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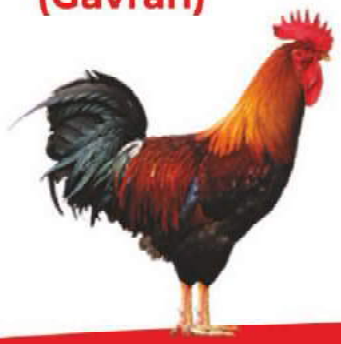

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- Management of equipment with a preventive maintenance program.
- Regular hatchery visits to contribute to continuous improvement of results.

The C.H.I.C.K Program sees Ceva's specialist teams visiting customer's hatcheries regularly to run a number of tests to check whether vaccines are properly stored, prepared and administered, as well as delivering continuous training to operators. The shared aim with our customers is to have all birds well vaccinated in the hatchery before being sent to farms. Ceva India has a team of over 6 hatchery specialists who work with local hatchery managers using innovative data management tools, to continually track performance and ensure continuous improvement of results. The VSE team is led by Dr. Varun Namdeo and the VSE team visits over 77 hatcheries belonging to poultry producing customers per year. In short the VSE team constantly works with the hatcheries to help the staff, solve issues and most importantly to provide exceptional customer service and overall experience.

From left to right: Mr. Nitin Sahasrabudhe (Sales & Marketing Director), Dr. Anant Wadkar (Country Director) and Mr. Milind Limaye (Technical Director) receiving the Bureau Veritas Attestation of Recognition.

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INDEX OF ADVERTISEMENTS

PRESS RELEASE

Alltech announcesseventhannual Art Contest for School Children

Alltech South Asia, part of Alltech, a top global animal health and nutrition company, announces itsseventhannual Alltech Art Contest for schoolchildren.

The competition will accept paintings between August 20–October 5,2021. The winning entries will be featured in the 2022 Alltech calendar and awarded cash prizes and certificates.

"Zero Hunger: Food for every breath"is the theme of this year's art contest.

Up to 811 million people still go to bed on an empty stomacheach night, and 2 billion people in the world do not haveregular access to safe, nutritious and sufficient food (Source:UNSDG).

"We are happy to announce the launch of the seventhannualAlltech Art Contest,which is focusing on a unique theme,"Zero Hunger: Food for every breath,"said Dr. Aman Sayed, managing director, India and regional director of South Asia, Alltech."Considering food as the most vitalneed for humans, making it affordable for everyone is essential for a sound living. Achieving Zero Hunger throughaccess to safe and nutritious food needs a multidimensional approach and should be a shared commitment. We wish for this consciousness to bloom in young minds."

Who can participate?

All students between 5–16 years of age can participate in the contest.The competition is open for children in India, Bangladesh, Sri Lanka and Nepal.

When?

The contest is open for submissions from **August 20–October 5, 2021.** The last date artwork will be accepted is **October5,2021.**

Online painting submission rules:

• The artwork must be on drawing paper of A4 size.

• Acceptable art tools include crayon, watercolor, oil paint, acrylic paint, poster colors, color pencils or pastels.

Submission:

The submission is online. Entrants will upload a scanned image of the artwork tothe contest website by filling out all the relevant details requested onthe page.

Check out the link below to participate and learnmore about the Alltech Art Contest.

Website link: **https://www.alltech.com/alltech-art-contest-2021**

For more details, please contact your local Alltech sales manager or email alltechartcontest@alltech.com.

-Ends-

Contact: Dr. Manish Chaurasia, Marketing Manager, South Asia

mchaurasia@alltech.com; +91 8130890989

About Alltech:

Founded in 1980 by Irish entrepreneur and scientist Dr. Pearse Lyons, Alltech delivers smarter, more sustainable solutions for agriculture. Our products improve the health and performance of plants and animals, resulting in better nutrition for consumers and a decreased environmental impact.

We are a global leader in the animal health industry, producing additives, premix supplements, feed and complete feed. Strengthened by more than 40 years of scientific research, we carry forward a legacy of innovation and a unique culture that views challenges through an entrepreneurial lens.

Our more than 5,000 talented team members worldwide share our vision for a Planet of Plenty™. We believe agriculture has the greatest potential to shape the future of our planet, but it will take all of us working together, led by science, technology and a shared will to make a difference.

Alltech is a private, family-owned company, which allows us to adapt quickly to our customers' needs and maintain focus on advanced innovation. Headquartered just outside of Lexington, Kentucky, USA, Alltech has a strong presence in all regions of the world. For more information, visit alltech.com, or join the conversation on Facebook, Twitter and LinkedIn.

PRESS RELEASE

Pro-active role of Government in supporting the livestock industry out of crisis by allowing imports of soybean meal

Ricky Thaper- Treasurer, Poultry Federation of India

Ricky Thaper

When the animal feed prices rose sharply because of huge spike in soybean meal prices, all the trade bodies associated with poultry, fisheries and dairying industries met up with the key officials and Ministers of Animal Husbandry and Dairying, Fisheries, Finance, Commerce & Industry, Agriculture, Consumer Affairs and Environment, Forest & Climate change, for ensuring imports of soybean meal so that domestic prices are curbed. The officials with the key ministries and ministers responded swiftly to the request to save livestock farmers and the industry.

Recent few weeks have witnessed hectic activities especially amongst the poultry, fisheries and dairies industries which has been hit hard by sharp spike in feed prices especially due to increase in soybean meal rates, a key source of protein used in the livestock feed.

The prices rise in the recent months have been so sharp that it has pushed up the cost of production and thus causing losses to poultry, aqua and dairy farmers. The officials from the Ministry of Animal Husbandry, Dairying & Fisheries, Ministry of Finance, Ministry of Commerce and Industry and Ministry of Environment, Forest & Climate change have conducted a series of meetings with delegations from All India Poultry Breeders Association, CLFMA, PFI, Fish Feed Manufacturers Association and livestock sector representatives to find a solution for addressing the sharpest spike in prices of feed in the recent years.

The rise in prices of soybean meal and maize have pushed up the cost of production. In the poultry sector both in the case of broiler (meat) and layer (for egg production), cost of feed constitutes around 65% to70% of cost of production, continuing to rise relentlessly for the last few months.

