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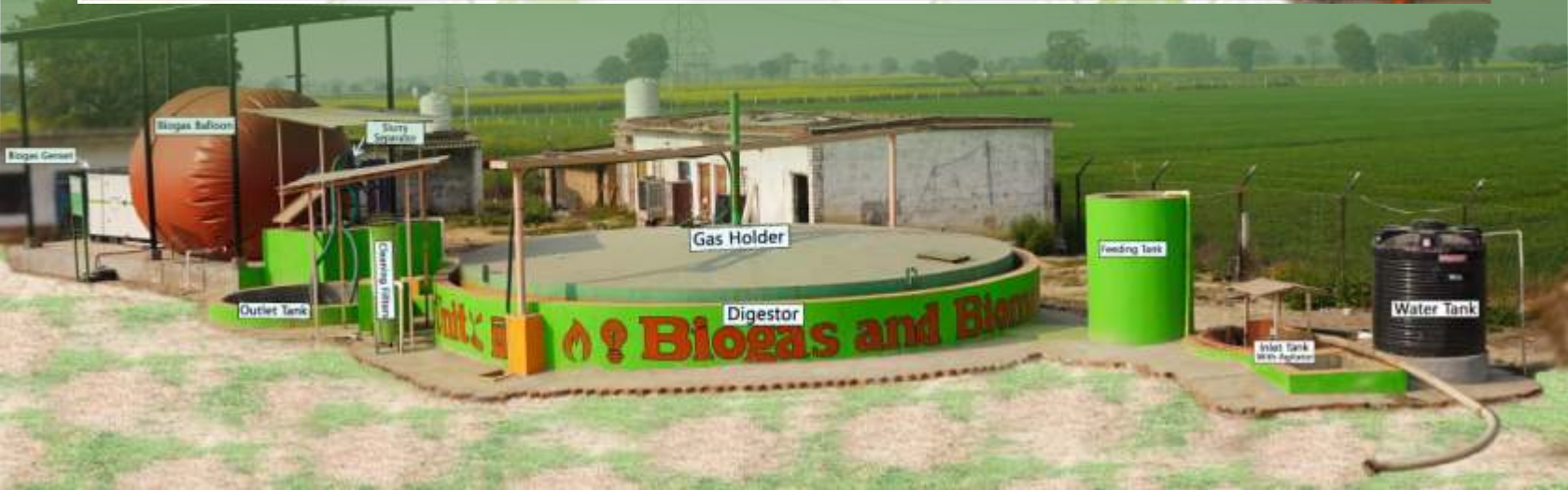
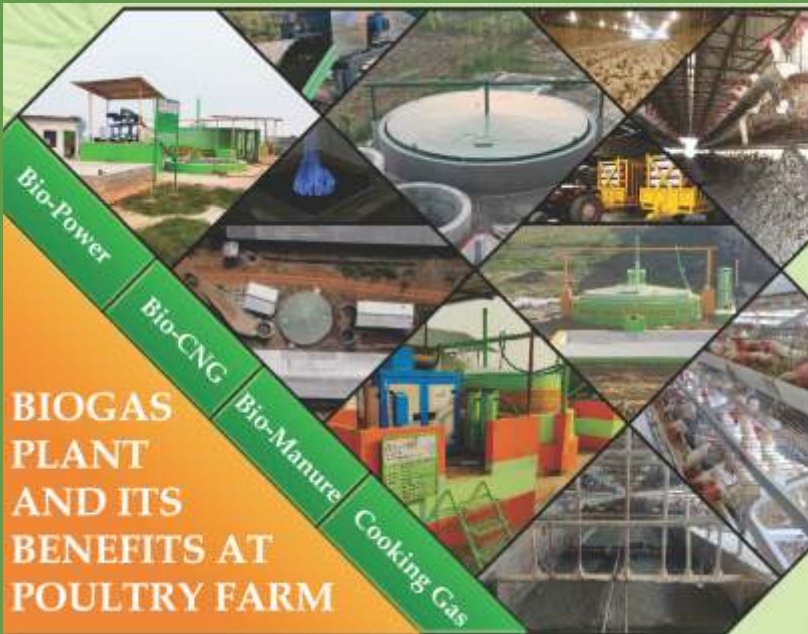
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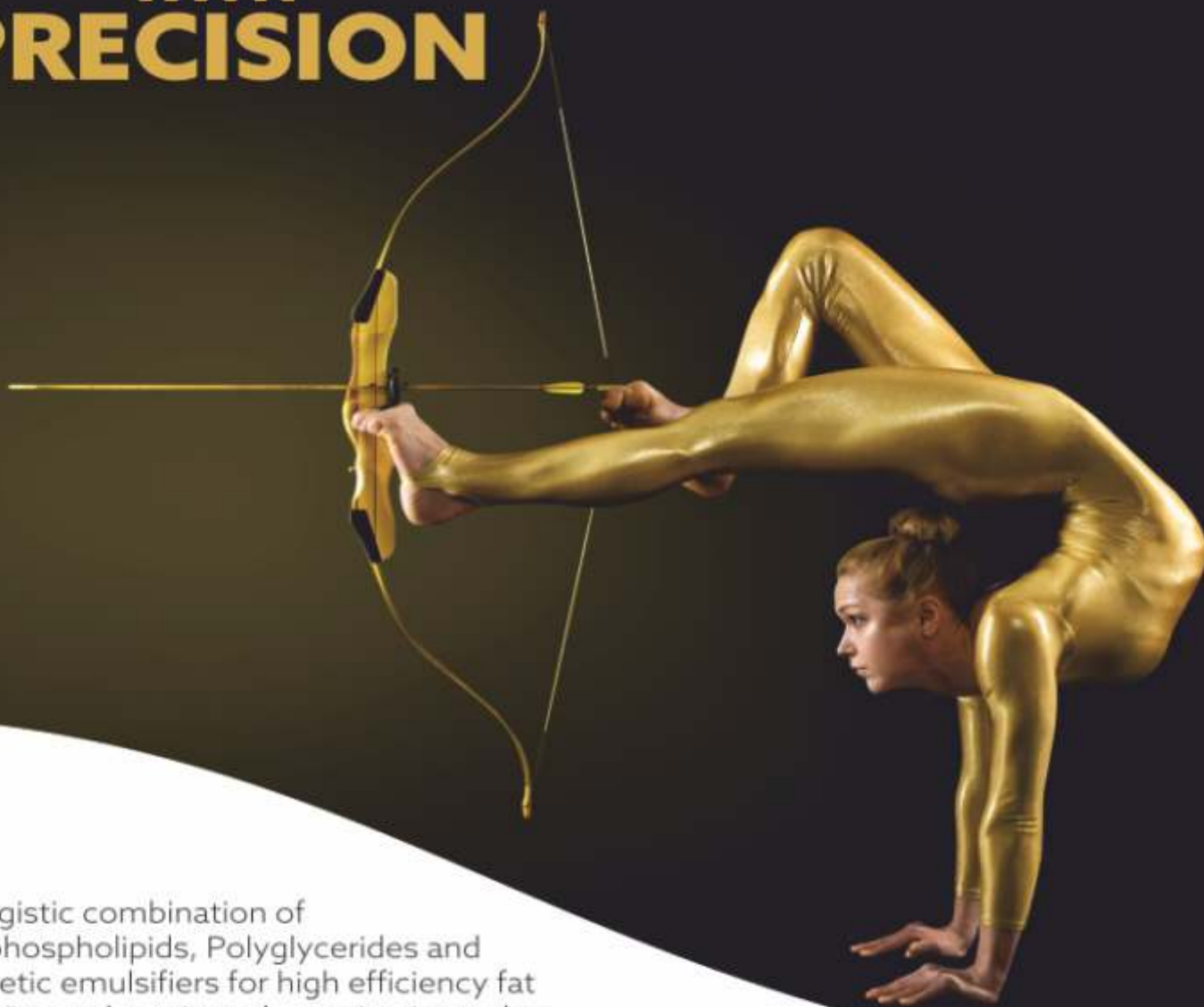
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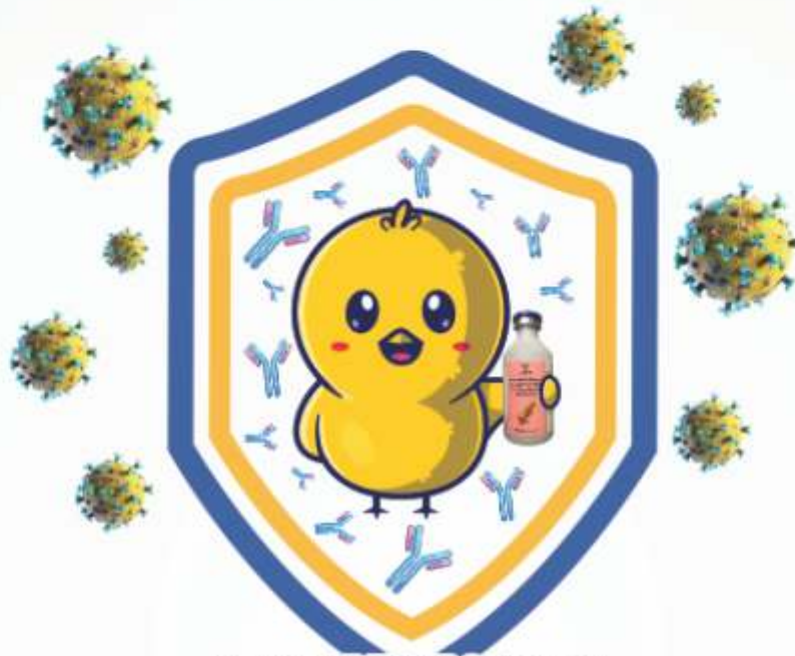
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# From the Editor's Desk



## Winter Disease Management in Poultry

Winter is a common time for poultry to contract respiratory diseases like avian influenza and infectious bronchitis. These diseases can rapidly spread throughout a flock and cause substantial mortality. Effective management practises can aid in preventing and controlling the spread of these illnesses.

Wintertime respiratory disease prevention and control strategies for poultry include the following:

**Regular vaccination of birds against common respiratory pathogens, such as avian influenza, infectious bronchitis, and Mycoplasma, can reduce the risk of disease outbreak.**

**Biosecurity: Implementing biosecurity measures such as restricting access to the poultry house, sanitising clothing and equipment, and quarantining new birds prior to introducing them to the flock can aid in preventing the spread of disease.**

**Ventilation and air quality: Adequate ventilation is necessary for maintaining a healthy environment for birds. The poultry house must maintain a constant temperature, relative humidity, and air exchange rate throughout the winter. Good air quality can be achieved by removing dust, ammonia, and other pollutants, as well as by supplying sufficient fresh air.**

**Regularly monitoring the flock for signs of illness, such as coughing, sneezing, nasal discharge, and decreased feed and water consumption, can help detect disease early, thereby preventing its spread. Isolating sick birds from the rest of the flock can aid in preventing the spread of disease.**

**Regular cleaning and disinfection of the chicken coop, feeders, and waterers can reduce the accumulation of pathogens.**

**Feed and water: Providing clean and fresh food and water, as well as adequate space for birds to eat and drink, can help maintain their health and enhance their disease resistance.**

**Work with a veterinarian: It is essential to collaborate with a veterinarian to develop a specific plan for managing respiratory diseases in your flock, as each situation is unique and a veterinarian can offer specific guidance and advice.**

**Additionally, it is essential to keep track of the flock's health, feed and water consumption, and any mortality or morbidity, so that you can monitor and improve the management plan.**

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# Poultry Diseases and their Management During Winter



**Anuj Kumar<sup>1\*</sup>, Amit Kumar<sup>2</sup>, D K Singh<sup>3</sup> and Ahmad Fahim<sup>4</sup>**

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Both people and livestock face difficulties during the cold, winter season. Similar to how the human flu is spreading throughout most homes this season as expected, epidemic infections among poultry are also being reported in these winter conditions. The transmission of disease-causing organisms is facilitated by the cold and damp climate. Temperature drops and higher relative humidity are both characteristics of the wet season. These elements, along with potential cold winds, cause significant alterations in the bird's body system. These environmental variations cause stress, which weakens the immune system and increases the risk of getting sick. There are a variety of prevalent and serious illnesses that can affect a bird's respiratory system, including its airways, lungs, and air sacs.

## Avian influenza

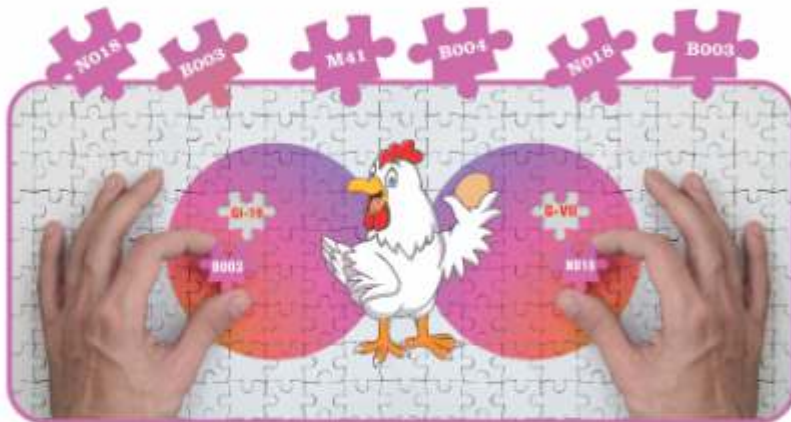
It is more popularly known as "bird flu," has drawn the attention of the world community over the years due to its destructive effects on the poultry industry, farmer livelihoods, global trade, and the health of wild birds. Where outbreaks are present, it is sometimes the practise to eliminate all chickens, sick or healthy, in order to stop the spread of avian influenza. Farmers will suffer significant financial losses as a result, which will have an ongoing effect on their way of life. But not all types of poultry are affected. Wild birds can

contract bird flu viruses, but they also contribute significantly to its transmission. Public health authorities are also quite concerned about avian influenza. There are occasional occurrences of avian influenza in humans whenever avian influenza viruses are present in poultry. The main indicators of high pathogenic avian influenza in chickens are depression, loss of appetite, a halt in egg production, neurotic symptoms, swelling and blue staining of the combs and wattles as a result of blood circulation disturbances, coughing, sneezing, and diarrhoea. Death may occur suddenly with no warning. Depending on the species, age, kind of virus involved, and environmental factors including concurrent bacterial infections, the mortality rate may reach as high as 100%. Mild respiratory sickness, depression, and a decline in egg production in laying birds are the main clinical symptoms of low pathogenic avian influenza. These viruses have short incubation times a few hours to three days and can spread throughout a flock of birds in as little as 14 days.

## Fowl pox

Direct contact between infected and susceptible birds or mosquitoes are the two main ways that fowl pox is spread. Infected birds may also slough off virus-carrying scabs that act as a source of infection. The eye, skin wounds, or respiratory tract are





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all entry points for the virus into the bloodstream. When mosquitoes feed on birds that have fowl pox in their blood, they become affected. There is some evidence to support the mosquito's lifelong infectiousness. On poultry ranges, mosquitoes are the main reservoir and transmitter of the chicken pox. A number of mosquito species can spread the chicken pox. In poultry houses, mosquitoes frequently spend the winter there, thus epidemics might happen in the winter and early spring. An infection causes a temporary decrease in egg output in laying chickens. Cankerlike lesions can be found in the mouth, pharynx, larynx, and trachea in the wet form. The wet form may impede upper airways, resulting in respiratory discomfort. Birds should be vaccinated against fowl pox from three to six weeks of age depending on the geographical location.

### **Coccidiosis**

Farmers are often inclined to close the chicken coop curtains during this cold weather in an effort to keep the birds comfortable. Due to the high temperatures and increasing humidity inside the poultry house, the litter is readily wetted. This encourages the coccidian organisms that cause the disease to sporulate. Drowsiness, bloody stool to severe diarrhoea, ruffled feathers, and depressed birds are symptoms of coccidiosis. Severe cases result in anaemia and death. The production of eggs is reduced in laying birds. For prevention litter should be collected from wet areas and kept dry. The most important factors in keeping the litter dry are ventilation and good cleanliness.

### **Fowl cholera**

The death rate for acute instances of this bacterial illness is relatively high. Birds older than six weeks are affected. The bacteria that cause the

illness is typically housed in the damp litter in poultry houses during the wet season. Fowl cholera symptoms include, among others, mucoid secretion from the mouth or nostril, ruffled feathers, yellow or green diarrhoea, laboured breathing, and loss of appetite.

### **Brooder pneumonia**

Aspergillosis is another name for this. It affects the lungs of chicken. The most common cause of brooder pneumonia, also known as pneumomycosis, is wet and mouldy litter. When aspergillus fumigates spores are inhaled by chicks and aspergillosis develops. By inhaling spores from waste feed or litter, infection is caused. Dyspnea (difficult breathing with open mouth breathing), a lack of appetite, and increased thirst are symptoms of aspergillosis. In severe situations, lethargy and death could happen within a few days. It is necessary to eliminate mouldy feed and litter right away. As soon as exposure to spores is terminated, recovery starts. Before putting in chicks, poultry housing and equipment should be completely cleaned and disinfected.

### **Worms' infestation**

This is common throughout the colder months, especially among free-range birds. This is a result of consuming water that contains intestinal worm eggs. During this time, broad-spectrum anthelmintics /dewormers such piperazines and levamisole should be used to deworm birds. Make sure to adhere to the withdrawal period.

### **Common precautions take to reduce disease outbreaks include:**

- Birds increase their meal intake during the winter season to produce heat and maintain body temperature.
- However, a farmer will see an increase in production costs as

well as nutrient waste if the degree of feed provision is increased.

- Energy-rich foods like oil and fat should be added to the diet or the number of other nutrients may be decreased while maintaining the same level of energy to cut costs and prevent waste.
- Feed the birds more food in the free-range system to make up for their lack of nutrients. During this wet season, think about periodically giving your birds warm water to encourage consumption and help them stay warm without using up stored energy.
- When it rains, birds may come across standing water (most often in free-range situations) and end up drinking from the ground, which can cause an intestinal worm infection.
- Dewormers used every three months aid in managing worms, but it's important to keep in mind the manufacturer-specified product withdrawal period.
- The design of a poultry house should take ventilation into account as well as providing all the comfort that birds need throughout the winter season.
- With better management flock will remain healthy and productive throughout the cold season.

### **Conclusion**

There is a greater prevalence of respiratory illnesses in both backyard and commercial poultry farming. It suggests that poultry farming is more competitive in terms of health management. To avoid respiratory illnesses, follow national standards for biosecurity precautions and immunisation policies, enforcing stringent biosecurity procedures and providing appropriate vaccinations.

