid ovules and a mild splenomegaly.
- ❖ Diagnosis is based on history, clinical signs and PM lesions.
- ❖ Isolation and identification of the virus in embryonated duck eggs from a flock free of EDS is the most sensitive test of EDS.
- ❖ No specific treatment is available. Soluble multivitamins and agents to stimulate ovarian activity may be recommended as a nonspecific measure.
- ❖ Biosecurity is important for disease prevention. An inactivated vaccine can be given during the pullet rearing phase to help prevent the disease.

CORRECT RESPONSES OF QUIZ NO. 8

- | | | |
|---|-------------------------|---------------------|
| 1. b) Incapable of causing severe infection | 2. a) Specific immunity | 3. d) All the above |
| 4. d) All the above | 5. c) Bacteria | 6. d) All the above |

WINNER OF THE QUIZ NO. 8

The winner of the Quiz No. 8, July, 2008 is Dr. N. S. Yadav, Uttara Food & Feeds Pvt. Ltd., Varanasi. He was adjudged winner on the basis of lucky draw from the lot of correct responses received by us.

Let us all congratulate Dr. N. S. Yadav. He gets a certificate & a token gift.

The prize alongwith the certificate will be sent directly to the winner within 15 days.

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Quiz - 9

Test your knowledge and get an opportunity to earn prizes

- Which of the following is/are immunosuppressive disease(s)
a) Infectious Bursal Disease b) Chronic Respiratory Disease c) Egg Drop Syndrome d) None of the above
- Infectious Bursal Disease is caused by
a) Bacteria b) Virus c) Protozoa d) Mycoplasma
- Vaccination is practiced for which of the following disease(s)
a) Newcastle Disease b) Marek's Disease c) Infectious Bursal Disease d) All of the above
- If a flock is immunosuppressed due to IBD infection, it will show poor response to which of the following vaccine(s)
a) Newcastle Disease b) Marek's Disease c) Infectious Bronchitis d) All of the above
- Which of the following is/are clinical sign(s) of Egg Drop Syndrome
a) Thin-shelled Eggs b) Soft-shelled Eggs c) Shell-less Eggs d) All of the above

Tick your options and send the quiz portion in an envelope to the address given at the back.
Winner of the lucky draw will be announced in the next issue.

(Please fill the below details)

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