According to Mr. Bahadur Ali. Chairman, All India Poultry Breeder Association, the prices of soybean meal, has seen the sharpest increase in recent years. In July, 2021, the average price of soybean meal was Rs 85,000 per tonne against Rs 32,300 per tonne prevailed a year back and even in 2019, the prices were at a similar level. (refer table below). For other months, the prices in 2020 and 2019 have been in the range of Rs 33,500 - Rs 35,500 per ton.

Soybean meal price trend (Rs / Ton)

Months	2019	2020	% increase	2021	% increase 2019 vs 2021
Jan	31,000	35,500	13	35,500	15
Feb	33,000	33,500	1	39,800	**21**
March	32,500	32,000	-2	45,200	**39**
April	33,800	34,800	3	51,750	**53**
May	32,750	33,100	1	65,000	**98**
June	32,750	32,150	0	66,000	**105**
July	32,500	32,300	-1	85,000	**162**

Source: All India Poultry Breeder Association, (prices excluding 5% GST)

The spike in Soybean meal prices have been mainly because of rise in soybean seed prices as mentioned in the table below.

Soybean seed prices trend (Rs / Ton)

Months	2019	2020	% increase	2021	% increase 2019 vs 2021
Jan	36,900	43,100	14	45,700	6
Feb	37,890	41,000	8	49,300	**20**
March	37,100	38,400	3	55,200	**45**
April	37,900	39,000	3	62,000	**59**
May	37,800	38,400	2	74,500	**94**
June	37,300	38,400	3	73,000	**90**
July	37,300	38,700	4	1,00,000	**158**

Source: All India Poultry Breeder Association, (prices excluding 5% GST)

Corresponding feed prices in case of poultry has risen from Rs 32,000 per ton prevailed in July, 2020 to Rs 48,000 per ton in July, 2021 thus pushing the cost of production of and poultry meat.

According to the Industry estimate, by the end of August, 2021, the feed price could rise to Rs 50,000 - 54,000 per ton if the steps to import around 12Lakh tonne of soybean meal till India's new crop arrives by middle of October are not taken. Both the domestic prices of soybean seed and soybean meal are around 2 time costlier than the global prices.

"Due to the increase in soybean, feed prices have increased. Resultantly, the poultry farmers, and fish & shrimp farmers finding it very difficult to do placement of chicks as well as fish & shrimp. The officials from Department of Animal Husbandry and Dairying (DAHD) on request of Industry had written letter to the Director General of Foreign Trade, Department of Commerce, requesting for import of 12Lakh tons of soybean meal till October, 2021 when new kharif crops arrive in the domestic market.

According to the Mr. Gulrez Alam, Secretary, All-India Poultry Breeder Association (AIPBA), this wide discrepancies in the production estimate of soybean by the Government as well as SOPA has led to the current crisis of supply of soybean meal. This has pushed up the cost of production for poultry, fish, shrimp, cattle and dairy farmers hugely leading to rise in prices.

According to Industry data, the annual requirement of soybean by the poultry sector (60Lakh tons), shrimp feed (4.5Lakh tons), fish feed (3Lakh tons) and dairy and direct animal feeding (5Lakh tons). The total soybean meal demand for animal feeding is 72.5Lakh ton.

Prompt actions by the government for initiating imports of soybean meal:

In anticipation of an emerging crisis caused by high soybean meal prices, officials of the various trade organizations and other stakeholders along with Mr. Bahadur Ali, Chairman AIPBA, met Shri Parshottam Rupala, Honourable Union Minister of Animal Husbandry, Dairying and Fisheries requesting him facilitate import of atleast 12Lakh tons of soybean meal on an urgent basis.

Delegation of All India Poultry Breeders Association, Compound Livestock Feed Manufacturers Association and Poultry Federation of India and other Industry representatives from livestock

industries met several key ministers Shri Om Birla, Speaker, Lok Sabha, Shri Piyush Goyal, Union Minister of Commerce and Industry, Shri Bhupinder Yadav, Minister of Environment, Forest and Climate Change, Dr. Sanjeev Balyan, Minister of State of Animal Husbandry and Dairying, Shri Som Prakash, Minister of State of Commerce and Industry, Dr Bhagwat Karad, Minister of State of Finance and Dr L. Morgan, Minister of State for Fisheries for drawing attention towards sharp spike in feed prices and requesting them for allowing imports of soybean meal on an urgent basis.

Meanwhile, in a communication, Mr. K Gulte, Economic Adviser, asked Ministry of Consumer Affairs, Food and Public Distribution, to Department of Commerce, Department of Animal Husbandry and Dairying, Department of Revenue and Department of Agriculture, Cooperation and Farmers Welfare, to facilitate immediate import of 12Lakh tons of soybean meal.

All the trade representatives as well as stakeholders worked in close coordination to ensure that the government agencies apprised about soybean meal supply crisis and the government officials and ministers heading key ministries responded in a positive manner to ensure that the necessary instructions were issued for import of soybean meal. This close coordination between various departments and trade representatives would continue to be maintained for ensuring health growth of livestock sector.

Trade organizations and other stakeholders along with Mr. Bahadur Ali, Chairman AIPBA, met Shri Parshottam Rupala, Honourable Union Minister of Animal Husbandry, Dairying and Fisheries requesting him facilitate import of atleast 12Lakh tons of soybean meal on an urgent basis.

I would like to state that one of our very dear friend and North India poultry feed industry's dynamic personality, Shri Ashish Gupta, Managing Director, Sampoorna Feeds Pvt. Ltd, who had actively participated in most of the meetings with the key ministries in Delhi, for getting the import of soybean meal, passed away recently. Shri Ashish Gupta was actively associated with the welfare of North India poultry farmers and he always stood for the betterment of livestock industry.

May Almighty Rest his soul in peace and give strength to the family members, friends, near and dears ones, to bear this irreparable and untimely loss.

Poultry Industry Delegation met Dr. Sanjeev Balyan, Honourable Union Minister of State of Animal Husbandry and Dairying

Poultry, Aqua and Shrimp Industry Delegation had a series of meetings with Shri Som Prakash, Honourable Union Minister of State of Commerce and Industry

Mr. Bahadur Ali, Chairman AIPBA along with Poultry and Aqua Delegation, called on Shri Piyush Goyal, Union Minister of Commerce and Industryin the Parliament House with the request to facilitate import of atleast 12Lakh tons of soybean meal on an urgent basis.