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# Canola Meal as a Supplement in Poultry Ration



**Neeti Lakhani and Giteesh Saini**

College of Veterinary Science, Rampura Phul,  
GADVASU, Bathinda

Canola, belonging to the family of Brassicas, is produced as a byproduct of rapeseed during oil extraction process. Canola differs from rapeseed in its lower glucosinolate and low oil content. Production of canola meal is the second largest in the world after soybean meal (Aachary et al., 2015). Canola meal is used as a feed ingredient because of its consistent quality having higher essential amino acid and good quality protein. The increasing diet cost in animal production has made canola meal an efficient alternative to reduce feed cost.

methionine, lysine, cysteine and tryptophan than those of the other commonly used cereal varieties. It has higher fat content for phospholipids, triglycerides and free fatty acids. With high protein content and an excellent amino acid profile, canola meal is evidenced to support high levels of production in livestock species. The high digestibility and palatability of meal makes it a perfect replacer of vegetable protein in ration. The high fiber content of canola meal restricts its quality and interferes with the digestibility of meal, however, it is the amino acid



*Canola Meal as feed ingredient*

## **Chemical composition of Canola Meal**

The chemical composition of canola meal resembles closely with soyabean meal and can be used to complement the supplementation of soyabean meal in livestock diet. Canola meal is rich in levels of

profile and presence of sulphur containing amino acids which enhance the quality of canola meal. The amounts of available Ca, Mg and P are higher in canola meal whereas K and Cu contents are lower. Vitamins specially biotin, niacin, choline, thiamin are present in higher amount with lower pantothenic acid levels.





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**Chemical composition of canola meal (% moisture)**

Moisture	12
Crude protein	36
Ether extract	3.3
Linoleic Acid	0.67
Linolenic Acid	0.32
Crude Fiber	11.2
Sinapine	1.0
Phytic acid	2.3
Glucosinolates (µmol/g)	4.2

**Canola meal inclusion in poultry diet**

Canola meal provides excellent value in diets where the greatest emphasis in formulation is placed on amino acid balance. Inclusion of canola meal at 20% level is made when diet formulation is well balanced specially for its amino acid content, having no influence on growth rate and feed efficiency (Rogiewicz et al., 2015). The lower energy content in canola meal restricts its inclusion in broiler ration not more than 10% of diet. However, incorporation of extra animal fat along with canola meal will help bring up the energy level and increase the inclusion level in broiler diet. Inclusion levels of canola meal in layer diet was earlier restricted to 10% because of liver hemorrhage mortality which was significantly observed in layers fed on higher inclusion levels of canola meal. However, the presence of sinapine in canola meal causes delay in breakdown of trimethylamine, imparting fishy flavor in the eggs.

Inclusion level of canola meal :-	
Poultry	Inclusion level (%)
Starter	20% Max.
Grower	30% Max.
Egg layer	20% Max.
Breeder	30% Max.



**Factors affecting utilization of canola meal**

Factors which affect the utilization of canola meal in diet include its glucosinolates, sinapine, phytic acid, tannins, dietary fiber, and electrolyte balance. These anti nutritional factors hinder animal growth performance by interfering with nutrient absorption in the digestive system.

**Fiber-** Canola meal fiber is rich in NSP, lignin associated with polyphenols and polyphenol glycoproteins. The content of these fibers is three times higher than soyabean meal.

**Glucosinolates-** The sulphur containing plant secondary metabolite itself is not harmful to the animal but the breakdown products of glucosinolates impair liver and



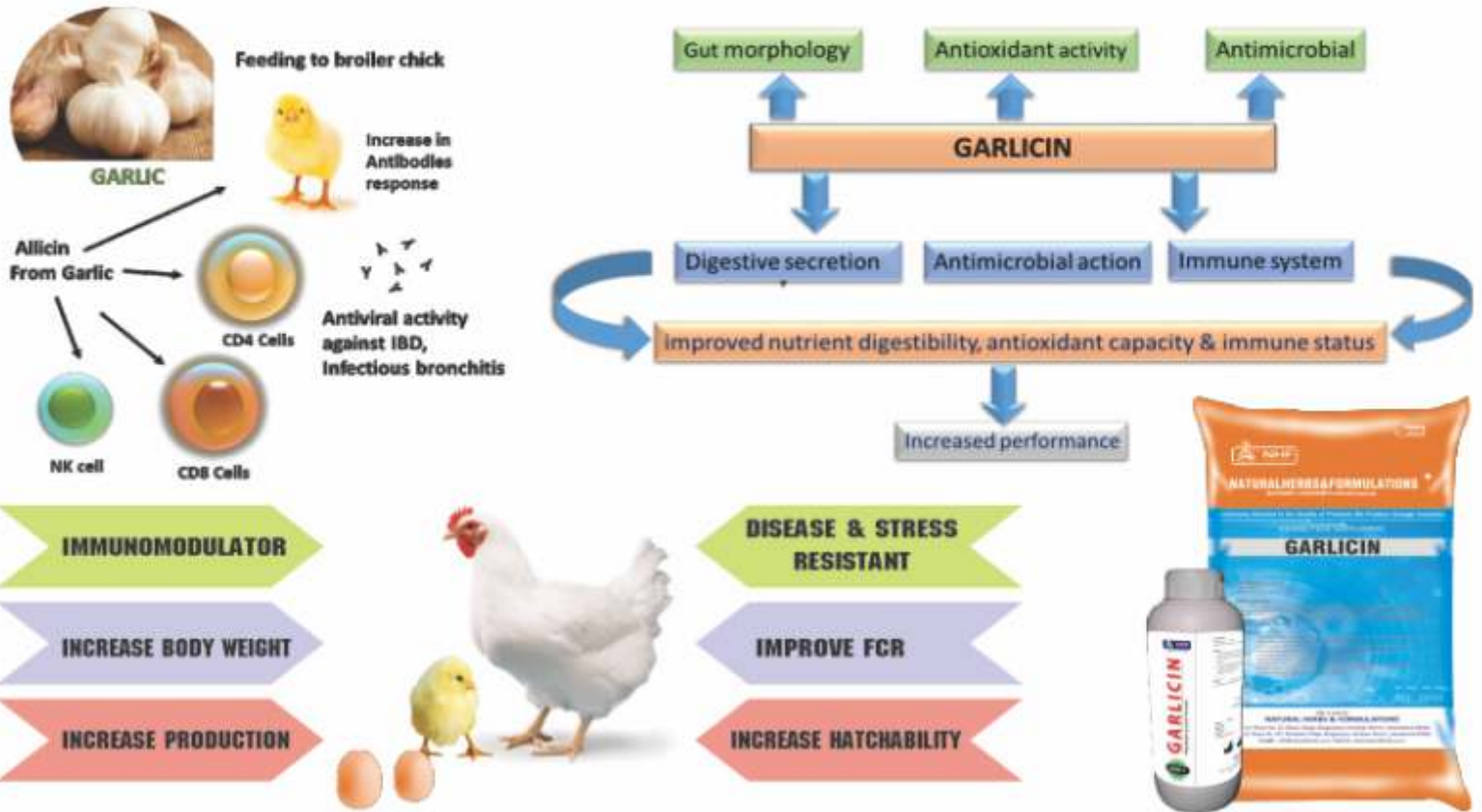
kidney function, inhibit thyroid hormone production and cause depression in growth performance.

**Phytic acid-** Canola Meal contains 4-6 % of phytic acid, reducing its nutritional value by binding to multivalent cations (Zn, Ca, and Fe) reducing the nutrient digestibility in animals.

**Sinapine-** Is bitter tasting phenolic compound contributing to unpleasant flavor in feed and limiting feed intake in animals.

# GARLICIN Antiviral & AGP Replacer

## FUNCTIONAL IMPACT OF GARLICIN



# T<sub>3</sub>-100 Natural egg yolk Coloring enhancer & AGP Replacer



- ❖ Kill the Harmful pathogen by antimicrobial mechanism
- ❖ Boost immune system
- ❖ T<sub>3</sub> 100 is also use as Flavoring & coloring agent



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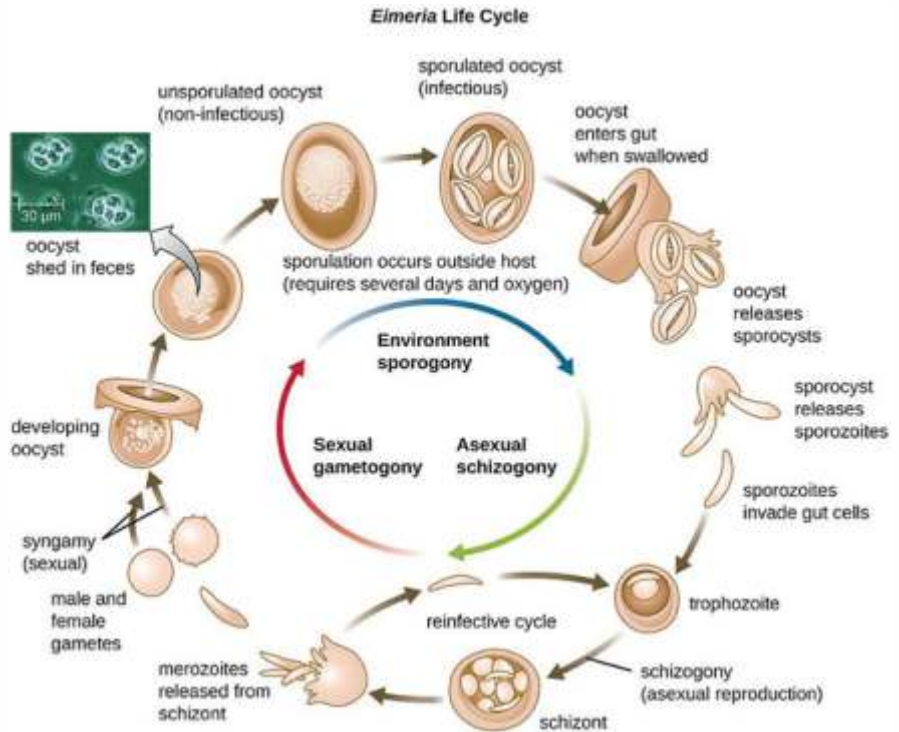
**Dr. Mahesh Rajurkar**  
Product & Techno  
Commercial Manger



**Dr. Ramdas Kambale**  
CEO & Board Member

# Prevention of Coccidiosis: Shuttle Program Solutions by GLOCREST

Avian coccidiosis is a parasitic disease caused by protozoa of the genus *Eimeria* spp.



Eradication of coccidia has proved impossible and the transmission stage of the parasite — known as oocysts — can be found in the litter of most commercial broiler houses. The transmission of this coccidia within the facility or even between farms is carried out in a feco-oral way, or through vectors, whether they are contaminated materials, or by live vectors, such as rodents, worms, flies or beetles

- Clinical coccidiosis in which the affected birds show typical symptoms of the disease, such as bloody droppings and increased mortality, and
- Subclinical coccidiosis because the affected birds do not show

visible symptoms of the disease but when a random sample of birds is examined, the presence of the gross lesions and the coccidia are found

In order to minimize the risk of resistance to coccidiostats, it is common to carry out rotation or shuttle programs, in which different synthetic coccidiostats and ionophores are used in each production cycle or even within the same cycle.

Combination products, consisting of either a synthetic compound and ionophore (e.g., Monensin+ Nicarbazin+ Vit K3 + Curcumin extract- **CocciCare**

Maduramicin+Nicarbazin+Vit K3 +



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Krishna Group - prestigious poultry and  
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pioneer, GLOCREST & its peers, has more than  
half a century of combined expertise in the  
development and manufacturing of nutrition  
products. Our customers include everyone  
from small and large farmers, to integrations  
and dealers. We aim to provide them with  
nutritional solutions that ensure maximum  
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Curcumin extract - **CocciCare-M**

Lasalocid sodium + Vit K3 +

Curcumin extract - **CocciCare-L**

### Shuttle and Rotation programs

In general, ionophores have a similar mechanism of action against the parasite, whereas chemicals have different modes of action; therefore, a strain that develops resistance to an ionophore may be controlled by a chemical, and vice versa. The poultry industry has taken advantage of this with the introduction of shuttle and rotation programs that have helped slow the development of resistance.

A shuttle program involves utilizing a different drug in different feeds provided to the growing chick. For example, one frequently employed shuttle program involves the use of Nicarbazin in the starter feed and an Ionophore in the finisher diet. A rotation program involves using different drugs in successive flocks

Ideally, a cleanout should follow the first two flocks to help reduce the numbers of any drug-resistant parasites that may be present. The drug-sensitive vaccine strains will repopulate the poultry house when the vaccine is employed, which helps improve the efficacy of in-feed anticoccidials in subsequent flocks

For many years coccidiosis prevention and control relied on the use of synthetic anticoccidials, commonly referred to as chemicals. In many cases, resistance to these drugs quickly occurred - within 1 to 3 years - and they became ineffective. Of this group, only nicarbazin remains effective today

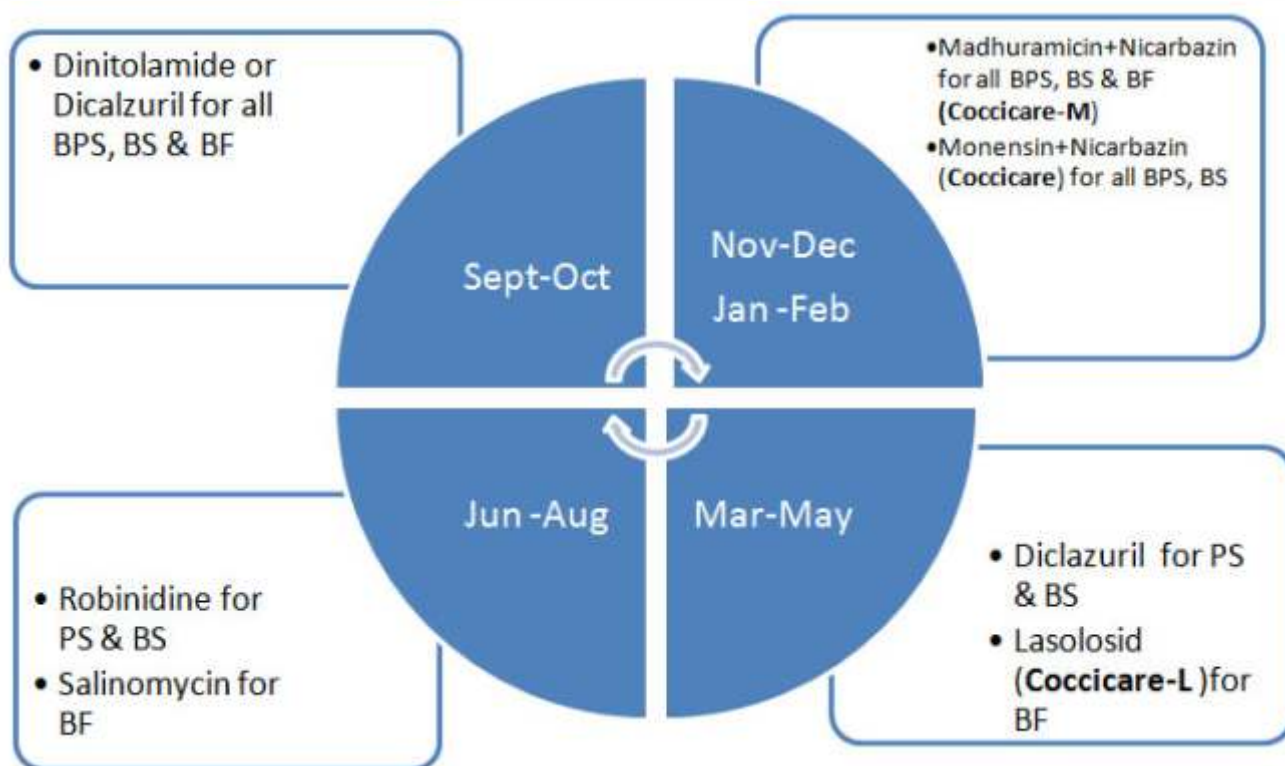
When the same ionophore anticoccidial is added to the starter and grower feeds, this is popularly referred to as a straight program. These are commonly used in spring and summer. In

some straight programs, the concentration of the anticoccidial may be increased in the grower feed to provide maximum protection at the time of peak coccidial oocyst shedding (3-4 weeks). This is known as a step-up program, in other cases, the concentration of the anticoccidial may be decreased in the finisher feed, this known as a step-down program.

In other cases, a chemical anticoccidial is added to the starter feed, grower feed and an ionophore anticoccidial to the finisher feed, this is popularly referred to as a shuttle program.

### Curcumin Extract:

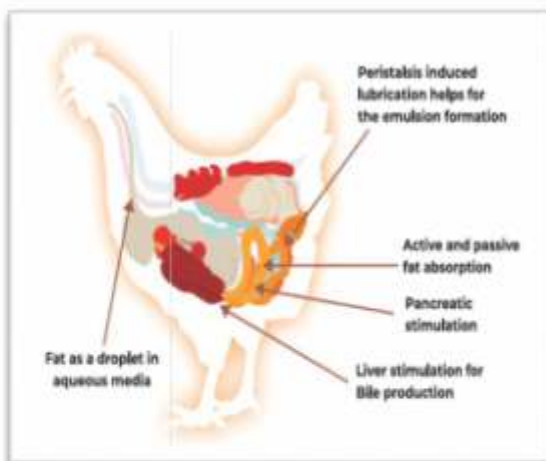
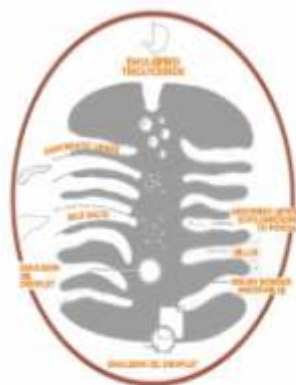
One of the natural compounds is curcumin, the extract from herbal plant *Curcuma longa*, known for its antioxidant and antimicrobial properties which may be effective in reducing *Coccidia* infection in poultry.



Note: This shuttle program may vary based on prevalence and recommended by veterinarians

# LIPROVET

Accomplishing fat utilization beyond emulsification



## LIPROVET

Fat, the indispensable component of the diets despite bringing the feed texture and digestibility challenges, support the body mainly for energy & hormone synthesis that directly affects performance traits and farm profitability. Despite emulsifier helps to ease the digestion & absorption, the best poultry diets today essentially needs a comprehensive approach for the fat metabolism in the body offering homeostasis, lipotransport & effective fat utilization. Today it is essential to support fat metabolism along with hepatic-regulators, lipotropic agents and osmoregulators for supporting for effective fat utilization by the bird.