Poultry Associations and Industry Delegation called on Dr Bhagwat Karad, Honourable Union Minister of State of Finance.

Poultry, Aqua and Shrimp Industry Delegation with Dr L. Morgan, Honourable Union Minister of State for Fisheries

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Better Nutrition Through Biotechnologies

PRESS RELEASE

Current Breeder Challenges, Need-Gap analysis, and Solutions

Dr Raina Raj, Head of Marketing, Natural Remedies Pvt. Ltd.

Dr. Jayaraman

Dr Raina Raj

Natural is future 2.0 is a webinar series powered by Natural Remedies Pvt. Ltd., where we invite eminent speakers from across the globe to share their thoughts on the most relevant topics in the animal health industry. In July, we had the privilege of hosting Dr. Jayaraman, a renownedpoultry breeder specialist in the Indian sub-continent. His discussion was aimed at providing practical solutions to the challenges of breeder's health at different stages, to improve performance and productivity.

Dr. Jayaraman started his talk with the quote.

"HEALTHY BUSINESS STARTS WITH HEALTHY ANIMALS."

"If we understand the underlying problem, then we understand how to overcome it." His talk was divided into three major sections based on the different stages, of the breeder's life such as the brooder, grower, and layer phases, for easy comprehension.

Brooding Phase Challenges

He brought the focus to the incidence of **lameness** being higher in male birds in the brooding phase. At an early age, the birds start to limp or drag their body on the floor, one of the reasons attributed to this could be transportation stress. But if the symptoms progress as the birds grow and the number of birds showing these symptoms increases, the issue needs to be addressed. The birds may show postural defects, such as bowed legs or bent hocks. The lesions are evident in the hock region; the joint appears swollen and red. On closer examination, swelling in the plantar regions of the bird's feet can also be noticed. In an autopsy, the hock joints would show inflammatory changes. What causes these symptoms? Popular belief is to justify these symptoms with calcium, phosphorus, vitamin D3 deficiencies, or faulty brooding. With evidence from a peer-reviewed journal, he mentioned that "Staphylococcus is a potential pathogen in broiler breeders" that causes lameness. **Staphylococci are** opportunistic bacteria that invade through breaks in the skin surface (beak, and comb trimming). As a management practice, the first beak trimming happens at 1-2 weeks, making the birds susceptible to infection. Hence, he suggested that it is essential to start antibiotic treatment post beak trimming. He suggested the use of penicillin or penicillin derivatives such as strepto-penicillin, benzathine penicillin (long-acting), and amoxicillin as the drugs of choice since they can reach the synovial joints.

Why is the incidence of lameness higher in male birds? In his opinion, one of the probable reasons could be that male birds have longer shanks as compared to female birds, and the other reason is that male birds also undergo comb trimming, which facilitates the entry of staphylococcus.

Dr. Jayaraman suggested the use of a probiotic in the first week of life for the birds and dosing them with antibiotics post beak trimming along with anti-mycoplasmic therapy in the second week. Since these practices are known to give good results.

Growing Phase Challenges

In the next phase, he selected to discuss intussusception. **Intussusception** is the telescoping of one part of the intestine into another. Its physical manifestation is called prolapse. The incidence is usually high when the feed is changed from chick mash to grower mash. This happens in growers, but by 10-12 weeks its incidence gradually decreases. The commonly known causes are pecking, low fibre, excess pressure or irritation in the intestine, necrotic enteritis, or subclinical coccidiosis. But Dr. Jayaraman brought other causes into attention, such as bacterial (*Escherichia coli*, Clostridium, and Campylobacter) and parasitic causes (internal worm infestation, Coccidia, *Eimeria necatrix*). Hence, he recommended the use of anti-coccidial drugs around 28 days of age.

The other cause is feed restrictions. The cases of intussusception are mostly seen after 7-10 days after a period of feed restriction. The incidence is higher in heavier bodyweight birds (above average body weight) because they tend to compete to consume as much feed as possible, leading to reverse peristalsis of the distal intestine leading to intussusception. He also suggested that if the cumulative feed consumption for the specific duration is optimal as per the feed company's recommendations, generally this problem doesn't happen. The way to solve this issue is to measure and titrate the feed such that there is less competition. The solutions that Dr.Jayaraman suggested were dark out of grower sheds; monitoring cumulative feed consumption for a specific duration; usage of anti-coccidials is essential (even in caged birds there are incidences of coccidiosis); he strictly suggested avoiding the use of antibiotics, and recommended the use of natural plant extracts and probiotics.

Laying Phase Challenges

Male depletion is high in the layer phase. In general, the male to female ratio is 1:10 or 1:9 in laying houses. Dr. Jayaraman pointed out that,the sheer number of male birds doesn't guarantee good fertility. Both the number and the quality of the males are equally important. In the cage system for artificial insemination (AI), the male birds are milked for the collection of semen. When the frequency of milking increases (every alternate day), the quality of semen is reduced. So, by rearing a sufficient number of male birds and giving them adequate rest between milking, the male birds can maintain a good quality of semen. Practically **preserving the males** on the farm is just as important. He proposed that good management is when female mortality is 8% and male mortality is 10%. But in later stages, the male mortality is twice that of females, hence the remaining males are used more frequently for semen collection, leading to poor quality of semen. Also based on a scientific report, Dr. Jayaraman suggested that the major cause of male depletion, 33.8% is because of staphylococcal infection.

To combat male mortality, Dr. Jayaraman recommended a rotation of antibiotics like OTC-LA with penicillin, amoxicillin, and Tylosin. As age advances, the semen quality, and quantity deteriorates, so he suggested supplementing the birds with male fertility enhancers.

Female non-layers

Addressing challenges in **female birds** Dr. Jayaraman suggested identifying the **non-layers**. It can be done at the time of insemination. The non-layer birds will show difficulty in eversion; pin bones will be placed closer; the vent will be dry; the beak and shank will be yellow. He listed several reasons for birds to become non-layers. The causes may range from poor management, bacterial, viral, parasitic, and nutritional causes.

1. Management issues, if the flock doesn't have uniformity such that it has higher body weight birds and low body weight birds in large proportion. During feed withdrawal, the higher body weight birds get lessfeed allocation. At this time, the body of the bird goes into conserving energy mode for maintenance and the bird becomes a non-layer.
2. During bacterial or viral infections, the birds show symptoms of low feed consumption. But on treatment, they get better. But some infections seep into the oviduct and cause trouble, leading to non-layers.
3. The nutritional issue is a large umbrella, and it is hard to pinpoint one nutritional cause for non-layers. In general, nutrients must be optimally provided, keeping trace minerals in mind.
4. External parasites like lice and mites. Dr. Jayaraman opined that lice infestation is well known, but inthe recent past, red mite infestation has been increasing. Red mites affect the birds during the night hours, and causeanaemia but also lead to non-layers. He suggested some key issues be taken care of while doing the anti-parasitic treatment. Firstly, is maintaining proper pressure (psi) while spraying the anti-parasiticidal. Secondly, the time of application should be a few hours before lights out, so that the medication is effective and it acts on the mites which infest the birds during the night. He also advised the use of herbal products to treat parasitic infestations. And for internal parasites, de-worming in caged birds is also necessary.

Dr. Jayaraman suggested general treatment for non-layers, with ovulotonics, which are herbal preparations when given at the right time, helps the birds to rebound. He also mentioned that we tend to pay attention to only visible non-layers, but what about the birds which are going to be non-layers in the future? In his experience, when ovulotonics are

given at 40-45 weeks of age, good results are noticed.

Disease challenge during peak production

Dr. Jayaraman mentioned thatnowadays broiler breeders lay eggs just like layers, and have a good peak. To support their performance, the birds should be protected from basic challenges through **immunization**. He further explained that the words immunization and vaccination are not synonyms. Birds may have been vaccinated, but not necessarily immunized. The immunity of a bird is compromised even after vaccination. If the vaccine is not spaced out properly or if birds are immunocompromised, the expected titre will not be achieved. Hence, instead of repeating vaccination, immune-boosters and immunomodulators can be used to achieve higher titres. Supplementing the birds with vitamin E, selenium, glucomannan, herbal, and algal immune boosters were suggested along with the proper spacing of the vaccines.

Fatty liver syndrome (FLS)

He gave examples from his experience and mentioned that breeder producers notice the FLS in their birds post-peak. It is caused due to a mismatch between the energy supplied (excess) and that of the bird's actual requirement, toxins, or damaged liver. Hence, it is important to understand the bird's requirements and be cautious during feed allocations and feed withdrawal. To treat FLS, he suggested choline supplements, either herbal or synthetic and /or liver tonics.

Egg production failed to recover after a challenge

Dr. Jayaraman mentioned that in recent days, the major problem is posed when the birds do not come back to normal egg-laying after recovery from toxin, viral or bacterial challenges. He suggested that when recovering from challenges; please do not wait for a long duration to bring the production to a normal level.

Respiratory disease complex (RDC)

He mentioned that RDC was very common. It may be caused due to coryza, mycoplasma, ornithobacterium (ORT), or avian metapneumovirus. A thorough investigation needs to be done to narrow down the cause of respiratory distress. He recommended treating the flock with drugs like tiamulin, tilmicosin, and tylan. To avoid resistance to the drugs, shuffling and rotation of antibiotics can be followed. He recommended herbal products and essential oils to protect the birds from respiratory distress.

Enteritis

He spoke about enteritis and emphasized that it can be caused by several reasons; toxins, worms, bacterial infection, hormonal, etc. but common practice is to treat the flock with antibiotics, which isn't right. Removing the root cause of enteritis is a good approach. But when one is unsure, herbal anti-diarrheal preparations can be used.

He concluded his talk by stating that breeder management is an art that combines balancing health, nutrition, and biosecurity aspects. There will be challenges. The way to get through them is by understanding the root cause, with diagnostics, and scientifically tackling the problem for better performance and profitability.Dr. Jayaraman answered the questions posed by the participants as below:

At what age should the feed restriction be practiced?

Dr. Jayaraman mentioned that the restriction of feed between male and female birds is different. There is a difference of one week. The breeding company's recommendations should be followed. For instance, 3-4 weeks of age is the right time to start the restriction, but the duration must be followed as per the producer's recommendation. But the important thing is to study the cumulative gain for 5 weeks and correlate it with the average feed given in grams. Based on this, nutritional modifications should be made.

How do we treat tapeworms in birds?

He opined that tapeworms have been noticed in recent days, especially if there is a presence of ants in the sheds. Broad-spectrum anthelmintics like albendazole or levamisole have been known to work well. But the dosages of the anthelmintics should not be confused with those of immunomodulatory doses. He would personally prefer albendazole to treat tapeworms.

How to control egg breakage in older birds?

Dr. Jayaraman mentioned that egg breakage in older birds is physiological to some extent; it cannot be completely avoided. But through nutritional manipulations, one could reduce the incidence. The nutrient specifications for calcium and available phosphorus are slightly different for older birds as compared to those for other birds, which should be followed as per recommendations.

The calcium source in the feed should be split into slowly available (70%) such as grit and readily available (30%) like calcite powder.

The egg size in older birds is larger, and the bird's body frame tends to be larger. This can be addressed through bodyweight management, along with linoleic acid and methionine level management, which will provide better eggshell quality. Additionally, supplementing with slightly higher doses of trace minerals can help this condition.

What could be the reason for feather loss in birds?

Dr. Jayaraman suggested that improper nutrition, or imbalanced sulphur-containing amino acids in feed, and stress may lead to feather loss post-peak. If specific birds show feather loss, this could be considered the first indication of non-layers. But if there is feather loss in all the birds, the protein requirement is not being met as per the recommendation, which needs to be checked.

What may be the reasons for the prolapse in the layers, in mid-lay?

He suggested that the prolapse has to be differentiated if it is an intestinal prolapse or an oviduct prolapse. In intestinal prolapse, enteric substances are secreted into the oviduct, leading to inflammation, cloacitis, and ascending infection occurs. In intestinal prolapse, we need to treat the enteric causes.

If it is an oviduct prolapse, it is an ascending infection where parts of the oviduct is exposed and infected. If the cage mat isn't well maintained, birds pick up the infection from the floor mat, leading to ascending infection. It can be treated topically with oxytetracycline long-acting (OTC-LA) ointment and neem oil. And infusing OTC-LA into the oviduct should help the recovery of the birds.

What is the minimum gap that should be given between two killed vaccines?