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# Egg Shell Disorder: Their Causes and Control



**Preety Singh<sup>1\*</sup> and Somesh Kumar Joshi<sup>2</sup>**

<sup>1</sup>Assistant Professor, College of Vety Sci. & A.H., Bilaspur, DSVCKV Durg (C.G.)  
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<sup>3</sup>Veterinary Assistant Surgeon, Livestock Development Department, DDVS Balod, (C.G.)

India is 3<sup>rd</sup> largest producer of eggs in the world. It is considered as one of the most nutritious and economical animal food proteins available in country. Broken and poor egg shell qualities are responsible for major economic loss to the poultry farmer.

There are many factors which affecting the meat and egg quality. Some of these can directly affect the egg production, especially the eggshell. Altered shell structures are an indication of the infectious or non infectious disease and also help to determine causes that affecting a poultry farms.

## Egg development process

Egg development is the 20 to 25hrs long process take place inside the reproductive organ of laying birds. Birds have only one functional ovary the left one. When young pullet reaches the 20week of age then yolk is released from the ovary and received by infundibulum, it remains here for 15min. Then moves down into the magnum where inner and outer shell membrane are added along with water and minerals salts. After spending 3hrs in this process it moves down to isthmus, where albumen is added around the yolk. This process takes about an hour. Next the partly formed egg moves into the uterus, or shell gland, where it receive shell layer. After 21hrs later egg passes through the vagina and lay outside takes only one minute.

## Some common type of egg shell defect

- **Misshaped egg shell-** These

eggs are too small or large or differ from normal shapes.

**Causes:** Immature shell gland, Stress, Overcrowding, Avian Influenza, Newcastle disease, infectious bronchitis, Egg Drop Syndrome 76.

- **Soft shell egg-** Laid with an incomplete shell, only a thin layer of calcium is deposited on the shell membrane.

**Causes:** Excessive phosphorus consumption, heat stress, bird age (older hen), saline water supply, mycotoxins.

- **Shell less egg-** Laid without a shell layer, these eggs are protected only by the shell membrane.

**Causes:** Immature shell gland, Avian Influenza, Newcastle Disease, infectious bronchitis, Egg Drop Syndrome 76, Inadequate nutrition, Calcium, increased phosphorus, manganese, or vitamin D3.



**Misshaped egg shell**



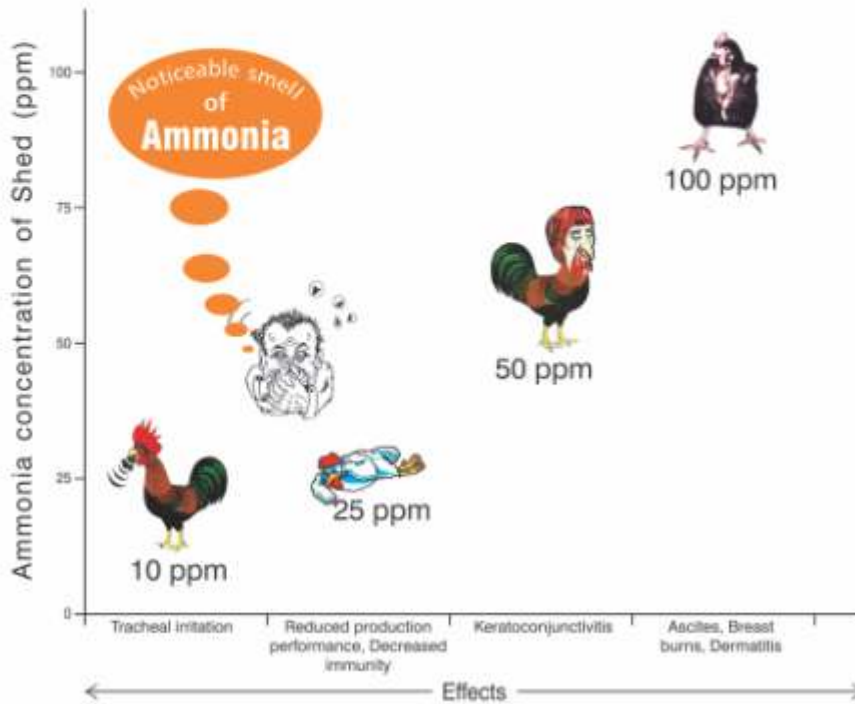
**Soft shell egg**





# AmmoFree Premix

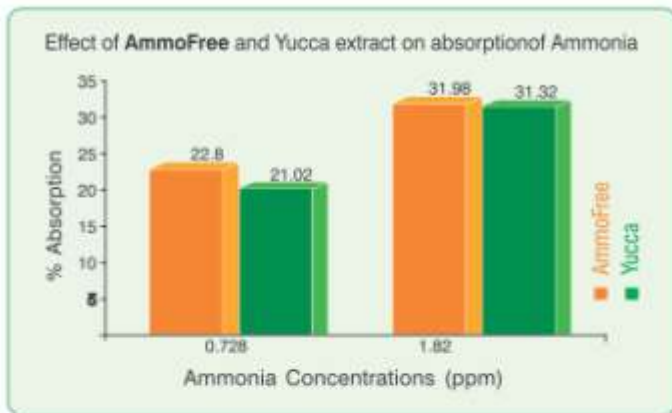
For ammonia control in poultry house



**At 25 ppm Ammonia in poultry shed**

- ▶ Noticeable smell and eye irritation
- ▶ Upto 25% reduction in growth and production

## SCIENTIFIC VALIDATION



Effect of AmmoFree\* at broiler farm in winter (14° - 15°C) with noticeable ammonia concentration

Group	Livability (%)	Birds showing respiratory discomfort	Faecal NH3 (g/kg dry faeces)	
			Day 21	Day 42
Control	95.00	7	3.86	3.92 (+1.55%)
AmmoFree 100g/ton	96.67	X	3.95	2.71 (-45.75%)

Trial at Commercial Poultry Farm under technical guidance of Dr. Ram Subba Reddy

### USAGE

- For minimising the level of atmospheric and systemic ammonia and other noxious gases.
- To create healthier living conditions, reduce stress levels and to improve farm environment.
- For enhancing the level of beneficial gut microflora and to reduce disease susceptibility especially intestinal and respiratory diseases.
- For better farm productivity and profitability.

### FEED INCLUSION RATE

200g /ton of feed.  
double dosage when the level of ammonia is more than 25ppm.

### PRESENTATION

1 kg & 10 kg bag



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**Shell less egg**

- **Dispigmented egg** - The degree of brown color in the egg shell is determined by the quality of deposited pigment in the cuticle.

**Causes:** Infectious bronchitis, Bird age (older hen), High stress in the flock, Egg Drop Syndrome 76, Use of chemotherapeutic agents (i.e. sulfonamides and nicarbazin).

- **Flat /slab sided egg-** eggs are flattened at the side because 2nd egg entered inside uterus whereas 1st one is still not laid.

**Causes-** infectious bronchitis, Stress, frights and disturbances, Overcrowding in coop/run, Sudden increase in daily light hours.

- **Wrinkled eggshell-** Eggs with thinly creased and wrinkled surfaces.

**Causes:** Stress, Infectious bronchitis, Defective shell gland, Overcrowding.



**Dispigmented egg**



**Flat /slab sided egg**



**Wrinkled egg**

- **Corrugated egg-** Corrugated appearance of shell. This is a product of double ovulation, and the shell formation is disturbed.

**Causes-** Extra large egg size, Newcastle disease, Infectious Bronchitis, excessive use of antibiotics, copper deficiency in the hen's diet, Excess calcium, a defective shell gland.

- **Calcium deposit-** An extra layer of calcium can be seen all over the egg or on just one end.

**Causes:** Defective shell gland, Disturbances during calcification, Excess calcium in the diet.

- **Blood on egg shell-** Usually from pullets in early lay, eggs are contaminated by smears of blood from a prolapsed cloaca, vent pecking, or cannibalism.

**Causes:** Overweight pullets, Pullets coming into lay, sudden increases in day length, Poor hygiene, Cage trays, Belt pick-up system.

- **White banded egg-** If two eggs come into contact with each other in the shell gland pouch, normal calcification is interrupted. The first egg retained in the pouch will have an extra layer of calcium seen as the white band marking.

**Causes:** Stress, Changes in lighting.

- **Cracked shell egg-** This problem includes hair line cracks, star cracks, or large cracks that result in a hole in the shell.

**Causes:** Heat stress, Saline water,

Bird age (older hen), inadequate nutrition, Calcium and vitamin D3, mycotoxins.

- **Broken and mended-** The egg shell got cracked during the calcification process and mended just before being laid.

**Causes-** Stress, frights or disturbance during the calcification process.

### Factors that affecting the egg shell quality

- **Bird Age** – Egg shell strength/ thickness decreases as hens get older. Because Egg size increases with increasing hen age at the same time as shell weight stays the same.
- **Young age-** At early age of birds, eggs can be fragile because the eggshell mineralization process is not yet fully efficient.
- **Nutritional deficiency-** Deficiency of calcium, vitamin D, insufficient water supply, increase level of phosphorus in feed also causes the defect in egg shell.
- **Disease condition** – Various kind of disease like Infectious Bronchitis, Egg Drop Syndrome, Avian Influenza, Mycoplasma gallisepticum etc disease compromises the health of the bird may result in defective eggs with drop in production.
- **Heat Stress** - High temperature and hot water can reduce the feed intake of birds and limits the availability of blood calcium for egg shell formation. Along with long light exposure in winter may reduce the egg shell quality.
- **General Stress** – high population density and rough handling of birds increases the stress level as a result white- banded egg shell, slab- sided egg, misshapen eggs etc incidence occurs.

### Controlling measure to prevent egg shell disorder –

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## Automatic Vaccinators



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- High Quality Construction
- Accurate Dose



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VetDose **Prime**  
Feed Tube Set (FTS)



VetDose **Prime**  
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**Corrugated egg**



**Calcium deposit**



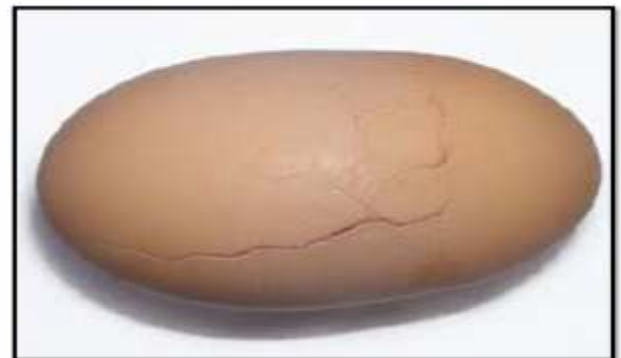
**Blood on egg shell**



**White banded egg**



**Cracked shell egg**



**Broken and mended**

- **Feed suppliments-** adequate supply of minerals and vitamins improve eggshell quality in layers. Vitamin D is necessary for calcium metabolism, Vitamin C help to relive stress condition. Minerals like calcium, phosphorus prevent the demineralization of bone of birds; sodium bicarbonate supplementation during heat stress may improve egg shell quality.
- **Water supply-** water should not be "softened" or treated with lime, resins, salts, or chelating agents before supply to birds.

Provision of cool drinking water during summer season can alleviate the effects of heat stress.

- **Vaccination programme** – regularly immunization programs are important to prevent the impact of infectious diseases that affect poultry houses.
- **Biosecurity-** Good biosecurity practices are an important factor to minimize the incidence of disease outbreaks in poultry farms.
- **Good management** - Management plays an important

role in the prevention of egg shell quality. Avoid overcrowding, handle with care can reduce the stress or heat stress of birds.

### **Conclusion**

As seen above many factors can affect egg shell quality and egg internal quality. An awareness of factors allows an egg producer to monitor eggs and optimize egg quality. Good management and best practice with respect to bird husbandry like feeding, careful egg collection, handling and processing all contribute to the quality of the final product.

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# सर्दियों के मौसम में मुर्गीपालन प्रबंधन



**Mr. Rakesh Kumar**

Founder, Growel Agrovet Private Limited  
www.growelagrovet.com



सर्दियों के मौसम में मुर्गीपालन करते समय कुछ विशेष ध्यान रखने की आवश्यकता होती है। अगर हम जाड़े के मौसम में मुर्गीपालन से अधिक से अधिक लाभ कमाना चाहते हैं, तो कुछ बातों का विशेष ध्यान रखना होगा जिसकी चर्चा हम इस लेख में करेंगे।

हालांकि बड़ी मुर्गियां गर्मी की अपेक्षा सर्दी आसानी से सह लेती हैं। बड़ी मुर्गियों के मामले में केवल उनको गर्मी के समय ही सुरक्षित रखने की सावधानी बरतना ही काफी होता है। लेकिन अगर हम जाड़े के मौसम में मुर्गीपालन अधिक फायदा लेना चाहते हैं, तो चूजे लाने से पहले और चूजा लाने के बाद निम्नलिखित बातें ध्यान में अवश्य रखनी चाहिए।

जाड़े के मौसम में मुर्गीपालन करते समय चूजों की डिलीवरी सुबह के समय कराएँ, शाम या रात को बिलकुल नहीं कराएँ क्योंकि शाम के समय ठण्ड बढ़ती चली जाती है। शेड के परदे चूजों के आने के 24 घंटे पहले से ही ढक कर रखें। चूजों के आने के कम से कम 2 से 4 घंटे पहले ब्रूडर चालू किया हुआ होना चाहिए।

जाड़े के मौसम मुर्गीपालन करते समय

चूजों को ठंड से बचाने के लिए गैस ब्रूडर, बांस के टोकने के ब्रूडर, चदर के ब्रूडर, पेट्रोलियम गैस, सिगड़ी, कोयला, लकड़ी के गिट्टे, हीटर इत्यादी की तैयारी चूजे आने के पूर्व ही कर लेना चाहिए। जनवरी माह में अत्यधिक ठंड पड़ती है अतः इस माह में चूजा घर का तापमान 95 डिग्री फेरनहाइट होना अति आवश्यक है। फिर दूसरे सप्ताह से चौथे सप्ताह तक 5-5 डिग्री तापमान कम करते हुए, ब्रूडर का तापमान उतना कर देना चाहिए की चूजे ठंड से बचे रहें और उन्हें ठंड ना लगे। सामान्यतः ब्रूडर का तापमान कम करते हुए 80 डिग्री फारेनहाइट तक कर देना चाहिए।

जाड़े के मौसम में मुर्गीपालन में चूजों को ठण्ड लगने से सर्दी – खांसी की बीमारी होने का डर रहता है इसलिए जाड़े में मुर्गियों को अधिक से अधिक एमिनोपॉवर दें क्योंकि एमिनोपॉवर (Amino Power) में प्रोटीन्स की मात्रा काफी अधिक होती है, जो की न केवल मुर्गियों को ठंड के प्रकोप से बचाता है बल्कि उनका वजन बहुत ही तेजी से बढ़ाता है। जाड़े में मुर्गियों को एमिनोपॉवर (Amino Power) पहले दिन से लेकर पंद्रह वें दिन तक अवश्य दें। एमिनोपॉवर



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(Amino Power) पंद्रहवें दिन के बाद भी दे सकते हैं, जितना अधिक एमिनोपॉवर (Amino Power) देंगे उतना ही अधिक मुर्गियों का वजन बढ़ेगा, रोग प्रतिरोधी छमता बढ़ेगी और टंड से लड़ने की शक्ति मिलेगी। एमिनोपॉवर (Amino Power) ४६ तत्वों का एक अद्भुत दवा है, जिसमें मुख्यतः सभी प्रोटीन्स, विटामिन्स और मिनरल्स मिलाकर बनाया गया है।

### जाड़े के मौसम में मुर्गीपालन के लिए मुर्गी आवास का प्रबंधन:

जाड़े के मौसम में मुर्गीपालन करते समय मुर्गी आवास को गरम रखने के लिए हमें पहले से ही सावधान हो जाना चाहिए, क्योंकि जब तापमान १० डिग्री सेण्टीग्रेड से कम हो जाता है तब मुर्गीपालन के आवास में ओस की बूंद टपकती है इससे बचने के लिए मुर्गीपालकों को अच्छी ब्रूडिंग करना तो आवश्यक है ही, साथ ही मुर्गी आवास के ऊपर प्लास्टिक, बोरे, फट्टी आदी बिछा देना चाहिए एवं साइड के पर्दे मोटे बोरे और प्लास्टिक के लगाना चाहिए, ताकि वे ठंडी हवा के प्रभाव को रोक सकें। रात में जाली का लगभग २ फीट नीचे का हिस्सा पर्दे से ढक दें। इसमें खाली बोरी और प्लास्टिक आदि का इस्तेमाल किया जा सकता है। इससे अंदर का तापमान बाहर की अपेक्षा ज्यादा रहेगा। जाड़े के मौसम में मुर्गीपालन करते समय एक अंगीठी या स्टोव मुर्गी घर में जला दें। इस बात का ध्यान रखें की अंगीठी अंदर रखने से पहले इसका धुआँ बाहर निकाल दें।

### मुर्गी घर की संरचना :

मुर्गी घर को इस तरह से डिजाइन किया जाना चाहिए कि दिन के समय अधिकतम धूप शेड में प्रवेश करे। मुर्गियाँ को ठण्डी हवा से बचाना चाहिए, इसके लिए जिन स्थानों से ठण्डी हवा प्रवेश करती है, उसे ढक देना चाहिए। मुर्गियाँ अपनी सांसों और मल विसर्जन से बहुत अधिक नमी छोड़ती हैं जो उनके स्वास्थ्य पर प्रतिकूल प्रभाव डालता है। यदि हवा बाहर निकलने का उचित प्रबंध नहीं है तो इससे हवा में अमोनिया का निर्माण होता है जो की विभिन्न बिमारियों का

कारण बनता है इसलिए मुर्गी घर के चारों ओर से हवा आने और निकलने की व्यवस्था होनी चाहिये। बेहतर वेंटिलेशन के लिए के लिए अशुद्ध हवा को बाहर निकलने के लिए एग्जास्ट पंखे की व्यवस्था होनी चाहिए।