Dr. Jayaraman opined that ideally, 4-5 weeks is the minimum. But the decision needs to be taken depending upon the titre. Some vaccines like IBH are given in the first week, and the next dose is only after 20-22 weeks, but the gap for coryza vaccine is only 8-10 weeks. Hence, it depends if the vaccine is bacterial or viral; if it is for a parent or commercial, the decisions are made on this basis.

Can toxins in feed change the internal and external quality of eggs?

Dr. Jayaraman explained that the effects of mycotoxin on egg quality are well documented. There are effects both internally and externally. There is a change in the thickness of the shell. While internally, blood spots can be noticed. Vitamin A deficiency is usually attributed to blood spots in eggs, but mycotoxins can also cause blood spots.

Is there any way to control double-yolk egg condition in early production?

He answered that double yolk eggs are a problem of mismanagement of the actual feed requirements of the birds and what is supplied to them. When challenging birds with more feed with an interest in gaining faster peak, it leads to jumbo eggs, which will lead to a higher incidence of peritonitis and egg retention along with increased mortality.

The other reason is light stimulation. When birds have reached the desired body weight but haven't matured yet, they are challenged with overstimulation of light. This can lead to jumbo eggs. Hence, proper management of bird feed increments and light stimulation are important to control double yolk eggs.

What is the reason for the white legs in poultry birds?

He mentioned that in his experience, he had seen white legs in some broiler breeds, and hasfound a correlation between white legs when birds are given feed devoid of maize.

In broilers, would you suggest the same treatment for tapeworms?

He suggested that treating broilers for tapeworms may not be judicial. On the other hand, he also mentioned that the farmers use *Areca catechu* or betel nuts soaked water. 1kg of betel nuts soaked in water for 1000 birds, which has been effective. Secondly, control of ants is very important, which would give the best result for the next flock.

At what age, during brooding, should the light be stopped? After brooding, at what age should one introduce antibiotics?

Dr. Jayaraman recommended that in the first two weeks, 22-23 hours of light is important, and then gradually taper down to natural light. Antibiotics can be introduced on the day or the next day of beak trimming.

PRESS RELEASE

Online Discussion Forum (ODF) - On Trends in Poultry Health, Season-1 Organised by CPDO & TI in Association with INFAH, on 12th August, 2021

Central Poultry Development Organization & Training Institute under Government of India, Ministry of Fisheries, Animal Husbandry & Dairying, a premier Institute located at Hessarghatta, Bengaluru organized a one **day online Discussion forum – on TRENDS IN POULTRY HEALTH, SEASON-1 ORGANISED BY CPDO&TI in association with Indian Federation of Animal Health Companies, on 12TH August, 2021**

Poultry sector in India is a techno-commercial sector with contribution of nearly 1.5 lakh crores to the GNP with about 6 million people being employed directly or indirectly. Poultry Farming Practices in India are one of the best in the world. The Science adopted in Genetics, Nutrition, Management and Disease prevention are one among the best in class matching Global Standards. Presently it is estimated that 4.5 billion broiler population, 250 - 300 million layers and about 3.5 to 4.0 crore broiler breeders are being reared in India. The health specialists have achieved huge task in disease prevention and health management in the country. However, poultry health is a dynamic, ever evolving entity among poultry farming. It is always required to get abreast with the latest knowledge and tips for poultry health management. Hence, this discussion forum is envisaged to outline the present trends in poultry health. Since poultry health is a vast subject, it has been envisaged to conduct in series wise as Season-1, followed by many.

This event was organized in association with Indian Federation of Animal Health Companies (INFAH) under the leadership of Mr. Vijay Teng, President and Dr. Vijay Makhija, General Secretary along with poultry expert members of INFAH.

The Online Discussion Forum started sharp at 10.30 am on 12th August, 2021 by opening remarks from **Dr. Mahesh P.S**., Joint Commissioner & Director, CPDO&TI. He briefed about the legacy of CPDO&TI being an organization built over six decades (1960). Dr. Mahesh quoted Hon'ble Prime Ministe'rs speech on 11th of August, 2021at Confederation of Indian Industries (CII) annual meet in which it was emphasized that Modern India is lead by Unicorns in all the sectors including food sector in India. About 60 unicorns are being established so far since 2011 the first unicorn

(valuation of 1 billion dollar) was born in Bangalore. The motivation for poultry sector is, 22 unicorns are established since Jan. 2021 uptil August. Dr. Mahesh mentioned that startups like Licious, Fresh to Home may soon join the bandwagon before Dec. 2021 itself.

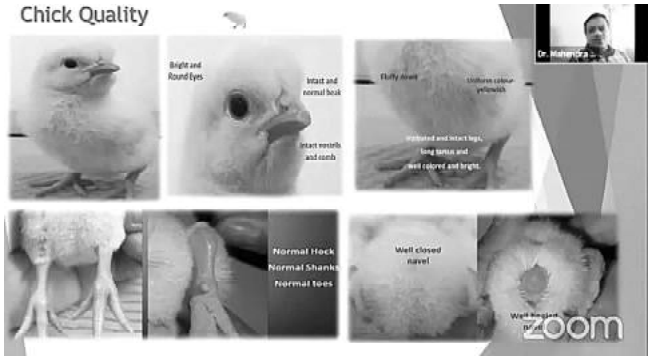
Further he elaborated that digitalization, consumerism, focus on safe food and health would create more demand for protein foods like eggs and chicken in India with a priority preference for safe and certified traceable products. Hence he advised to adopt latest technologies like Block Chain, Artificial Intelligence and Data Mining to capture a pie in the digital India.

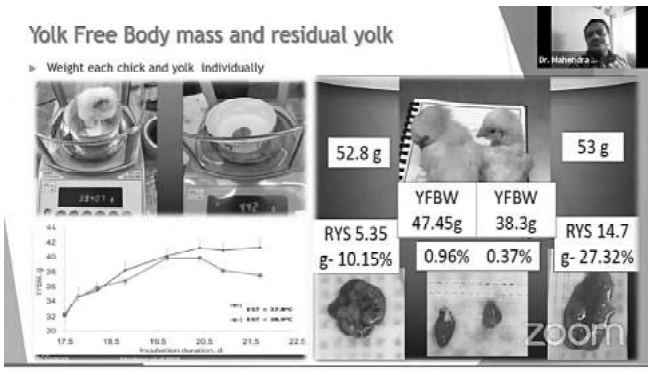
Dr. Vijay Makhija, General Secretary, INFAH, made a presentation from Mumbai, Maharashtra digitally

about activities of the Organisation which is formed in 2012. At present, it has 52 members representing more than 85 percent of Animal Health Market in India. He mentioned about INFAH's moto being "Healthy Animals, Healthier India". INFAH has focused approach via sub committees on various aspects of health issues related to scientific research in veterinary field. This organization has set out guidelines and working in liaison with government in various committees. This event is organized by members of Biologicals & Biosecurity sub-committee.

Mr. Vijay Teng, President, INFAH in his inaugural address through online from Ahmedabad, Gujarat, appreciated the efforts of CPDO&TI organization under Government of India for conducting such innovative programmes through digital gateway. He elaborated on changing preferences in food habits with more focus on protein foods like egg and chicken recipes. He acknowledged government addressing the industry needs for import of GM soya to mitigate the deadlock in shortfall and sky racketing prices of soya. He mentioned that INFAH has career link for the young veterinarians through which they can seek their career prospects and employment opportunities. He assured to extend full cooperation and support to CPDO&TI for conducting many more seasons under Poultry Health series.

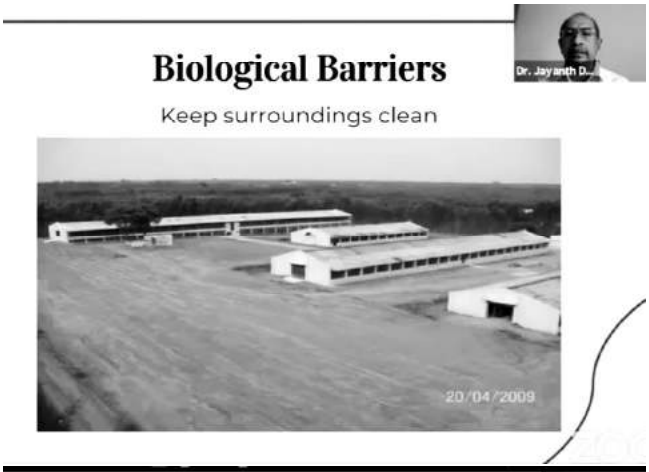
Dr. Mahindra Chaudhari, Poultry Expert joined from Pathankot, Punjab spoke on the topic "21 days of critical care". In his presentation he elaborated in detail about role of hatchery management with a primary focus on efficient incubation and setter





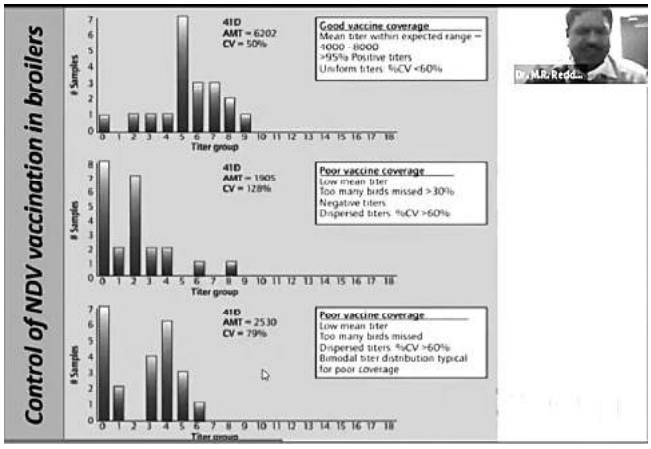
management as a key factor for the foundation of healthy chick which becomes a broiler/layer/ breeder. He scientifically narrated various parameters of evaluation of quality of chicks by both quantitative (physical features) and qualitative (body wt., yolk wt., chick length, moisture loss, chick yield, data recorded) in addition to bacterial, fungal and viral analysis. Chick quality plays a critical role in determining the health, growth, nutritional efficiency and financial returns of the farm. His detailed presentation can be viewed through CPDO&TI youtube channel: **"CPDO&TI TRAINING)**.

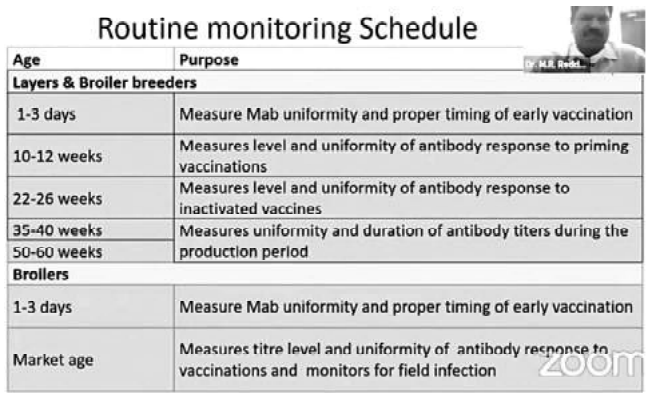
Dr. Jayanth Deshpande, Poultry Expert presented online from Bangalore, Karnataka about the topic "Biosecuring the Farm". In his address he narrated simple practical elements of biosecurity to create a barrier for disease entry to the farm. He categorized these features into three elements namely, Physical Barriers, Biological (vaccine)



barriers and Pharmacological barriers. He pictorically explained simple foot dip, shower system, management of rodents etc for effective implementation of biosecurity. He advised farmers with a novel idea of covering the whole poultry house with a simple chicken mesh to prevent rodent, flying birds etc to reduce re-infection of mycoplasma in the units. Clean farms are highly essential for disease control for broilers, breeders, layers. In his final remark, he advised to segregate the farm into four sections namely, dirty, semi-clean, clean and ultra-clean. Further suggested to follow a adequate SOPs to maintain the same. Proper diagnosis, effective vaccination and disinfection coupled with effective physical biosecurtiy is the need of the hour for disease prevention.