### सर्दियों में मुर्गीफार्म में लीटर (बिछाली) की व्यवस्था:

चूजों को फार्म में रखने से पहले, फर्श की सतह को लीटर (बिछाली) से अच्छी तरह से ढक देना चाहिए। यह पक्षियों को आराम देता है और टंड से बचाता है। एक अच्छी गुणवत्ता वाला लीटर (बिछाली) एक समान तापमान बनाए रखने में एक इन्सुलेटर के रूप में कार्य करता है, नमी को भी अवशोषित करता है और नमी सुखा ने में मदद देता है। सर्दियों में मुर्गी घरों में करीब ६ इंच ऊँची लीटर (बिछाली) की जरूरत होती है। लीटर (बिछाली) सर्दियों के दौरान पक्षियों को गर्मी देते हैं। लीटर (बिछाली) को हमेशा सूखा रखने का कोशिश करें। अगर लीटर (बिछाली) में नमी रहेगी तो मुर्गियों के लिए नुकसान देह होगा और बीमारी फैलने का खतरा रहेगा। लीटर (बिछाली) पर हमेशा विराक्लीन (Viraclean) का छिड़काव करते रहें ताकि बीमारी होने का खतरा नहीं रहे।

### जाड़े के मौसम में मुर्गी पालन हेतु मुर्गीघर की सफाई :

जाड़े के मौसम आने से पहले ही पुराना बुरादा, पुराने बोरे, पुराना आहार एवं पुराने खराब पर्दे इत्यादि बदल देना चाहिए। पानी यदि मुर्गीघर के आसपास इकठ्ठा हो तो ऐसे पानी को निकाल देना चाहिए और उस जगह पर विराक्लीन (Viraclean) का छिड़काव कर देना चाहिए। मुर्गीघर के चारों तरफ उगी घास, झाड़, पेड़ आदि को नष्ट कर देना चाहिए। दाना गोदाम की सफाई करनी चाहिए एवं कॉपर सल्फेट युक्त चूने के घोल से पुताई कर देनी चाहिए ऐसा करने से फंगस का प्रवेश मुर्गी दाना गोदाम में रोका जा सकता है। कुंआ, दीवाल आदि की सफाई कर विराक्लीन (Viraclean) का छिड़काव कर देना चाहिए। पुरे मुर्गीघर को विराक्लीन (Viraclean) नाम की दवा छिड़काव

करनी चाहिए, इस दवा को मुर्गी घर में हर रोज छिड़काव करनी चाहिए और मुर्गी के खाने और पिने के वर्तनों को हर रोज विराक्लीन (Viraclean) के घोल के पानी से धोना चाहिए, इस दवा के प्रयोग से किसी भी संक्रामक रोगों का खतरा नहीं रहता है और ये दवा काफी प्रभावकारी है।

### जाड़े के मौसम में मुर्गीपालन में दाने एवं पानी का प्रबंधन :

शीतकालीन मौसम में मुर्गीदाना की खपत बढ़ जाती है यदि मुर्गीदाना की खपत बढ़ नहीं रही है तो इसका मतलब है कि मुर्गियों में किसी बीमारी का प्रकोप चल रहा है। जाड़े के मौसम में मुर्गीपालन करते समय मुर्गियों के पास मुर्गी दाना हर समय उपलब्ध रहना चाहिए।

शीतकालीन मौसम में पानी की खपत बहुत ही कम हो जाती है क्योंकि इस मौसम में पानी हमेशा ठंडा ही बना रहता है इसलिए मुर्गी इसे कम मात्रा में पी पाती हैं इस स्थिति से बचने के लिए मुर्गीयों को बार-बार शुद्ध और ताजा पानी देते रहना चाहिए। पानी को शुद्ध और विषाणु रहित बनाने के लिए इसमें एक्वाक्योर (Aquacure) मिलाना चाहिए। मुर्गियों की पिने की पानी पहले से ही ब्रूडर के नीचे रखें, इससे पानी भी थोड़ा गर्म हो जायेगा। ठंड के मौसम में मुर्गीपालन करते समय मुर्गियों को पिने के लिए गुनगुना पानी ही दिया करें। अगर ठण्ड ज्यादा हो तो ब्रूडर को कुछ समय के लिए पोलिथीन के छोटे गोल शेड से ढक कर, हवा निरोधी भी आप बना सकते हैं। मुर्गियों की पिने का पानी शुद्ध, साफ और कीटाणु रहित होनी चाहिए, पानी को शुद्ध और साफ करने के लिए आप पानी में नियमित रूप से एक्वाक्योर (Aquacure) मिलाकर दें।

इस प्रकार से जाड़े के मौसम में मुर्गीपालन करते समय अगर उपरोक्त बातों को ध्यान में रखा जाए तो हमारे मुर्गीपालक जाड़े के मौसम में मुर्गीपालन करते समय मुर्गीयों को टंड से तो बचाएंगे ही पर साथ ही अच्छा उत्पादन कर अधिक से अधिक लाभ भी कमा सकेंगे।





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## Vadodara and Panchmahal - Sanitation Projects Alembic Pharmaceuticals Initiative

**Alembic Pharmaceuticals under its CSR activity initiated a sanitation project by constructing household toilets (HSLs) at Sindhrot Panchayat of Vadodara and Ujeti & Panelav Panchayats of Panchmahals Districts**

An important goal of their CSR program is to focus on the need for utilization of toilets and maintaining its hygiene conducted for community members. In line with this goal, they have constructed 779 household toilets (HSLs) and also distributed 779 hygiene kits to the owners of the HSL's.

To this end, they have conducted assessment surveys in the communities and 15 communities were declared Open Defecation Free (ODF). More than 3,116 lives benefitted from this project that increased the safety of women and children.

In Panchmahal, they constructed a 24ft long and 10ft deep waste weir on Dhinkwa Lake to conserve rainwater. The new waste weir constructed by the groundwater levels and benefits more than 12,000 people residing in and around Dhinkwa village.

The Alembic CSR Foundation is doing extensive work in the districts of Panchmahals, Chhota Udepur, and Vadodara District. Alembic Pharmaceuticals initiative of sanitation project must be applauded by one and all.



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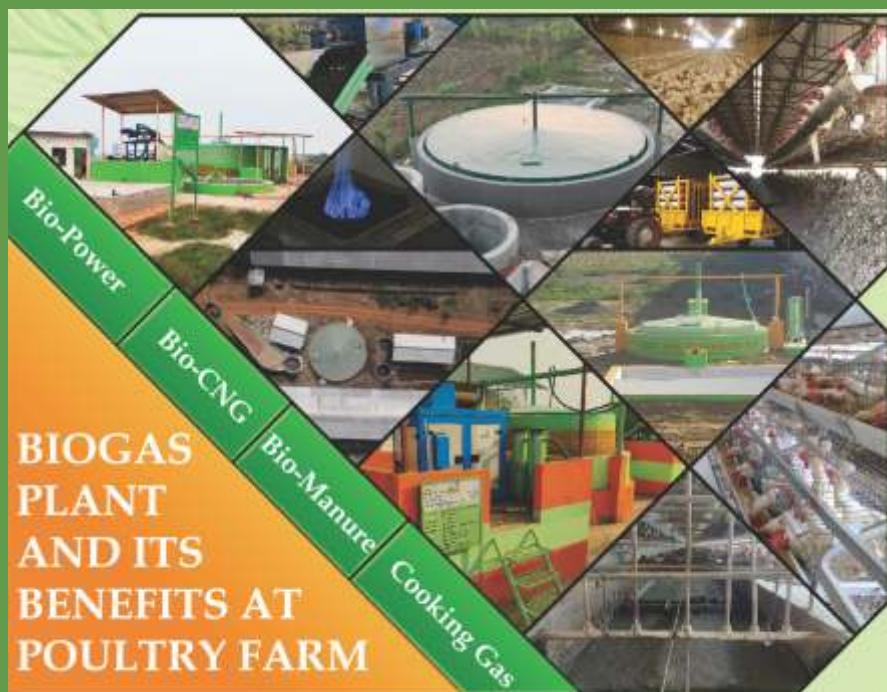
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# Sustainable Use of Poultry Litter



**Dr. Ratnesh Tiwari**  
Co-founder & CEO



Owing to the increasing demand for poultry meat and egg products, poultry production is growing worldwide. Poultry production generates large quantities of litter, which consists of a mixture of manure, waste bedding, and food, as well as feathers. The reported amount of poultry litter generated per bird over the production cycle ranges from 1.5 to 5.7/kg of litter/bird

### Conventional Practices

Generally, poultry litter is directly used as a fertilizer, but it has a high potential for the loss of N and P through leaching, which can lead to the eutrophication of water bodies and contamination of groundwater. In addition to that the spreading of fresh poultry litter on the land can result in the emission of nitrous oxide, which is a potent greenhouse gas and can affect humans and animals through pathogen contamination.

### Biogas Technology

The alternative strategies for litter management include anaerobic digestion and composting. Anaerobic digestion of the poultry litter can be used to produce biogas which can be used as fuel in biogas gensets for electrification of the farms and cooking purposes, thus nullifying the dependency on the power from the grid and LPG cylinders.

**Based upon estimates, with the country's poultry population of 28.6 million and availability of poultry waste of 1,575.5 million kg per year,**

**the biogas yield would be 116.6 million m<sup>3</sup>/year. This can generate 648 GWh of thermal energy per year. If the thermal energy is converted into electric energy, assuming a 15 percent conversion loss in the conversion of thermal energy to electric energy, approximately 550 GWh of electric energy can be obtained annually.**

**Different state govt.'s has imposed laws for monitoring the disposal of poultry litter and waste management in the poultry farm as setting up incinerators for the incineration of dead birds.**

Koshish Sustainable Solutions, an initiative by a team of young and dynamic professionals from the Indian Institute of Technology (IIT), with more than 10 years of cumulative experience, one of the leading players in Biogas Plant manufacturing, which is majorly working on promoting sustainability, have set up biogas plants across more 10 states of India, This company is Headed by Dr.





Ratnesh Tiwari a Doctorate from IIT - D, having worked on different biomass-based renewable energy systems and different sustainable development programs sponsored by both national and International Agencies.

The technology involved in biogas production is simple and can be implemented cheaply and efficiently by employing small-scale digesters that are easy to use and maintain.

These biodigesters can offer benefits to all spheres of society but are more beneficial to poultry farms. They can use the gas produced for cooking, running biogas generators, and fertilizing crops with the residual waste or sell them.

The combustion of biogas provides a clean source of energy, as it does not produce soot, like firewood. This helps reduce indoor air pollution, which in turn prevents respiratory infections and associated diseases. It can be a good alternative to LPG which is getting costlier.

Biogas plants not only help in processing the litter but also the dead birds can be digested and significantly curb the greenhouse effect: the plants lower methane emissions by capturing this harmful gas and using it as fuel. Biogas generation helps cut reliance on the use of fossil fuels, such as oil and coal, the

most important of its many advantages is that biogas can offer a decentralized energy solution.

#### Economic Viability

Generally setting up Biogas plants is considered expensive, to promote and support sustainability, Govt. of India is supporting by providing subsidies for setting up biogas plants, which may range from 25000 to 5cr and the payback period of a biogas plant is generally considered to be 3-4yrs. Besides supplying energy and manure, provides an excellent opportunity for mitigation of greenhouse gas emissions and reducing global warming and thereby earning carbon credit, which in turn can be encashed on a yearly basis, thus making biogas plants economically viable.

#### Waste to Value

##### Reduction of Energy Cost

Poultry farms can recover heat and energy from waste. Biogas can run an on-farm electric generator and reduce your electricity costs and the gas generated can be used for heating purposes.

#### Bio-Fertilizers

Poultry farm digesters are rich in organic

nutrients as N, P and K and will be in dry form which can be packeted and sold as biofertilizers. The revenue generated by the sale of the biofertilizer can be on par with the general sale of poultry meat and eggs.

#### Biogas as CBG

If the biogas produced from poultry waste is considerably high, it can be further purified to CBG, which is equivalent to CNG and can be used in vehicles or filled in cylinders and sold to restaurants and other industries.

**A biogas plant in a poultry farm with 50000 birds, can generate about 550 kWh of electricity each day, thus help the farm nullify the dependency on the power grid and save around Rs. 1925000/- annually. The poultry farm will get Rs. 24 lakhs as subsidy from the Govt. Of India to run the plant and can claim carbon credit of approximately Rs. 3lakhs annually, in addition the manure if sold Rs. 5/ kg (Approx. 26000 kg/yr.) from the digester can generate a revenue of Rs. 13 Lakhs annually.**

Thus, poultry litter management can be efficiently handled which can help the farm owners benefit economically and fall in line with the different laws imposed by the pollution control board.



## Vetline to participate in IPPE, Atlanta, Georgia, USA 2023



**Dr. Srijit Tripathi, invited as Guest Speaker at International Poultry Scientific Forum 2023 at Atlanta, Georgia, USA.**

**Dr. Srijit Tripathi, Global Technical Manager, Vetline,** will be delivering two oral presentations in the International Poultry Scientific Forum on 24th Jan 2023. The topics would be covering The Effects of Biological Surfactants and Emulsifiers in Swine and The Effects of Innovative Hepato-Stimulants on various parameters in Poultry. Both the topics are the need of the hour globally, particularly in these times where the industry is facing various challenges. Dr. Tripathi would be discussing these conceptual solutions towards profitability, sustainability and industry welfare.

**One of the leading emerging companies of India, Vetline, A Division of SIMFA Labs. Pvt. Ltd.** is all set to participate in the International Production and Processing Expo (IPPE) 2023 scheduled from 24<sup>th</sup> to 26<sup>th</sup> Jan 2023. IPPE is one of the leading events of the industry and is a collaboration of three shows - International Feed Expo, International Meat Expo and the International Poultry Expo - showcasing the latest technology, equipment, supplies and services used in the production and processing of eggs, meat and poultry, and those involved in animal food manufacturing. The event is sponsored by the American Feed Industry Association, North American Meat Institute and U.S. Poultry & Egg Association.

**Vetline's Executive Director Mr. Sumeet Singh Bhatia and Global Technical Manager Dr. Srijit Tripathi would be visiting IPPE 2023 and represent Vetline on this International Platform** where they would be meeting a number of stakeholders of the industry.

On the invitation as Guest Speaker, Dr. Tripathi has thanked the organisers for this opportunity and said that he will not only be representing Vetline

but would also be representing India's Excellent scientific approach towards industry welfare. He has also requested the visitors from different part of the world to attend the IPSF on 24<sup>th</sup> morning at IPPE, Atlanta, USA.

Vetline's Executive Director Mr Sumeet Singh Bhatia said that it will prove to be a milestone for the organisation and we are committed towards our vision to become the **'Most Respected and Trusted Brand in Animal Health'**.

Director Mr. Dilraj Singh Bhatia expressed his best wishes to Dr. Tripathi and the organisation and is hopeful towards a successful visit to the USA.

Vetline, headquartered at Indore, Madhya Pradesh, is one of the fastest emerging companies of India in the Poultry feed supplements and Nutraceuticals Industry and works 24x7 towards the industry welfare through its conceptual solutions.



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# Steps by Department of Animal Husbandry to promote poultry

13 DEC 2022

Department of Animal Husbandry and Dairying has taken various steps to promote poultry (including eggs), and these are as follows:

1. **Animal Husbandry Infrastructure Development Fund (AHIDF)** of Rs 15000 Cr is being implemented since June 2020. One of the objectives of the scheme is to fulfill the objective of protein enriched quality food requirement of the growing population of the country and prevent malnutrition. As far as Poultry development is concerned, the following activities have been included for availing credit under AHIDF.
  - i. Technologically assisted Poultry Farms (Technologically assisted, Layer Farm with environmentally controlled system, Broiler Breeder Farm with environmentally controlled system and Hatcheries with environmentally controlled facilities)
  - ii. Meat processing and value addition infrastructure,
  - iii. Establishment of animal feed plant (Poultry feed).

Eligible beneficiaries like Farmer Producer Organizations (FPOs), Micro Small and Medium Enterprises, Section 8 Companies, Private Companies and individual entrepreneur availing credit facilities will get 90% loan for which 3% interest subvention are provided by the Central Government. The Central Government is also providing Credit Guarantee of 25% of total borrowings for those projects which are fulfilling the definition of MSME projects.

2. Further, under National Livestock Mission, for development of Entrepreneurs in Rural Poultry, the central Government is providing 50% subsidy upto Rs 25.00 Lakh to establish Parent Farm, Rural Hatchery, brooder cum mother unit for Production of Hatching Eggs with minimum 1000 parent layers and Chicks and rearing of the said chick upto four week in the mother unit. The eligible entities are Self Help Group (SHG)/Farmers Producer Organizations organisations(FPO)/Farmers Cooperatives organisations (FCOs)/Joint Liability Groups (JLGs) and Section 8 companies. Department of Animal Husbandry and Dairying has developed an online portal for a completely digitized Process with all the important documents to be uploaded on the portal [nlm.udyamimitra.in](http://nlm.udyamimitra.in).







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- DIPLOMA (ONE YEAR)**

- ◆ **Commercial Broiler Production Management**

- ◆ **Broiler Breeder Production**

**Eligibility for Degree and Diploma**

- **+2 PASS With 50% Marks**
- **Age 23 & below**

- ◆ **Diploma in Poultry Health ( One Year)**  
**(Eligibility -Degree in Life Sciences)**

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**Co-Education**



**India & Global Opportunities**

# Hester Biosciences to develop a Low Pathogenic Avian Influenza (H9N2 strain) Inactivated Vaccine for poultry



**Signing of the agreement on 27 December 2022 at the office of Agrinnovate India, New Delhi**

Hester acquires technology from ICAR – NIHSAD to develop a Low Pathogenic Avian Influenza (H9N2 strain) Inactivated Vaccine for poultry. Hester has signed an agreement towards receiving indigenously developed technology from Indian Council of Agricultural Research - National Institute of High Security Animal Diseases (ICAR-NIHSAD), for the development and commercialization of the Low Pathogenic Avian Influenza (H9N2 strain) Inactivated Vaccine for poultry.

The agreement was signed on 27 December 2022 at the office of Agrinnovate India, New Delhi. Agrinnovate is a government entity that acts as an interface between ICAR and the stakeholders in the agriculture sector, which includes technology transfers for vaccine manufacturing in the veterinary sector.

The meeting was attended by:

Director General (DG), ICAR: **Dr. Himanshu Pathak**

Deputy DG, ICAR: **Dr. B N Tripathi**

Assistant DG, ICAR: **Dr. Ashok Kumar**

CEO, Agrinnovate India: **Dr. Praveen Malik**

Director, NIHSAD: **Dr. Aniket Sanyal**

CEO & MD, Hester: **Rajiv Gandhi**

CSO, Hester: **Dr. Manoj Kumar**

Low Pathogenic Avian Influenza H9N2 Strain causes comorbidity in poultry flocks throughout the year, leading to huge economic losses to the poultry farmers. The disease generally has low mortality rate up to 6% but can increase significantly in the presence of other infections. It could also lead to an irreversible egg production drop (up to 50%) in layer birds and a performance loss in broilers. This indigenously developed inactivated H9N2 vaccine for poultry is developed using a local isolate,

thereby ensuring that the vaccine is made from the local strain and not by importing any exotic strain. This development achieves the country's objective towards making India Aatmanirbhar (self-reliant).

Hester has plans to launch this Vaccine by the end of 2023 after completing the required field studies and obtaining regulatory approvals.

Besides supplying the vaccine within India, Hester intends to export this vaccine to African and Asian countries through Hester's own distribution network, where the demand for this vaccine has already been established.

The huge poultry population in India is a key source of livelihood for rural India. Until date, India had no vaccine available for Avian Influenza despite of periodic outbreaks across the country. These factors make this vaccine as having a significant commercial potential.

Dr. N.P. RADHA KRISHNAN, B.V.Sc.,

(Regn. No. 2854)



# SUCCESS POULTRY CARE

(SUCCESS POULTRY LABORATORIES)

696-D2, Anbu Nagar Scheme - 1, Salem Road, Namakkal - 637 001, TAMILNADU

Cell : 94422 76630, 95247 66630 E-mail : [successpoultrycare.nam@gmail.com](mailto:successpoultrycare.nam@gmail.com)

## Uniqueness of Success Poultry Care

- ✦ Headed by experienced poultry veterinarian
- ✦ Both nutritional and microbiological analysis under one roof with separate work forces
- ✦ Internationally approved protocols are being followed
- ✦ Accurate and precise results
- ✦ Rapid analysis
- ✦ Communication of results through Email / Whatsapp within 24 hours  
(Except Pepsin Digestibility (PD), Mold & *Salmonella* spp.)
- ✦ Results given with interpretation and suggestion for microbiological analysis
- ✦ Current results compared with previous results for serology
- ✦ Analytical charges are same irrespective of sample's origin



## ELISA done for the following :

- ✦ Infectious bursal disease (IBD)
- ✦ Infectious bronchitis (IB)
- ✦ Reovirus
- ✦ *Mycoplasma gallisepticum* (MG) and
- ✦ *Mycoplasma synoviae* (MS)



# ABTL



Global Digital Platform



Mr. O. P. Singh

Mr. Douglas Lozada

“

**In a recent interview with Engormix - Media Partner from Argentina, Mr. O. P. Singh shared his ideas on the most important concerns of today's time in reference to the Poultry Industry.**

”

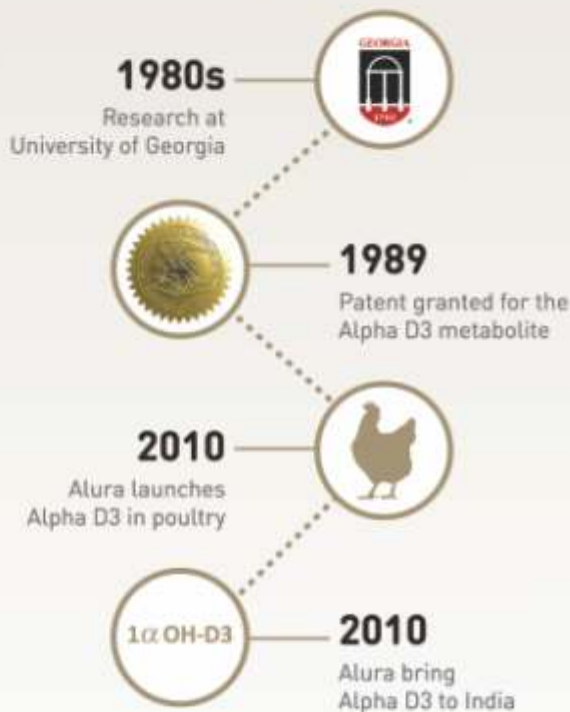
**Following were the questions asked during the interview :**

- In this current market scenario, what are some of the problems the Poultry Industry in the Indian Subcontinent might face soon ?
- What is the role of India as an important player in feeding the world population ?



Scan the QR code and watch exclusive the interview

# THE ORIGINAL ALPHA D3



## Revolutionising poultry performance since 1989

Ever since 1989, the miracle metabolite Alpha D3 has been a catalyst in helping the poultry industry attain sustainable higher production performance rates with increased profitability. Alura is the only company to have brought the original and patented vitamin Alpha D3 to market.

### WHAT MAKES ALURA ALPHA D3 UNIQUE?

- Increased bioactivity in comparison to regular Vitamin D3 and other metabolites
- Improve body weight gain and FCR
- Prevents black bone syndrome
- Improves egg shell quality and maximises production of saleable eggs
- Synergetic and Complementary effects with Phytase
- Proven ROI in Broilers & Layers
- Thermostable for palletisation
- Extensively studied product dosage rates for optimum performance.

### USAGE



LAYER



BROILER



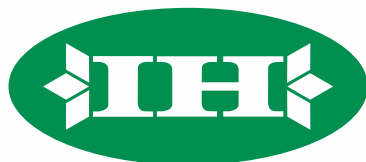
BREEDER



### EXTENSIVELY TESTED & VALIDATED

We are the only company to have extensively tested the efficacy of this metabolite through academic papers, clinical trials, and field tests. More than 40 published reviews in scientific journals proves Vitamin Alpha D3 produces more chicken protein, with a better quality at a lower cost.

# Colossal and magnificent participation of INDIAN HERBS in POULTRY INDIA EXPO, 23–25 Nov., 2022



**INDIAN HERBS**, pioneer and global market leader in Herbal Animal Health Care Products Industry since 1951, participated in POULTRY INDIA 2022 held at Hitex Exhibition Complex, Hyderabad, India, 23rd to 25th November, 2022 with its strong technical and marketing team. It was a colossal and magnificent visit of our esteemed business partners, customers, consultants and poultry nutritionists at INDIAN HERBS stall. The sales and marketing team extended a warm welcome to all the visiting customers and consultants at INDIAN HERBS stall.

Being a pioneer of Veterinary Ayurveda, INDIAN HERBS has been continuously innovating to give the world innovative phytogenic feed supplements and healthcare products. Innovation is what always keeps us at the forefront of discoveries in phytogenics. With the holistic approach of 'Traditional Glory and Modern Science', INDIAN HERBS is dedicated to transform 'Herbalism' into a 'Dynamic, scientifically validated and evidence based science'. INDIAN HERBS offer unique phytogenic alternatives for synthetic products with superior efficacy at lower cost which are free from side effects and residual toxicity. The company is catering to wide range of animal species including poultry, ruminants, equine, swine, pets, aquatic and other animal species for more than seven decades. Realizing the emerging challenges of animal industry, INDIAN HERBS innovated natural

alternates in segments such as Antimicrobial Growth Promoter, Immunopotentiator, Metabolic Stimulant, gut enhancers, Respiratory Anti-septic, Anti-stress & adaptogen for different species. INDIAN HERBS phytogenic solutions are unique since there is an advantage of combination of several plant-derived bioactive and phyto-compounds, and their synergistic effects than a single component that empowers our products to exploit the animals full genetic potential, promote growth, immunity & for control of diseases. On basis of advanced scientific techniques, safety, efficacy and mechanism of action of products is deciphered successfully.

Our product portfolio is constituted by 230 + products for poultry, cattle, swine, equine, aqua and companion animals. We strictly adhere to quality norms, comply with the regulatory compliances and we have core competence in research and development. INDIAN HERBS has very diligently invested in research and development activities. Our R&D and QC laboratories are well equipped with the state-of-the-art scientific instruments to ensure quality and consistency of our products. We rigorously pursue product quality control and scientific validations. Product quality control on basis of herbal standardization and phyto-analytical profiling. Product safety and efficacy is validated on basis of scientific trials in collaboration with global research





institutes and veterinary universities.

**INDIAN HERBS** – products are being used by the leading institutions in India and abroad with excellent results. The products are successfully being exported to more than 50 countries across four continents including Asia, Europe, Latin America and Africa. INDIAN HERBS has also received the certificate from Export Inspection Council of India, Ministry of Commerce and Industry, Govt. of India and was the first Herbal Company to get this recognition. The R&D Centre of INDIAN HERBS, which is approved by the Ministry of Science and Technology, Govt. of India, since

1986, is well equipped with the best available state of the art modern facilities for standardization and quality control of herbal products.

The stall of INDIAN HERBS attracted a large number of visitors, including feed millers, integrators, large farmers, consultants, nutritionist and distributors etc. All the queries of the visitors were answered by the technical team of INDIAN HERBS to their best satisfaction. With a re-affirmation of our vision and following a path to sustainability and global well-being, INDIAN HERBS is committed to support animal healthcare industry and esteemed

customers by all means. INDIAN HERBS is committed to foster the wellbeing of animals through nature's bliss and caters antibiotic free, residue and resistance free, environment friendly, cost effective phyto-genic solutions for animal healthcare and ensuring feed to food safety.

We are indebted to all our customers, patrons, scientists and well wishers for their support, cooperation and guidance. We look forward to explore new business dimensions and to receive your continued cooperation in future as well.

# EW Nutrition organizes Poultry Marketing Summit at Hyderabad

ew | nutrition 



*Mr. Partha Sur, Mr. Abhay Hanjura, Mr. Pintu Das, Mr. Bishnu Bose & Dr. Shirish Nigam*

**NOIDA, 28th November 2022 – EW Nutrition (South Asia) organizes Poultry Marketing Summit on 23rd November 2022 under its umbrella of 'Partners in Progress' program. Abhay Hanjura, Co-founder of Licious, the key speaker during the summit shared Chicken Consumption Trends to Watch Out for in the Future.**

India is third largest egg producer and fourth largest producer of chicken. Rising incomes and growing population are driving increase in demand of animal derived protein with focus on quality and healthier protein as well as sustainability.

Under Partners in Progress Series, EW Nutrition South Asia organized EWN Poultry Marketing Summit on 23rd November 2022, alongside Poultry India Expo at Novotel – HICC, Hyderabad. Event had an overwhelming response as over 250 participants attended the event that included integrators, feed millers, layer farmers along with eminent

veterinarians and poultry experts not only from India but also from Bangladesh, Sri Lanka, Nepal, and other countries.

Key Speaker of the event – Abhay Hanjura, Co-founder of Licious, India's largest D2C Unicorn, spoke on 'Chicken Consumption Trends to Watch Out for in the Future'. At Licious, Abhay leads operations, brand strategy, quality assurance and product innovation. He shared how pandemic has sparked a tectonic shift in the way consumers purchase meat. Consumer expectations with respect to retail have been reset by the recent wave

of Q-commerce companies and consumer is transitioning to healthier protein options for snacking as they are getting more & more health conscious.

During the event, Mr. Shamsul A Khaled, Director, Nourish Poultry & Hatchery, Bangladesh spoke on the need for quality & antibiotic free chicken. He also emphasized on the need for new products for the future which can help poultry producers maximize their profit by reducing costs and improve health of birds through research & innovation.

Dr. Shirish Nigam, Managing Director, EWNutrition South Asia shared the



Vision, Mission & Values of EW Nutrition and presented various programs & solutions to the guests at the event. He emphasized; EW Nutrition is committed to delivering innovative gut health solutions to reduce the dependency of the animal nutrition industry on antibiotics. We are committed to bring novel solutions to our customers and be

part of their journey to make animal production more sustainable, while increasing profitability.

During the event, EW Nutrition also felicitated various channel partners from India as well as Bangladesh, Sri Lanka & Nepal.

### About EW Nutrition

EW Nutrition offers animal

nutrition solutions to the feed industry. The company's focus is on gut health, supported by other product lines. EW Nutrition researches, develops, produces, sells, and services most of the products it commercializes. In 50 countries, key accounts are served directly by EW Nutrition's own personnel.



**Abhay Hanjura, Co-founder Licious at EWN Poultry Marketing Summit**



**Dr. Shirish Nigam at Poultry Marketing Summit**



**Mr. Shamsul A Khaled, Director, Nourish Poultry & Hatchery, Bangladesh at Poultry Marketing Summit**



**Dr. Ajay Bhojar, felicitating Dr. Mahesh S Patlapati, Joint Commissioner GOI and Director CPDO&TI**



**Dr. Ajay Bhojar, Global Technical Manager EW Nutrition felicitating Dr. P K Shukla at the Summit**



**Dr. Shirish Nigam felicitating Mr. Rajashekar Reddy, Vijayanagar Hatcheries**



**Dr. Shirish Nigam, Managing Director  
EW Nutrition South Asia speaking  
at Poultry Marketing Summit**



**Kingshuk Chakraborty, DGM EW  
Nutrition felicitating Shamsul A Khaled,  
Director, Nourish Poultry & Hatchery**



**Dr. Ajay Bhojar felicitating  
Dr. Vishal Rawat**



**Mr. C Madhusudan Rao, Janaki Group,  
Dr. Shirish Nigam, EW Nutrition,  
Mr. Abhay Hanjura, Licious**



**Dr. Shirish Nigam felicitating  
Abhay Hanjura**



**Dr. Shirish Nigam with  
Mr. Mukul and Mr. Naval**



**Various Guests at Poultry Marketing Summit**





**Poultry Federation of India (PFI), an apex and renowned association of Poultry Farmers, Breeders, Equipment Manufacturers, Pharmaceutical Companies and all allied Industries, organized its 33rd Annual General Body Meeting (AGM) at Hotel Hyatt Regency, Chandigarh on Thursday December 22, 2022.**



Event commenced with registration in the morning and a very warm welcome address given by President, Mr. Ranpal Dhanda. First of all he expressed his gratitude to all visitors (650+); who came on time on such cold and Foggy morning and also thanked Sponsor companies for their contribution in various categories. He also expressed his sincerest gratitude to various Ministers of Government of India and Department of Animal Husbandry and Dairying for their work

for the upliftment of poultry farmers through the published Commercial Contract Guideline for Broiler Production and demanded to increase growing charge to 70% from 25% for the farmers as mentioned in the guidelines. He also requested to Ministers of Government of Punjab to implicate and follow these guidelines in their state.

Mr. Ravinder Singh Sandhu, Secretary, addressed all delegates about all the activities of Poultry Federation of India during the year and further assured that Poultry Federation of India in ensure much more drastic steps which shall help the Indian Poultry Farmer in future as well. Accounts were presented by Ricky Thaper, Treasurer, which were concurred and approved by the member delegates. The session ended with a Public address by Mr. Ramesh Chander Khatri, Chairman, who appreciated all delegates and the team for their rigorous efforts for the betterment of the poultry farmers.

The AGM session was followed by technical session wherein presentations on varied aspects were given by various

speakers namely Dr. P. K. Shukla, Dr. Deepak Singh, Dr. P Mahesh, Mr. Susil Silva Dr. Ajit Ranade, Mr. Vijay Sardana, and Dr. Lipi Sairwal respectively. The content of these presentations covered various fields including the incentives and schemes for promotion of poultry farming by Government of India.

The Chief Guest of the AGM was Shri Kuldeep Singh Dhaliwal ji, Cabinet Minister, Rural Development & Panchayats, NRI Affairs, Agriculture & Farmers Welfare, (Government of Punjab) and Guest of Honor Shri Laljit Singh Bhullar ji, Cabinet Minister, Transport, Animal Husbandry, Fisheries and Dairy Development (Government of Punjab).

During the welcome address of Chief Guest Mr. Ranpal Dhanda raised a serious issue regarding contract farming. He further indicated that poultry farmers cannot survive in present situation because companies are not giving fair price to the farmers and they cannot even earn their expenses. Flock after flock their losses are increasing. He

presented a calculation of fixed cost and variable Cost for a flock. That indicates that farmer's loss Rs. 27 per bird in a single flock when all the actual costs are taken into consideration. He requested the Hon'ble Chief Guest to kindly take into considerations all the costs before implementing these guidelines on a serious note.

Post his address, Broiler Federation, Punjab conveyed their concerns regarding contract farming to the Hon'ble Chief Guest which was in tune with the aspects covered by President, Poultry Federation of India. He further presented the research papers and recommendations by a GADVASU, Ludhiana, Punjab that studied the financial aspects and found in its report that the contract farmer is actually making severe losses.

Upon these deliberations, the Chief Guest Sh. Kuldeep Singh Dhaliwal Ji promised that this exploitation of farmers should stop across India and

Punjab will be the first state to take action against such exploitation of poultry farmer setting an example for the entire country. He further gave his assurance that the Government shall support the Punjab Poultry Farmer and entire poultry sector in all concerns in future as well. He further expressed his desire for opening of first Poultry Produce Market in Punjab as poultry farmers of Punjab face an immense challenge due to non availability of such markets in the state and also assured of making deliberations regarding market fees on Bajra, Maize etc that should bring relief for the poultry sector in Punjab and entire India. He also emphasized that Poultry chicken and egg is the best and purest form of protein which is essentially required for eradication of malnutrition in India.

Concurring the assurances given by the Hon'ble Chief Guest, the Guest of Honour, Sh. Laljit Singh Bhullar Ji stated that the Government of Punjab will become the

first state in the entire nation that will bring various rulings that shall favor the Indian poultry farmer and will always stand by the poultry farmers of Punjab including the implementations of the guidelines for contract farming. He also assured that the government of Punjab is more than willing to work towards the poultry farmer and Government of Punjab will try to set an example to the entire nation for the betterment of poultry farmer of the state. Being a farmer himself, the Hon'ble Guest of Honor expressed his support to Poultry Federation of India across India for improving the economic state of the poultry farmer of entire nation.