Dr. M.R. Reddy, Principal Scientist, Directorate of Poultry Research joined online from Hyderabad, Telangana State. He addressed on the topic "Reading Serology", Dr. Reddy with his experience of more than 30 year of research elaborated about role of Diagnostics in general and monitoring antibodies through Serology in particular. In his





Age	Purpose
Layers & Broiler breeders	
1-3 days	Measure Mab uniformity and proper timing of early vaccination
10-12 weeks	Measures level and uniformity of antibody response to priming vaccinations
22-26 weeks	Measures level and uniformity of antibody response to inactivated vaccines
35-40 weeks	Measures uniformity and duration of antibody titers during the production period
50-60 weeks	
Broilers	
1-3 days	Measure Mab uniformity and proper timing of early vaccination
Market age	Measures titre level and uniformity of antibody response to vaccinations and monitors for field infection

presentation he showed detailed analysis of lab reports with pictorial histograms (Bar charts of antibody titer). The method of understanding of lab reports was convincingly explained in terms of

reading, tier groups, geometric mean, arithmetic mean, standard deviation and variance for concluding the reports. The importance of distribution of titers either standard bell curve, left skewed, right skewed and multiple peaks was explained in detail for predicting disease challenge, protection status of birds for various diseases including forecasting of vaccination schedule.

This session was followed by Question and Answers for the speakers conducted by Dr. Vijay Makhija. The details can be accessed through Youtube / Facebook link of CPDO&TI and LinkedIn of INFAH.

The final session of the day was Panel Discussion with three eminent experts namely, **Dr. Sanjay Gavkare, Mr. Milind Limaye and Dr. D.K. Dey**. The first panelist, Dr. Sanjay Gavkare answered queries by Dr. Mahesh P.S. about present status of Research & Development in poultry sector. In his remarks he illustrated various achievements of Indian Poultry Research in Biologicals, Vaccines and Diagnostics to meet the international standards. He emphasized strengthening collaboration between the government and poultry sector.

The second panelist **Mr. Milind Limaye** appreciated the help of the government in strengthening the system for disease control and management. However, he requested more joint tie-ups with Institutes like HSADL, RDDLs, CARI etc to take up joint research for solving field oriented problems. Concludingly the third panelist, **Dr. D.K. Dey**, narrated about biological subcommittee of INFAH and its contributions in formulating guidelines for better poultry health management. In his

remarks, he advised more interaction of youth, general public about “Real Science” behind innovations in Research in solving problems associated with poultry health.

Dr. Mahesh P.S., Joint Commissioner & Director, CPDO&TI mentioned that Team CPDO&TI would conduct many such programmes in the coming months. The programme was conducted live on zoom, youtube channel of CPDO&TI along with recordings posted on facebook: cpdoti.bangalore, on youtube: CPDO&TI TRAINING and LinkedIn of INFAH. All are requested to download “Latest App of CPDO&TI” from Google Playstore by typing “CPDO&TI” for Android Version.

Sri. S.M. Anwar Basha, Senior faculty of CPDO&TI executed the job of Admin of conducting Discussion Forum very effectively and proposed vote of thanks for the delegates. The other team members of CPDO&TI worked hard in making this programme successful. Team CPDO&TI thank all the viewers participated through Zoom and Youtube. It is also acknowledged that Print Media extends great support by wide coverage of all online events of CPDO&TI across the country.

BROILER LIFTING RATES FOR THE MONTH OF JULY 2021

place	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
Hyderabad	110	112	114	116	118	120	122	124	125	127	130	132	133	133	133	133	135	139	139	139	139	130	130	132	132	132	132	122	122	112	112
Karimnagar	110	112	114	116	118	120	122	124	125	127	130	132	133	133	133	133	135	139	139	139	139	130	130	132	132	132	132	122	122	112	112
Warangal	110	112	114	116	118	120	122	124	125	127	130	132	133	133	133	133	135	139	139	139	139	130	130	132	132	132	132	122	122	112	112
Mahaboobnagar	106	108	110	116	118	120	122	124	125	127	130	132	133	133	133	133	135	139	139	139	139	130	130	132	132	132	132	122	122	112	112
Kurnool	106	108	110	116	118	120	122	124	125	127	130	132	133	133	133	133	135	139	139	139	139	130	130	132	132	132	132	122	122	112	112
Vizag	120	122	124	129	131	133	135	137	139	141	141	141	141	141	141	141	143	145	145	145	145	136	136	138	138	138	138	128	128	115	115
Godavari	106	108	110	116	118	120	125	127	132	134	137	139	140	140	140	140	142	144	144	144	144	135	135	137	137	137	137	127	127	117	117
Vijayawada	109	109	111	116	118	120	125	127	132	134	137	139	140	140	140	140	142	144	144	144	144	135	135	137	137	137	137	127	127	117	117
Guntur	109	109	111	116	118	120	125	127	132	134	137	139	140	140	140	140	142	144	144	144	144	135	135	137	137	137	137	127	127	12	12
Ongole	109	109	111	116	118	120	125	127	132	134	137	139	140	140	140	140	142	144	144	144											
Namakkal	97	97	97	100	103	107	109	109	118	118	118	118	123	123	123	125	130	130	133	133	133	133	133	133	133	117	117	106	106	113	113

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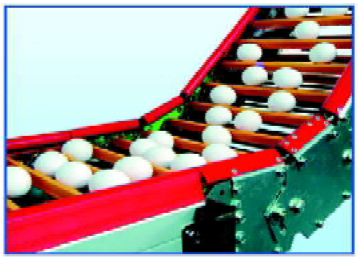

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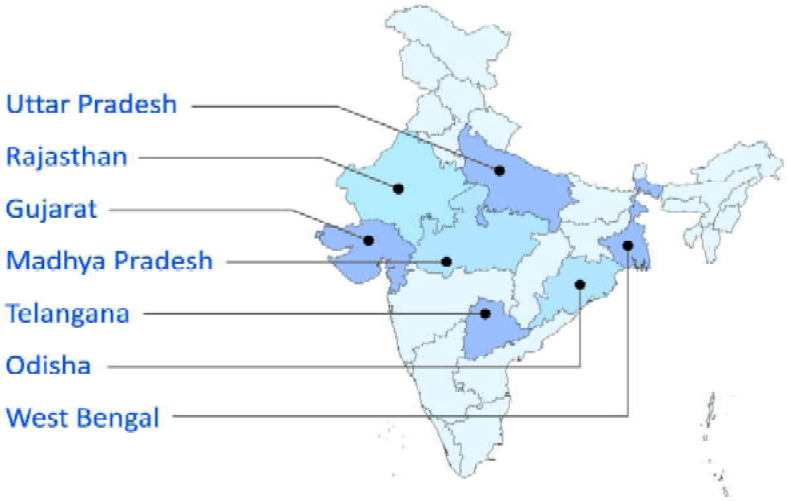

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BIOMIN Mycotoxin Survey Q2 2021 Results

Review of the occurrence of major mycotoxins in the first half of 2021 (January to June). In total 47,611 analyses were conducted on 10,075 finished feed and raw commodity samples originating from 68 countries.