The event concluded with a vote of thanks by Mr. Sanjeev Gupta, Vice President (HQ), Poultry Federation of India who also expressed his gratitude to both ministers for their support for the welfare on poultry farmer. The event was hosted by Dr. Devender Hooda, Executive Member, Poultry Federation of India







## Fixed Cost for 10, 000 Poultry Birds:

1. Cost of Half Acre Land (20 Lac) considered as Zero	= 0
2. Cost of land development Approximately 22 000 X 3.5 Feet soil (77 000 x 6)	= 4,62,000
3. Construction other than Poultry Shed (Boundary wall, feed store, labour quarter, tubewell etc)	= 3,00,000
4. Construction cost for 10 000 Sq. Feet farm (including parda (jaali, equipment feeder, drinker, electrical fitting, Water Fitting etc)	= 30,00,000
5. Ventilation Fans ( 5 Fans and Control Panel etc)	= 2,00,000
6. Cooling Pad (with motor and accessories)	= 90,000
7. Miscellaneous Expenses.	= 10,000
8. Generator (30 Kw)	= 5,50,000
9. NOC (Pollution, Town Plan, Panchayat)	= 40,000
10. Mortality Disposal Incinerator	= 2,00,000
<b>Total Fixed Cost</b>	<b>= 48,52,000</b>

Below are the interest cost per year

Bank Interest 9% pa and other banking fees	= 4,36,680
Rent of ½ Acre per month (Rs. 30000 yearly)	= 30,000
Total expense	= 4,66,680
Per bird interest on fixed cost in one year: $466680/10000/5$ (5 Flock in One Year)	= Rs. 9.33 Per Bird, Per Flock

## Variable cost for per flock for 10000 birds:

1. White wash, Disinfection & Fumigation (Safedi, Chuna)	= 10,000
2. Bedding for litter (Rice Husk, Saw Dust etc 2500 kg X Rs.11 / kg)	= 27,500
3. Brooding Expenses (Heating by gas burner, saw dust/ buraada, diesel)	= 20,000
4. Maintenance of Housing Building	= 8,000
5. Maintenance of Water Lines and feeding Systems	= 3,000
6. Maintenance Cost (Tools, Machines & Equipments )	= 8,000
7. Labour Cost (2 Pair Male + Female= 32000X2.5)	= 80,000
8. Electricity Bill (2.5 months x 15 K.W.)	= 37,500
9. Farmer expenses(Motorcycle petrol, motorcycle service etc)	= 5,000
10. Gen Set Diesel Exp.	= 14,000
11. Mortality Disposal Incinerator Expenses (Wood)	= 8,000
12. Miscellaneous Cost	= 5,000
<b>Total Cost</b>	<b>= 2,26,000</b>

- We shall now assume 7% mortality in flock of 10000 and average weight of bird as 2 K.G. in every flock. This is not possible but we assume it.  
 $10000 - 7\% = 9300 \times 2 = 18600$  K.G weight sold
- The figure of 7% average mortality ratio is very rare to achieve today
- Per K.G. cost of production =  $226000 / 18600 =$  Rs. 12.15 per kg ( Rs. 24.3 Per Bird)

<b>Summary:</b>	<b>Rs.</b>
<b>Interest on Fixed Cost (Per Bird)</b>	<b>: 9.33</b>
<b>Variable Cost (Per Bird)</b>	<b>: 24.30</b>
<b>Depreciation on Machinery, Building</b>	<b>: 11.65</b>
<b>Total cost</b>	<b>: 45.28 Per Bird, Per Flock</b>

LOT DETAILS		LOT DETAILS		Performance	
Lot Number	B605C/B803	First fortnight MORT %		1.90	
Hatch Date	29.01.2022	Total Mortality %		21.140	
Chicks Housed (Nos)	24409.000	FCR		2.050	
Mortality (Nos)	5180.000	LIFTING %		78.850	
Birds Lifted (Nos)	19249.000	Avg. WT		1.722	
Shortage (Nos)	0.000	Meas. Age		39	
Birds Weight (Kg)	33154.900	Farmer Profit/KG		1.77	
Feed Consumption (Kg)	67965.000	MSP /KG		0.00	
Lot Grade	F				

PRODUCTION COST DETAIL			
Particular	Quantity	Rate	Amount
Chicks	24409.000	25.00	610225.00
Feed	67965.000	40.00	2718600.00
Medicine	0.000	0.81	48657.30
Admin	24409.000	3.00	73227.00
		Total	3450709.30
		Production Cost /KG	104.08

GROWING CHARGES DETAIL			
Growing Charges	Amount	Deduction	Amount
Rearing Charges	311656.00	Production Cost Recovery	370174.46
	0.00		0.00
Total Growing Charges	311656.00	Total Deduction	370174.46
		Net Growing Charges	58518.40

Std. Prd. Cost =81.75	Act. Prd. Cost =104.08	Excess=22.93
Net Growing Charges:		58518.40- Rs.
Less TDS 1.00 %		0.00 Rs.
Less AMCT:		0.00 Rs.
Total Amount Payable:		0.00 Rs.
In Word: only		

Prepared By: \_\_\_\_\_ Checked By: \_\_\_\_\_ Audit By: \_\_\_\_\_ Approved By: \_\_\_\_\_

**Estimation for 10000 Broiler Farm  
Contract Farming by Poultry Integrators**

S.No.	Production Cost Calculations	Responsibility	Est. Cost/Bird (in INR)	Criteria Used
1	Chicks / DOC	Sponsor	1.00	
2	Feed	Sponsor	1.00	
3	Vaccines & Medication	Sponsor	1.00	
4	Labour	Farmer	1.00	8
5	Litter & Saw Dust	Farmer	1.00	2.75
6	Heating / Cooling Energy	Farmer	1.00	2
7	Lighting / Electricity/ Diesel	Farmer	1.00	6
8	Water, Water Treatment & Watering	Farmer	1.00	0.1
9	Cleaning & disinfection of Poultry House	Farmer	1.00	0.2
10	Biosecurity Arrangements	Farmer	1.00	0.5
11	Interest on Fixed Cost Per Bird	Farmer	1.00	9.33
12	According to Industry norms Depreciation (Avg. 12%) of the Housing Building (10%), Machinery (15%)	Farmer	1.00	11.65
13	Maintenance of Housing Building	Farmer	1.00	0.8
14	Depreciation of water lines & feeding systems	Farmer	1.00	0
15	Maintenance of Water Lines and feeding systems	Farmer	1.00	0.3
16	Depreciation of Tools, machines & equipments	Farmer	1.00	0
17	Maintenance of Tools, machines & Equipments	Farmer	1.00	0.8
18	Mortality Management & Waste Disposal	Farmer	1.00	0.8
19	Interest Cost on working Capital	Farmer	1.00	0.5
20	Miscellaneous Cost	Farmer	1.00	0.5
21	Motor Cycle Maintenance, Petrol	Farmer	1.00	1
22	Personal Supervision Cost of Farmer	Farmer	1.00	0
23	Other Overheads	Farmer	1.00	0
24	<b>Total Cost / Bird</b>			<b>45.23</b>
25	<b>Current Rates of Contract Farming (Rs. 9 Per K.G.)</b>			<b>18</b>
26	<b>Loss / Gain per Bird to Farmer</b>			<b>-27.23</b>
	<b>Loss to Farmer Rs. 27.23 Per Bird in Per Flock</b>			



**Estimation for 10000 Broiler Farm  
Contract Farming by Poultry Integrators**

S.No.	Production Cost Calculations	Responsibility	Est. Cost/Bird (in INR)	Criteria Used
1	Chicks / DOC	Sponsor	1.00	
2	Feed	Sponsor	1.00	
3	Vaccines & Medication	Sponsor	1.00	
4	Labour	Farmer	1.00	8
5	Litter & Saw Dust	Farmer	1.00	2.75
6	Heating / Cooling Energy	Farmer	1.00	2
7	Lighting / Electricity/ Diesel	Farmer	1.00	6
8	Water, Water Treatment & Watering	Farmer	1.00	0.1
9	Cleaning & disinfection of Poultry House	Farmer	1.00	0.2
10	Biosecurity Arrangements	Farmer	1.00	0.5
11	Interst on Fixed Cost Per Bird	Farmer	1.00	9.33
12	According to Industry norms Depreciation (Avg. 12%) of the Housing Building (10%), Machinery (15%)	Farmer	1.00	11.65
13	Maintenance of Housing Building	Farmer	1.00	0.8
14	Depreciation of water lines & feeding systems	Farmer	1.00	0
15	Maintenance of Water Lines and feeding systems	Farmer	1.00	0.3
16	Depreciation of Tools, machines & equipments	Farmer	1.00	0
17	Maintenance of Tools, machines & Equipments	Farmer	1.00	0.8
18	Mortality Management & Waste Disposal	Farmer	1.00	0.8
19	Interest Cost on working Capital	Farmer	1.00	0.5
20	Miscellaneous Cost	Farmer	1.00	0.5
21	Motor Cycle Maintenance, Petrol	Farmer	1.00	1
22	Personal Supervision Cost of Farmer	Farmer	1.00	0
23	Other Overheads	Farmer	1.00	0
24	<b>Total Cost / Bird</b>			<b>45.23</b>
	<b>GROWING CHARGES</b>			<b>??</b>

Feed Mill Job Work Sheet		
S. No.	Particular	Expenses Per Ton
1	Electricity Bill	300
2	Boiler	175
3	Labour	175
4	Die + Maintenance	75
5	Staff	50
6	Administration	50
7	Sub Total (A)	825
8	Job Work Charges (70% of A)	577.5
9	Total Cost	1402.5

Readymade Garment Job Work Sheet		
S. No.	Particular	Expenses Per Piece
1	Stitching Cost	40
2	Press, Packing	7
3	Staff Expenses	8
4	Electricity	3
5	Machine Maintenance	2
6	Sub Total (A)	60
7	Job Work Charges (70% of A)	42
8	Total Cost	102

## January 2023

- 1. India Poultry Show-2023**  
**Dates:** January 20 - 22, 2023  
**Venue:** Codissia Trade Fair Complex  
**City:** Coimbatore, Tamilnadu  
**Country:** India  
**Website:** www.indiapoultryshow.com
- 2. The International Production & Processing Expo (IPPE) 2023**  
**Dates:** January 24 - 26, 2023  
**Venue:** Georgia World Congress Center  
**City:** Atlanta  
**Country:** USA  
**Website:** www.ippexpo.org

## February 2023

- 1. Dairy and Poultry Expo**  
**Dates:** February 2 - 4, 2023  
**Venue:** ICCB, Kuril Bishwa Road, Nexto 300 Ft Purbachal Express highway  
**City:** Dhaka, Bangladesh  
**Country:** India  
**Website:** www.limraexpo.com

## March 2023

- 1. Viv Asia 2023**  
**Dates:** March 8 - 10, 2023  
**Venue:** IMPACT  
**City:** Bangkok  
**Country:** Thailand  
**Website:** www.vivasia.nl

## May 2023

- 1. Middle East Poultry Asia 2023**  
**Dates:** May 1 - 3, 2023  
**Venue:** Riyadh International Convention and Exhibition Center  
**City:** Riyadh  
**Country:** Saudi Arabia  
**Website:** www.mep-expo.com

## 2. Fieravicola 2023

**Dates:** May 3 - 5, 2023  
**Venue:** Rimini Expo Centre  
**City:** Rimini  
**Country:** Italy  
**Website:** www.fieravicola.com

## 3. Viv Rusia 2023

**Dates:** May 30 - June 1, 2023  
**Venue:** Crocus Expo  
**City:** Krasnogorsk, Moscow  
**Country:** Russia  
**Website:** www.meatindustry.ru

## July 2023

- 1. Livestock Philippines 2023**  
**Dates:** July 5 - 7, 2023  
**Venue:** World Trade Center Metro Manila  
**City:** Pasay City  
**Country:** Philippines  
**Website:** www.livestockphilippines.com

## August 2023

- 1. The Poultry Expo @ The Livestock Expo**  
**Dates:** August 3-5, 2023  
**Venue:** India Expo Center & Mart  
**City:** Greater Noida  
**Country:** India  
**Email:** info@pixieexpomedia.com  
**Website:** www.pixieexpomedia.com

## September 2023

- 1. Space 2023**  
**Dates:** September 13-15, 2023  
**City:** Rennes  
**Country:** France  
**Website:** www.space.fr

# Director Venture Arm Takes on Joost Matthijssen to be The Chief Strategy Officer of Nutreco



Following Laurent Genet's resignation, feed juggernaut Nutreco has appointed Joost Matthijssen as its new chief strategy officer.

The most recent position held by Matthijssen was director of business development at NuFrontiers, Nutreco's investment division.

Matthijssen served as a project manager at the Boston Consulting Group prior to joining Nutreco in 2018.

The 2017-founded NuFrontier normally makes two to three investments each year.

It made investments in the land-based salmon company Andfjord Salmon in Norway, Roslin Technologies in Scotland, and Eruvaka, an Indian shrimp company, last year after beginning as a minority investor in 2018.

Animal cell lines are offered by Roslin Technologies to the developing farmed meat industry.

# Boehringer Ingelheim Announces Appointments to Board of Managing Directors



Boehringer Ingelheim has announced that the Shareholders have appointed Paola Casarosa and Shashank Deshpande to the Board of Managing Directors. They will succeed Michel Pairet, responsible for the Innovation Unit, and Jean Scheftsik de Szolnok, responsible for the Animal Health Business Unit, who informed the Shareholders of their wish to retire at the end of next year.

Paola Casarosa will succeed Michel Pairet to head the Innovation Unit. Paola joined Boehringer Ingelheim in 2007 and is currently Global Head of Therapeutic Areas in the Human Pharma Business Unit. Prior to this role, she held various leadership roles in Business Development and in Research. Paola is an Italian national, holds a PhD in Molecular Pharmacology and a Masters' degree in Medicinal Chemistry.

Shashank Deshpande will succeed Jean Scheftsik de Szolnok to head the Animal Health Business Unit. Shashank joined Boehringer Ingelheim in 2012 and is currently

Country Managing Director Japan. Prior to this role he held several leadership and marketing positions in Japan and Ingelheim. A German and US national, Shashank holds a Masters' degree in Business Administration.

Christian Boehringer, Chairman of the Shareholders' Committee said: "Our long-term planning allows for a seamless transition. On behalf of the Shareholders, I want to thank Michel and Jean for their many years of dedication to our company and I congratulate Paola and Shashank on their appointments."



**Paola Casarosa**



## **Shashank Deshpande**

Hubertus von Baumbach, Chairman of the Board of Managing Directors, added: "I am grateful for the long time that I have had the privilege to work with Michel and Jean and I look forward to continuing to work with them until the end of 2023. The Board is excited to welcome Paola and Shashank to the team later next year."

The appointment to the Board of Managing Directors will be effective July 1, 2023 for Paola Casarosa and September 1, 2023 for Shashank Deshpande.

# GUPTA AGRO INDUSTRIES



Baby Feeder



Chick Feeding Tray



Mini Chick Feeder



Feeder with Cone Extension and Grill



Jambo Male Parent



Male Parent



Jambo Feeder with Cone Extension



Female Parent Feeder



Male Parent Feeder



Jambo Female Parent Feeder



Pan Feeding



Chain Feeding

## GUPTA AGRO INDUSTRIES

Gupta Agro Industries Gali No. 1 Anand Vihar under  
Railway flyover Hansi Road KARNAL 132001  
Email: guptashiraz@gmail.com | Mob: 98120 52121



## Eggoz Raises \$8.8 Million in Series B Funding



Eggoz Nutrition, a consumer brand focused on eggs, has raised \$8.8 million in a Series B round led by Mumbai-based IvyCap Ventures Pvt Ltd.

Existing investors Nabventures, Avaana Capital, and Rebright Partners joined the round, as did angel investors such as Vishesh Khurana of Shiprocket, Ankit Mehrotra, Nikhil Bakshi, Sahil Jain, Vivek Kapoor of Dineout, Khalid Qazi of Swiggy, and others.

The startup stated that the new funds will be used to expand its business footprint and hire new talent. The round of funding comes exactly a year after the startup raised \$3.5 million in its Series A round last December.

Eggoz, founded in 2017 by Abhishek Negi, Uttam Kumar, and Aditya Singh, sources fresh, chemical-free eggs from farmers and delivers them to retailers within 24 hours of laying.

It has offices in Delhi-NCR, Bengaluru, Kolkata, Chandigarh, Jaipur, Lucknow, Allahabad, Bhopal, Chandigarh, Indore, Patna, and Ranchi, among other places. The startup claims that its eggs are high in protein, Omega-3 fatty acids, and amino acids.

Eggoz guarantees consumers one-day delivery of fresh eggs via omnichannel, sourced directly from farmers who operate under a fully integrated model. All of its products are made with herbal hens and are regularly monitored by technicians and veterinarians.

## Adisseo announces the signing of an agreement to acquire Nor-Feed



The Adisseo group has agreed to buy Nor-Feed and its subsidiaries. The Adisseo Group's acquisition of Nor-Feed, a French company that designs, manufactures, and sells plant-based specialty ingredients and plant extracts for animal nutrition, is part of the Adisseo Group's global leadership strategy for specialty animal nutrition ingredients.

Nor-Feed, based in the Angers Technopole (France), was founded 20 years ago by Pierre and Cecile Chicoteau around an original and unique project focused on the preventive role of nutritional strategies by promoting botanical extracts from agricultural coproducts in animal nutrition and hygiene, with the goal of limiting the use of antibiotics, coccidiostats, and pesticides.

Adisseo and Nor-Feed have already identified some synergies, specifically to strengthen and expand the penetration and adoption of these products in extremely high-growth markets where Adisseo is already well-established and has real legitimacy.

Jean-Marc Dublanc, CEO of Adisseo: "We are pleased to have signed an agreement to acquire the Nor-Feed Group, which is consistent with the Adisseo mission to offer its customers sustainable, affordable, qualitative, and safe solutions. This operation is part of our strategy to accelerate the growth of our Specialty products on unique and differentiating technologies."

"Nor-Feed has solid foundations, and our purpose is unique on the market," says Pierre Chicoteau, co-director of Nor-Feed. We have created and

registered botanical additives for animal nutrition that are safe, effective, and made in France within a structured CSR framework.

## Veterinarian to be confirmed as the Undersecretary of Agriculture for Food Safety

The United States Senate has confirmed Dr. Jose Emilio Esteban, a veterinarian, as Undersecretary of Agriculture for Food Safety.

President Biden's nomination was received by the Senate on November 15, 2021, and confirmed on December 22, 2022.

Dr. Esteban joined the USDA Food Safety and Inspection Service in 2001 and has held positions such as laboratory director for the Western Laboratory, scientific adviser for laboratory services and research coordination, and executive associate for laboratory services.

Dr. Esteban was appointed chief scientist of the FSIS in August 2018. According to his USDA biography, in this capacity, he serves as the primary scientific adviser on matters of public health and food safety affecting the FSIS mission, with primary responsibility for scientific initiatives within the Office of Public Health Science.

Dr. Esteban previously worked at the Centers for Disease Control and Prevention as an Epidemic Intelligence Service officer, a staff epidemiologist, and an assistant director of the Food Safety Office.

He is currently the chair of the Codex Alimentarius Commission Committee on Food Hygiene, which establishes food hygiene standards for international trade.

Dr. Esteban received his veterinary degree from Mexico's National Autonomous University. From the University of California-Davis, he also holds an MBA, a master's degree in preventive veterinary medicine, and a doctorate in epidemiology.

## McDonald's policy on antibiotics has been updated



After a two-year delay, McDonald's Corp. updated its antibiotics policy in December. The revised policy calls for less use of antibiotics.

McDonald's adheres to World Health Organization (WHO), World Organization for Animal Health, and other public and animal health organisations' guidelines.

The company has set market-specific targets for responsible antibiotic use in ten in-scope markets, which account for more than 80% of its global beef supply chain.

McDonald's intends to provide an update on its antibiotic use in 2023.

McDonald's received a C grade in the most recent NRDC rankings of fast-casual restaurant policy commitments. McDonald's revised policy was dubbed a "new, weaker approach" by the group.

## Imports of livestock feed are decreasing

According to new data released by the Importers of Livestock and



Poultry Feed Union of Iran, 9.91 million tonnes of livestock feed were imported into Iran during the first nine months of the current Iranian year (March 21-Dec. 21), a 26% decrease from the previous year's comparable period when more than 13.37 million tonnes were imported.

This year's imports include 6.04 million tonnes of corn, 1.27 million tonnes of barley, 1.85 million tonnes of soybeans, and 734,532 tonnes of soymeal, representing a 12%, 52%, 1%, and 63% decrease from the same period last year, respectively.

## Polish poultry industry speaks out against the GMO ban

Several Polish poultry organisations have urged the government to abandon plans to ban the use of genetically modified organisms (GMOs) in feed beginning January 1, 2024, citing the enormous losses such measures would entail.

The Polish government amended the Feed Act on November 2nd, making the production, marketing, and use of feed containing genetically modified components illegal without a transition period.

The amendments are currently scheduled to be discussed at the next meeting of the Polish Sejm, which will most likely take place in early 2023.

The authors of the letter, which was signed by ten agricultural organisations, including all major poultry producer unions, said the government's decision surprised them because the amendments originally allowed the use of GMO in feed until 2027.

The authors claim that the decision to ban GMOs in feed was made without consulting agricultural businesses and will have a significant negative impact on livestock production.

In addition to significant cost increases, problems with feed availability should be expected due to a lack of substitutes for GMO soybean meal, particularly in such a short period of time. On the one hand, Poland's production of vegetable proteins is insufficient, and on the other hand, it is not possible to replace soybean meal entirely with 'Polish protein' for nutritional reasons.

The absence of GMO feed, in particular, is expected to have a significant impact on the poultry industry. Poland is Europe's largest exporter of broiler meat, and the proposed restrictions could drive farmers out of business. According to the letter, the decision is made as the industry faces numerous challenges, including the effects of the Covid-19 pandemic, skyrocketing energy prices, and rising competition from Ukrainian poultry imports.

At the moment, no other EU country has prohibited the use of GMOs in feed production. If the ban is implemented, Polish poultry will be forced to compete in all the export markets with broiler meat produced with much cheaper feed.

The poultry industry supports increased efforts, both at the national and EU levels, to increase the supply of feed produced from locally grown crops, but these efforts must be made in a way that does not reduce the competitiveness of the Polish poultry industry.

## No increased risk of H5N1 bird flu in poultry to human health

Following a thorough assessment, UK health officials determined that there is no increased risk of the Eurasian H5N1 avian flu strain threatening human health. However, they have stated that the level of confidence is low and that the situation must be





reviewed on a regular basis due to the ongoing high level of poultry transmission.

According to the Health Security Agency's (HSA) analysis, available surveillance data from the Animal and Plant Health Agency (APHA) did not indicate widespread mammalian adaptation to the virus. There is evidence, however, of direct spillover from birds into some "scavenger" wild species such as foxes and otters.

So far, there have been four cases of H5N1 detection in humans: two in Spain, one in the United Kingdom, and one in the United States. To gauge the threat, the assessment defined six levels of transmission, with the UK at level 3, indicating evidence of virus genetic changes that provide an advantage for adaptation to mammals.

Since the beginning of the current 2022/3 seasonal period on October 1, 2022, there have been 130 confirmed cases in England, as well as the detection of the H5N1 virus in 447 wild birds from 280 locations. In recent weeks, the number of cases in poultry flocks has decreased.

## Recent shipment of poultry by Aviagen via QR Cargo establishes Copenhagen as a new trade route

This first shipment establishes Copenhagen as a new trade route for transporting Aviagen's chicks to destinations worldwide.

Qatar Airways Cargo recently welcomed some very special guests on board. According to a recent social media post by Qatar Airways Cargo, Aviagen made its debut with an international shipment



of day-old chicks transiting through its specialised climate control centre in Doha from Copenhagen, Denmark. This first shipment marks the beginning of a carefully orchestrated long-term business partnership between Qatar Airways Cargo and Aviagen, launching Copenhagen as a new trade route to transport Aviagen's chicks hatched at Baekke to locations worldwide.

Qatar Airways Cargo's IATA CEIV Live-certified Next Generation Live Animals service includes a dedicated day-old chick process that has been fine-tuned to ensure minimum transit exposure, attentive handling, proper hydration, and optimum temperatures. Aviagen is a leading poultry breeding company headquartered in Huntsville, Alabama, with operations in the United Kingdom, Europe, Turkey, Latin America, India, Australia, New Zealand, and the United States, as well as joint ventures in Asia.

According to a press release on Aviagen's website, Aviagen recently delivered nearly 36,000 day-old chicks to its customer Provita Breeder in Bangladesh on November 24. The chicks were hatched at the Aviagen hatchery in Baekke, Denmark, and shipped via Doha from Copenhagen Airport (CPH). According to the release, this represents a brand new trade route for Aviagen in its ongoing efforts to provide the world with a healthy and accessible source of protein.

Previously, shipment from CPH or Copenhagen Airport was prohibited due to the colder climate and concerns about bird health and welfare. However, in response to growing Avian Influenza

concerns, Aviagen has taken additional precautions to ensure that the chicks are kept in temperature-controlled conditions from hatchery to aircraft. Even in the dead of winter, these precautions will keep day-old chicks safe and warm. CPH is now a new trade route for transporting chicks hatched at Baekke to destinations all over the world. This is Aviagen's first international shipment from Copenhagen. The project has necessitated extensive behind-the-scenes planning.

## Black soldier flies 'prove to lower livestock feed costs.

According to the Rwanda Agriculture and Animal Resources Development Board, black soldier flies contain 70% of the proteins required in chicken, pig, and fish feed.

According to study findings, animal feed based on black soldier flies (BSF) larvae is approximately 40% cheaper than feed based on protein from soybean and fish meal, indicating that the development could lower the cost of production for livestock farmers.

The larvae of these specific flies, which are currently available in various countries including Rwanda, feed on organic waste and convert a portion of it into biomass rich in protein and fat, while the remainder becomes organic fertiliser for increased crop yields.

The findings of a study on the effects of black soldier fly maggot (larvae) meal on broiler growth performance are included in the Ministry of Agriculture and Animal Resources' 2021-2022 annual report (MINAGRI).

For cheap protein-rich animal feed, a chicken is fed some insects known as black soldier flies.

Its goal was to find a simple method for producing, harvesting, and processing maggots, as well as to evaluate the performance of broiler chickens fed maggot meal as a protein substitute for fishmeal and the cost of production.

Its findings revealed that reducing soybean meal and fish meal by 25% to 50% and replacing them with BSF maggots yielded better results in broiler production than feeding rations containing only broiler concentrates.

According to the study, a starter feed for broiler chickens was developed using ten different types of locally available ingredients. Starter feed is a protein-dense variety of feed designed to meet the dietary needs of very young animals such as chicks in order to promote growth and reduce mortality.

Maize, rice bran, cotton seed cake, soybean meal, and bone meal are among the ingredients.

## Concerns that the JV may result in higher costs for poultry farmers

Concerns have been raised that a feed deal between two of Europe's largest poultry companies could result in higher farm costs.

According to the UK's Competitions and Markets Authority (CMA), the



anticipated joint venture between Dutch-based For Farmers and UK-based Boparan may result in farmers paying more to feed their birds.

In the United Kingdom, For Farmers and Boparan (via 2Agriculture) manufacture and supply chicken and other types of poultry feed. They intend to form a joint venture to combine their animal feed milling operations, with the firms operating 19 mills across the UK.

Following its Phase 1 investigation, the CMA concluded that the deal raises competition concerns in East Anglia, North West England, and North Wales, where it could result in higher poultry feed prices, lower quality feed, or worse service quality.

While both companies compete for customers in each of these markets, the CMA is concerned that the combined company will not face enough competition after the merger. The Authority, a Department of Environment, Food, and Rural Affairs agency, is also concerned that the joint venture will unfairly favour Boparan's chicken farming and processing businesses, resulting in fewer options for smaller producers and processors.

During the first phase of the investigation, the CMA received several complaints from customers and other market participants about the impact of the joint venture on feed supplier selection and poultry feed prices.

ForFarmers and Boparan have been given five days to respond to the CMA's concerns. If no suitable proposals are submitted, the CMA will move on to a more detailed second phase of the investigation.

## Chicken to grow in a laboratory

A company that grows its meat in a lab instead of in barns is looking to eastern North Carolina for the location of its first commercial-scale facility.

Believer Meats is investing more than \$123 million in Wilson County to build a manufacturing facility. When completed, the facility will employ

approximately 100 people, with Believer aiming to produce approximately 22 million pounds of meat per year.

In 2018, Yaakov Nahmias, an Israeli professor, founded Future Meat Technologies. The company's name was changed to the more marketable Believer Meats in November 2022.

The company operates a pilot plant in Israel and was looking for somewhere to scale up production.

The announcement by Believer Meats comes less than a month after the FDA named Upside Foods the first company to receive key regulatory approvals for its lab-grown chicken products. Before it can be sold, Upside still needs to be approved by the United States Department of Agriculture.

Believer Meats is also working on getting those approvals.

## Clark's Poultry, has new owners



International Layer Distribution and Trouw Nutrition entered into a joint venture to purchase Clark's Poultry. International Layer Distribution GmbH (ILD), a subsidiary of the German-based EW Group, and Trouw Nutrition Canada Inc., a Nutreco Company, entered into a joint venture to purchase Clark's Poultry.

Clark's Poultry is a day-old chick distribution company in Manitoba, Saskatchewan, and Alberta that sells Lohmann Breeders brand layer chicks.

The agreement went into effect in December.

Doug Clark founded the company in 1947, and it has been in the Lawson family since 1970, when Glen Lawson purchased Clark's.

## Kentucky suspends the driving time limit for live poultry

Kentucky's transportation secretary, Jim Gray, issued an official order in late December suspending maximum driving time for drivers transporting livestock feed and live poultry.

Gray and Kentucky made the decision while dealing with supply chain delays caused by winter temperatures and weather conditions around the Christmas holiday.

This temporary waiver of service hours benefits the agricultural industry by speeding up the delivery of critical supplies and live poultry.

A copy of the declaration should be kept in the cab of any vehicle driven under the emergency order. All other safety requirements must be maintained.

## Nutreco's U.S.-based feed additive company Micronutrients to rebrand as Selko



Micronutrients, Nutreco's U.S.-based feed additive company, will rebrand as Selko in January 2023. The change unifies the portfolio of specialty feed additives, including IntelliBond trace minerals, under a single global brand.

Selko is investing to become the market leader in phytogenics, building on a legacy of research and development, and has established an innovation discovery group focused on specialty feed additives.

While Selko will become the single brand serving customers worldwide, the

people, product names, processes, and services offered to customers will not change.

As the Selko brand expands into the United States, it becomes Nutreco's sole feed additives brand, serving customers worldwide. The rebrand will not affect customer-facing staff, product names, or services.

## US government approves the use of the world's first honeybee vaccine

Hopes for a new weapon against diseases that routinely decimate food pollination colonies

The US government has approved the world's first honeybee vaccine for use, raising hopes for a new weapon against diseases that routinely ravage colonies that are relied on for food pollination.

The US Department of Agriculture (USDA) has granted a conditional licence to Dalan Animal Health, a US biotech company, for a vaccine designed to protect honeybees from American foulbrood disease.

The vaccine, which will first be available to commercial beekeepers, is intended to combat foulbrood, a serious disease caused by the bacterium *Paenibacillus* larvae that can weaken and kill hives. There is currently no cure for the disease, which has been found in a quarter of hives in parts of the United States, requiring beekeepers to destroy and burn infected colonies and administer antibiotics to prevent further spread.

The vaccine works by incorporating some of the bacteria into the royal jelly fed to the queen by worker bees, who then consumes it and gains some of the vaccine in the ovaries. As the developing bee larvae hatch, they develop immunity to foulbrood, and Dalan's research suggests that this will reduce disease mortality rates.

American foulbrood originated in the United States and has since spread worldwide. Dalan believes the discovery could lead to vaccines for other bee-related diseases, such as the European

version of foulbrood.

Honeybees have been exposed to a cocktail of different diseases as they have been commercialised, transported, and pressed into agricultural service, which typically wipe out large numbers of colonies and necessitate major interventions by beekeepers to keep numbers up.

The United States is unusually reliant on managed honeybee colonies to pollinate its crops, with hives routinely trucked across the country to propagate everything from almonds to blueberries.

This is because many wild bee species are in alarming decline as a result of habitat loss, pesticide use, and the climate crisis, fueling fears of a global insect population crisis that threatens ecosystems as well as human food security and health.

## Herbruck's Poultry Ranch donates a record 2.2 million eggs



Michigan's largest egg producer has set a record for product donations in 2022.

In 2022, Herbruck's Poultry Ranch in Saranac donated a record 2.2 million eggs. In previous years, the fourth-generation family farm donated more than 1 million eggs to local charities and nonprofits, but in 2022, they broke the record.

Herbruck's gave to nonprofits and community organisations in Michigan and Mercersburg, Pennsylvania. Herbruck's began production at Blue Springs Egg Farm in Mercersburg, a

sustainable cage-free egg-laying facility. Herbruck's also wrapped gifts for Toys for Tots distribution.

## Mazen Animal Health will establish a research and development centre in North Carolina



Mazen Animal Health, an Iowa start-up that is developing corn-based oral vaccines for animals, has chosen North Carolina as the location for its R&D centre. In early 2023, the company will lease office, lab, and greenhouse space in Durham or Research Triangle Park.

Mazen recently hired a leader and two scientists to work at the R&D facility, and more will be hired this year.

Tracy Raines, Ph.D., a local scientist and executive with agricultural biotechnology start-up experience, has been named vice president of R&D. Raines led or supported R&D programmes at three ag biotech companies in the Research Triangle region, including Paradigm Genetics, Athenix, and AgBiome, in addition to her work in plant molecular biology at the University of North Carolina at Chapel Hill, where she earned her doctorate and was a postdoctoral researcher.

Raines has already hired two scientists, a biochemist and a plant-transformation scientist, who have just begun work, bringing the company's total staff to ten.

"We've already put together a great team, and we'll be expanding it," Filbey said. "We'll be looking for nursery or pilot field space as we expand. We're establishing a presence in North Carolina."

This is funded by a Series A round of venture capital, which will net Mazen

more than \$11 million by 2022. Fall Line Capital led the round, which was joined by all of the previous seed-stage investors, including Next Level Ventures, Kent Corporation, Ag Startup Engine, Ag Ventures Alliance, ISAV, and Summit Ag. AgFunder, 1330 Investments, Addison Laboratories, SLO Seeds Ventures, and Cal Poly Ventures were among the new investors in the round.

Mazen's oral vaccines are made in corn plants using recombinant DNA technology developed by John Howard, Ph.D., Mazen's co-founder and an expert in plant recombinant protein production.

In the corn plant's cells, genes coding for the production of antigens - the proteins that give vaccines their protection against infectious diseases - are inserted. The antigens are expressed in the germplasm of the kernels of corn.

The vaccine-laced corn is ground, dried, and mixed with regular feed corn to achieve the desired dose before being fed to animals. When compared to the standard practise of manually injecting vaccines with syringes, giving oral vaccines to livestock and companion animals has several advantages.

There is no stress on the animal, no risk of needles breaking in the animal, and no accidental jabs to technicians. Vaccine cold-chain handling and storage are not required, and less labour is required, saving time and money.

The vaccine antigen is gradually released as it travels through an animal's digestive tract, stimulating the production of neutralising antibodies - a protective response to infection - in both the mucosal immune system and the systemic immune system. This dual mode of action may be more effective than injected vaccines, which only stimulate the systemic immune system.

Corn is an excellent choice for time-release vaccine delivery because it contains carbohydrates and enzyme inhibitors that keep vaccine antigens from degrading too quickly in the digestive tract.

Vaccines for porcine circovirus, coccidiosis and salmonella in poultry, rabies and valley fever in dogs, and an unnamed product being developed in collaboration with Elanco Animal Health, an Indiana-based global farm animal and

pet health company, are among the products in Mazen's development pipeline.

North Carolina facility will now be responsible for product development.

## Double L Group to introduce new poultry ventilation products



When it comes to upgrading or updating their facilities, poultry growers have a lot of options. With the introduction of their new poultry house ventilation package, Double L Group has simplified this difficult decision-making process. According to the company, the new products make production easier, more efficient, and more convenient for producers.

Growers who incorporate proper air mixing will notice lower production costs and fewer temperature variations across their operation. Birds in poorly ventilated houses experience lower weight gains, poor paw quality, and decreased livability rates.

By promoting a healthy poultry house environment, ventilation benefits bird health. Bacteria, moisture, and ammonia levels are lower in well-ventilated houses, which affects litter quality. Infections can be exacerbated by moisture and bacteria.

Well-designed ventilation systems boost productivity by capturing warm air at the ceiling and mixing it before it reaches the birds, reducing stress and moisture content in the litter during cooler temperatures.

The new Double L Group ventilation

package includes a winch machine, inlets, stir fans, tunnel doors, and cool cell systems, as well as all aspects of an efficient ventilation system. A builder or poultry production team can select any combination of products, with price advantages for selecting more products. This adaptability enables a customised package to meet the needs of each operation for retrofitting or new construction.

The six new ventilation products will be introduced at the International Production & Processing Expo in Atlanta, Georgia, from January 24-26, 2023.

## Adisseo announces plan to acquire Nor-Feed



Nor-Feed Company signs an agreement to purchase a French additive supplier, expanding its portfolio with a new line of natural specialty ingredients.

The Adisseo group has announced the signing of an agreement to acquire Nor-Feed and its subsidiaries. The acquisition of Nor-Feed, a French company that designs, manufactures, and markets plant-based specialty ingredients and plant extracts for animal nutrition, is part of the Adisseo Group's global leadership strategy for specialty animal nutrition ingredients.

This investment is a critical step in Adisseo's strategy of developing specialty ingredients and its ambition to make Nor-Feed a French leader in functional plant extracts for animal nutrition. Adisseo is positioning itself on a market with an annual growth rate of

nearly 10% by providing natural and sustainable solutions to its customers.

Nor-Feed, based in the Angers Technopole (France), was founded 20 years ago by Pierre and Cecile Chicoteau, and developed around an original and unique project focused on the preventive role of nutritional strategies by promoting botanical extracts from agricultural co-products in animal nutrition and hygiene, in order to limit the use of antibiotics, coccidiostats, and pesticides.

Adisseo and Nor-Feed have already identified some synergies to strengthen and develop the penetration and adoption of these products in high-growth markets.

Nor-Feed will continue to manage its R&D, manufacturing, and sales networks

independently. Olivier Clech and Pierre Chicoteau will continue to lead the company.

ADISSEO will provide Nor-Feed with all of its expertise and network to help it achieve its goals and implement the identified synergies.

## Novozymes and Chr. Hansen will merge in the largest Danish deal ever

Chr. Hansen will be dissolved once the transaction is completed.

In the largest-ever merger between two



Danish companies, Novozymes and Chr. Hansen have agreed to merge, creating a biosolutions company with a diverse portfolio across several markets. Chr. Hansen will be dissolved upon completion of the transaction, which is subject to regulatory approval and is expected in late 2023 or early 2024.

The combined companies would generate approximately EUR3.5 billion (US\$3.7 billion) in annual revenue.

Baiget would become CEO of the combined group after the merger was completed. Lars Green, the current CFO of Novozymes, would be the chief financial officer (CFO). Both positions would be part of the executive leadership team in the future. Chr. Hansen will name the chair of the board of directors, and Chr. Hansen and Novozymes will each name two additional board members. The largest shareholder, Novo Holdings, will also name two board members.

The combined companies' customer-centric global reach will form a network of 38 research and development and application centres and 23 manufacturing sites, providing customers with a partner with global scale and local presence. The combined group would also benefit from strong long-term organic revenue growth due to its broad biological toolbox, strong patent positions, improved operations, innovation, and commercial excellence, and expanded customer base. Novozymes and Chr. Hansen will form a global talent pool of 10,000 employees worldwide.

## Cherkizovo acquires assets from Russian Grain UFA

Company won the poultry, crop, and

feed production businesses at auction.

Cherkizovo Group of Russia has purchased Russian Grain Ufa's poultry, crop, and feed production businesses in an auction on December 5 for RUB6.37 billion (US\$101.3 million).

The single lot included 100% shares in JSC Bashkir Poultry Farm, JSC Turbaslinsky Broilers, JSC Ufa Grain Products Plant, Bashkir Grain+ LLC, Bashkir Grain LLC, and Turbaslinsky Broiler Trading House LLC, as well as rights to claim under loan agreements between Trust and JSC Bashkir Poultry Plant and JSC Turbaslinsky Broiler Trading House LLC. The winning bidder was AIC Mikhailovsky (part of Cherkizovo Group), which had previously obtained approval from the Federal Antimonopoly Service to acquire these assets.

The acquired companies are the first production assets in Bashkortostan for Cherkizovo Group. They include five poultry farms with an annual live-weight capacity of 65,000 tonnes of broiler meat, a processing capacity of 25,000 tonnes, an annual marketable egg production of 750 million eggs, a feed mill with an annual capacity of 240,000 tonnes, and a land bank of 18,000 hectares. Bashkir poultry products are sold both domestically and internationally.

Russian Grain Ufa employs 2700 people. The company is the largest agricultural holding in Bashkortostan. Its assets will benefit from synergies with other Cherkizovo Group sites, allowing it to strengthen its position in the Urals Federal District and neighbouring Russian regions. Cherkizovo intends to improve the acquired facilities in the future, which will help increase broiler meat output.

## Duravant acquires Marelec Food Technologies



Duravant, a leader in engineered equipment, expands its food processing solutions portfolio with the acquisition of Marelec Food Technologies.

Duravant LLC ("Duravant"), a global provider of engineered equipment and automation solutions to the food processing, packaging, and material handling industries, announced the acquisition of Marelec Food Technologies ("Marelec"), a leading manufacturer of intelligent portioning and customised weighing and grading solutions based in Nieuwpoort, Belgium. Marelec designs and manufactures innovative turnkey systems that ensure high-quality output and maximum yield for food processors all over the world.

Marelec has been serving multi-national customers for nearly 40 years and is recognised globally as a high-tech solutions provider for secondary processing solutions. A customer-oriented design philosophy guides their team of engineers and food processing experts. Their systems are built for high speed and precise performance, allowing operators to maximise yields and quality by utilising innovative technologies such as portioning software with intelligent cutting algorithms.

Marelec's diverse capabilities are on display at their manufacturing hub in Belgium, which also houses their R&D centre and cooled demo room. Marelec has sales and service centres in Europe, the United States, and Asia, as well as a strong network of distributors on six continents and in more than 50 countries.

### Duravant's Background

Duravant, headquartered in Downers Grove, Illinois, is a global engineered equipment company with manufacturing, sales, and service operations in North America, South America, Europe, and Asia. Duravant delivers trusted end-to-end process solutions for customers and partners through engineering and integration expertise, project management, and operational excellence through their portfolio of operating companies. They provide immediate and lifetime aftermarket support to all markets they serve in the food processing, packaging, and material handling sectors through global sales distribution and service networks.

Marelec Food Technologies Inc.

Since 1983, Marelec Food Technologies

has been involved in the food-processing industry. To improve the efficiency of manufacturing processes, the company designs and manufactures high-tech portioning, weighing, grading, and control systems for the fishing and food industries. When a MARELEC customer requires advice, quick delivery, or the best local after-sales service, a network of international sales offices and distributors in over 50 countries is available.

## Chesapeake Utilities Corporation Announces Planet Foundry Acquisition



Chesapeake Utilities Corporation (NYSE: CPK) announced today that it has purchased 100% of Planet Found Energy Development, LLC (PFED) membership interest for \$9.4 million. PFED is a Maryland-based organisation comprised of Delmarva-based scientists, farmers, and businesspeople dedicated to the development of poultry litter management technologies. This acquisition is consistent with the Company's renewable energy investment goals, which include:

- Internal technology expertise, particularly in organic soil conditioner and future fertiliser production, an important economic component in poultry waste biogas production.
- Chesapeake Utilities will operate a small poultry biogas facility in Maryland as a test facility to help verify waste stream and fertiliser chemistry on future projects, which will be useful in both financial projections and potential regulatory treatment.
- Construction of a second biogas site in Maryland that the Company can expand and finish.

- PFED technology and processes are scalable for future growth.

PFED's farm-scale anaerobic digestion pilot system and technology, located in Somerset County, Maryland, biologically produces biogas from 1,200 tonnes of poultry litter annually, which can generate renewable energy in the form of electricity or be upgraded to renewable natural gas. In addition to producing biogas, PFED's nutrient capture system contributes significantly to the conversion of digestate, a natural byproduct of the anaerobic digestion process, into a nutrient-rich soil conditioner sold in bulk and retail markets under the brand Element Soil.

## Nutreco and BiomEdit to Use Microbiome Technology to Transform Feed Additives

Innovative and genuinely novel feed additives created using microbiome technology will be made available to livestock farmers thanks to a groundbreaking, long-term strategic research and commercial partnership announced by Nutreco and BiomEdit. The alliance unites the most cutting-edge microbiome biotech firm for animal health, BiomEdit, with Nutreco Exploration (NutEx), a division of Nutreco entrusted with creating patented ultra-specialty ingredients to support its mission of Feeding the Future.

The relationship includes the identification, creation, and commercialization of Biome-actives created on the cutting-edge microbiome research and bioinformatics platform of BiomEdit. The health and sustainability concerns of today's animal producers for aquaculture, poultry, swine, and cattle are addressed by these innovative feed additives.

A fundamental understanding of the gut microbiome's involvement in human and animal health as well as in how food is processed in the gastrointestinal tract has emerged in recent years as a result of investigations into this organism.

Influencing the gut microbiome, or the microorganisms, what they create, and their environment, for instance by dietary supplements or medications, can significantly affect human health. In a similar way, it can influence the health, happiness, and performance of animals.

The depth, breadth, and experience of a top animal feed company are combined with a top biotechnology R&D programme in an industry-shaping move.

A venture-backed start-up with a focus on the discovery and development of animal health products that use microbiome science to improve animal health, animal protein production, and livestock disease monitoring, BiomEdit was founded in April 2022 as a carve out from Elanco Animal Health (NYSE: ELAN). Since it started with contributions of assets and technology from Elanco and Ginkgo Bioworks (NYSE: DNA) and a successful \$40M Series A capital round with Ferment, Viking Global Investors, and Anterra Capital, this is its first business relationship.

## Olam Group plans to list IPO of Olam Agri in Singapore as early as H1 2023



The majority-owned agribusiness company of Olam Group Limited, Olam Agri Holdings Pte. Ltd. ("OAHPL"), which owns the Olam Agri business, will be listed on the stock market as early as the first quarter of 2023 (the "Olam Agri IPO").

Olam Agri is a food and agribusiness with a 33-year history of knowing the demands of the food and agricultural markets, as well as a global footprint for origination and merchandising. With its presence in new markets and worldwide capabilities, Olam Agri is well-positioned to fulfil the growing need for food, feed, and fibre as the world turns its attention more and more to food security.

The Saudi Agricultural and Livestock

Company ("SALIC") and Olam Agri announced a strategic alliance on December 23, 2022, through the sale of a significant minority stake in OAHPL for US\$1.24 billion (the "SALIC Transaction"), which was finalised on December 23, 2022.

Following the SALIC Transaction, subject to market conditions, the Group is looking to list OAHPL as its principal stock on the main board of the SGX while also pursuing a parallel listing on the Saudi Exchange. The Olam Agri IPO would mark the first time a company has been listed simultaneously on these two exchanges and the first time a firm that is not a member of the Gulf Cooperation Council has ever been listed in Saudi Arabia.

Following a careful examination of how to maximise the long-term shareholder value of Olam Group, the decision was made to target an IPO for OAHPL as early as H1 2023. The decision also takes into account current global agribusiness trends, growing worries about food security, and OAHPL's track record of successful performance.

Given the robust investor base for food and agribusiness firms in Singapore as well as the ongoing long-term support of its shareholders, the company picked SGX as its primary listing venue. Given the significance of food security in the Gulf region, the sizeable additional investor base that would be eligible to participate in the IPO, and the new strategic partnership with SALIC, which will further enhance Olam Agri's activities in the Gulf region, particularly Saudi Arabia, the additional listing in Saudi Arabia is being considered.

Although no final decision has been reached on the Olam Agri IPO offer structure, the IPO may entail both the selling of Olam Group shares in OAHPL and the issue of new OAHPL shares in Singapore and other countries. At the time of demerger in conjunction with the Olam Agri IPO, OAHPL will also be separated from the Group by distributing shares of OAHPL in kind to Olam Group shareholders. The newly listed OAHPL shares will not need any payment from Company shareholders, and they will still be able to use their Company shares.

At an Extraordinary General Meeting, the

specifics of which will be released later, shareholders will be asked to approve proposed transactions connected to the Olam Agri IPO and demerger, which will be performed by the Olam Group.

## FAMI-QS and ISO22000 certifications for Phytobiotics factory in China



The FAMI QS and ISO22000 certification audits for the Phytobiotics branch in China, Phytobiotics (Jiangsu) Biotech Co., Ltd., were both passed with flying colours.

The achievement of such certifications demonstrates Phytobiotics' dedication to creating goods of superior quality, safety, and traceability.

A quality assurance system for the production of feed additives and premixtures in the European Union is the FAMI QS (Feed Additives and Premixtures Manufacturer's Quality System) certificate (EU). The certificate, which the European feed industry established, is meant to guarantee that the production of feed additives and premixtures conforms with EU regulatory criteria. The FAMI QS certificate specifies standards for product safety, quality assurance, and product traceability. Businesses that have been awarded this certificate are subject to ongoing surveillance audits to make sure they are still adhering to the system's criteria.

An international standard known as ISO 22000 outlines the specifications for a food safety management system. It describes the actions that a company can take to determine and manage potential food safety risks so that the food it produces is safe for human consumption. Any organisation involved in the food chain, from

primary production to the final consumer, is intended to be covered by the standard. It is applicable to all sizes of businesses, all areas of the food industry, and any place in the world. The purpose of ISO 22000 is to assist organisations in enhancing their food safety performance and to give customers assurance that the food they eat is safe.

The first step toward Phytobiotics' growth into China was done in a signing ceremony in September 2020. Since that time, Phytobiotics (Jiangsu) Biotech Co., Ltd., a division of Phytobiotics Futterzusatzstoffe GmbH, has established itself as a key player in the Sino-German Innovation Park (SGIP), with its own office space, research centres, storage facilities, and manufacturing plants. Within the next ten years, Phytobiotics hopes to overtake its competitors as the market leader in China's animal and plant nutrition sector with the help of Phytobiotics (Jiangsu) Biotech Co., Ltd. and the new production facility.



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## HC issues notice to state govt on PIL over sending poultry to slaughterhouses

notice to the commissioners of the eight municipal corporations and the Union of India.

The PIL was filed by the Gujarat State Animal Welfare Board, through its managing trustee Pankaj Buch, and a charitable trust, Ahinsa Maha Sangh, through its trustee Vijay Dedhia. It pointed out that there are "grave



A division bench of the Gujarat High Court issued notice to the state government in a public interest litigation seeking a ban on the slaughter of live poultry in meat shops and a direction to send the poultry instead to slaughterhouses.

During a brief hearing, the petitioner through its advocate Nisarg Shah submitted that the poultry birds are being slaughtered at meat shops instead of slaughterhouses, when the bench headed by Chief Justice Aravind Kumar orally remarked, "birds need not be sent to slaughterhouse".

The Food and Drug Administration (FDA) mandated that all animals be slaughtered. CJ Kumar remarked, "Whether a hen can be considered as an animal... chicken is not meat... can it be extended to fish also?... Do you mean that fish should be brought to the slaughterhouse?... It is too far-fetched to argue that chicken should not be slaughtered in a mutton shop."

The bench issued rule to the state government departments of urban development and urban housing, panchayat rural housing and rural development, animal husbandry, home, and commissioner of food and drugs administration, commissioner of municipal administration, Gujarat state slaughterhouse committee, and issued

violations of the provisions" under the regulations and "there is neither compliance nor implementation of the Prevention of Cruelty of Animals (Slaughterhouse) Rules, 2011", by not regulating slaughter of poultry in slaughterhouses.

## Skylark organizes a joint training programme

Skylark Group, Safidon, Haryana and DUVASU, Mathura, U.P. (India), Mathura (U.P), organized a joint training programme in the Poultry Industry from 26 December to 9 January 2023. The program is organized under the "Industry Mentorship and Students Training" activity of Institutional Development Plan, of DUVASU and is sponsored by ICAR- Indian Council of Agricultural Research – NAHEP.

The aim is to provide a platform for aspiring students of B.V.Sc & A.H. to gain a practical knowledge of the poultry sector. The programme focused on imparting knowledge and skills in poultry feed formulation, hatchery, nutrition management, final processing, economic integration of rural poultry with other farming systems etc. The training was conducted by experts from Skylark Group who have extensive experience in the poultry industry.

The active and enthusiastic participation made this event a success.



# Editorial Calendar 2023

Publishing Month: <b>January</b> Article Deadline : <b>30<sup>th</sup>, Dec. 2022</b> Advertising Deadline : <b>3<sup>rd</sup>, Jan. 2023</b> Focus : <b>Winter Disease Management</b>	Publishing Month: <b>February</b> Article Deadline : <b>30<sup>th</sup>, Jan. 2023</b> Advertising Deadline : <b>3<sup>rd</sup>, Feb. 2023</b> Focus : <b>Health &amp; Nutrition Management</b>	Publishing Month: <b>March</b> Article Deadline : <b>28<sup>th</sup>, Feb. 2023</b> Advertising Deadline : <b>3<sup>rd</sup>, March 2023</b> Focus : <b>Vaccination &amp; Immunization</b>	Publishing Month: <b>April</b> Article Deadline : <b>30<sup>th</sup>, March 2023</b> Advertising Deadline : <b>3<sup>rd</sup>, April 2023</b> Focus : <b>Summer Management</b>
Publishing Month: <b>May</b> Article Deadline : <b>30<sup>th</sup>, April 2023</b> Advertising Deadline : <b>3<sup>rd</sup>, May 2023</b> Focus : <b>Cold Chain Management</b>	Publishing Month: <b>June</b> Article Deadline : <b>30<sup>th</sup>, May 2023</b> Advertising Deadline : <b>3<sup>rd</sup>, June 2023</b> Focus : <b>Feed Production</b>	Publishing Month: <b>July</b> Article Deadline : <b>30<sup>th</sup>, June 2023</b> Advertising Deadline : <b>3<sup>rd</sup>, July 2023</b> Focus : <b>Layer Farming</b>	Publishing Month: <b>August</b> Article Deadline : <b>30<sup>th</sup>, July 2023</b> Advertising Deadline : <b>3<sup>rd</sup>, August 2023</b> Focus : <b>Genetics &amp; Breeding</b>
Publishing Month: <b>September</b> Article Deadline : <b>30<sup>th</sup>, August 2023</b> Advertising Deadline : <b>3<sup>rd</sup>, September 2023</b> Focus : <b>Biosecurity Practices</b>	Publishing Month: <b>October</b> Article Deadline : <b>30<sup>th</sup>, September 2023</b> Advertising Deadline : <b>3<sup>rd</sup>, October 2023</b> Focus : <b>Winter Breeding Management</b>	Publishing Month: <b>November</b> Article Deadline : <b>30<sup>th</sup>, October 2023</b> Advertising Deadline : <b>3<sup>rd</sup>, November 2023</b> Focus : <b>Environment Control</b>	Publishing Month: <b>December</b> Article Deadline : <b>30<sup>th</sup>, November 2023</b> Advertising Deadline : <b>3<sup>rd</sup>, December 2023</b> Focus : <b>Industry Outlook</b>

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