Asia Pacific

Risk is extreme in South Asia, China and Taiwan. In Southeast Asia and East Asia, risk is severe. Compared to the same period last year (January-June 2020), abundance of Afla, T-2 toxin and OTA increased. *Fusarium* mycotoxins are most prevalent and are the main risk for livestock. FUM occurred in 90% of corn samples, and average stayed high with 2,049 ppb. In corn, DON, ZEN and Afla also threaten animal health. DON occurred in 84% of samples (average of positives 1,013 ppb), ZEN in 73% (average of positives 243 ppb) and Afla in 25% (117 ppb). 95% of corn samples contained at least one mycotoxin. Afla shows particularly high concentrations in corn and finished feed in South and Southeast Asia. In South Asia, Afla was present in 95% of finished feed samples (average of positives 39 ppb). In addition, Ochratoxin A was very abundant in this sub region of Asia.

In Oceania, risk of mycotoxin contamination is moderate.

North America

Risk in North America stays severe. DON is still one of the main concerns in all commodities. It was present in 69% of all samples (average of positives 1,044 ppb).

In corn kernels, DON prevalence is 72% with an average concentration of positive samples reaching 1,449 ppb. However, in corn FUM has the highest prevalence (73%), with a high average concentration of 2,050 ppb. A high average concentration of 297 ppb is also reported for ZEN in corn (prevalence 35%).

Additionally, finished feed samples show elevated mycotoxin contamination with DON present in 81%, FUM in 66% and ZEN in 32% of the samples. Average of positives FUM concentration is almost as high as in corn (2,046 ppb), and lower but still elevated levels of DON (877 ppb) and ZEN (173 ppb) were found.

Central America

Central America is at extreme risk as 77% of all samples tested positive for FUM. These positive samples contained, on average, 1,049 ppb FUM. Contamination with FUM is even higher in corn kernel samples (abundance 98%, average of positives 1,671 ppb). In addition, 86% of corn samples contained at least one mycotoxin. The

second most prevalent mycotoxin was DON, occurring frequently in all samples tested (72%) and particularly in corn (87%).

South America

Risk in this region is severe. *Fusarium* mycotoxins are the most prevalent, with FUM present in 66% of all samples, followed by DON (51%) and ZEN (42%). Aflatoxin was found in 30% of the samples (average of positives 7 ppb). Risk to livestock is mainly due to DON and FUM concentrations. Corn shows high abundance of FUM (83%, average of positives 1,569 ppb) and DON (50%, average of positives 529 ppb), and 96% of corn samples contained at least one mycotoxin.

Europe

Risk in Europe ranges from moderate to severe. The most prevalent mycotoxin is still DON (53%), followed by ZEN (50%) and FUM (42%). DON is the main threat for livestock. It occurred in different raw materials that were tested, including 66% of corn samples testing positive for this mycotoxin with an average of positives of 856 ppb. Apart from corn, straw and corn silage are heavily affected by DON (51% and 75% prevalence, respectively). Average of positive concentrations is in the same range as for corn with 820 ppb in straw and 725 ppb in corn silage. Central Europe is the most affected sub-region. In this region, 89% of corn samples tested positive for DON and showed high average concentration of 1,076 ppb.

Middle East

The Middle East shows severe risk, mainly due to the high abundance of *Fusarium* toxins. Most abundant in all samples is FUM (93%), followed by ZEN (70%), DON (61%) and Afla (27%). Risk to animal species is mainly due to DON and ZEN (average of positives 744 ppb and 112 ppb, respectively). Compared to the same period last year (January-June 2020), abundance of Afla, OTA and ZEN increased. Of all samples tested in the first half of 2021, 83% contained more than one mycotoxin.

Africa

In Sub-Saharan Africa, risk is severe. *Fusarium* mycotoxins are highly abundant: DON is present in 71% of the samples, followed by FUM (65%) and ZEN (54%). Compared to January to June 2020,

we see an increase in the abundance of all six well-known main mycotoxins. For animal health, DON is the highest concern with its high abundance and an average of positives concentration of 701 ppb. South African corn shows particularly high abundance and contamination levels with DON in corn (abundance 89%, average of positives 1,078 ppb).

Spectrum 380® results

Spectrum 380® is the most comprehensive mycotoxin detection service available. BIOMIN analyzed 307 samples between January and June 2021 using this advanced service. Due to the analytical method that is used (LC MS/MS), this method detects occurrence of not only the well-known mycotoxins, but also emerging mycotoxins and other fungal metabolites that are often not considered in regular analysis, but could still disrupt animal production.

Analysis shows that 34% of the samples contained 60 or more metabolites (per sample). Results for emerging mycotoxins show that all corn samples were positive for Moniliformin and 92% for Aurofusarin. In finished feed, 98% of samples showed presence of Beauvericin and 95% of Moniliformin. Negative effects of Moniliformin on poultry and rodents have been observed, including damage to the heart muscle and the immune system as well as respiratory distress. Further, decreased feed intake and weight gain was reported. For Aurofusarin, negative effects on poultry have also been observed, ranging from metabolic changes to a decrease in protein and fat content in chicken meat. High doses affected the immune system and decreased fertility. Beauvericin showed toxic effects in laboratory experiments with cell lines, but no acute effects *in vivo*. However, chronic effects still need to be determined and an impact on the immune system has been suggested.

(To download full report, visit https://www.biomin.net/science-hub/biomin-mycotoxin-survey-q2-2021-results/)

Kadaknath Chicken: Key facts and figures in improving human health

Rakesh Roy, Malda Krishi Vigyan Kendra, Uttar Banga Krishi Viswavidyalaya, Ratua, Malda-732205, WB

Kadaknath is one of the rarest poultry breeds of India which is local to Jhabua district of Madhya Pradesh (MP), India. Kadaknath chickens are generally raised by Bhil and Bhilala tribal communities of Jhabua and Dhar districts in MP. It has also got the geographical indication (GI) tag. The Government of India approved of the GI tag on July 30th, 2018, making it the only animal to have a GI Tag in the country (Anonymous, 2018).

Kadaknath is popular mainly for its adaptability, and the good-tasting black meat, which is believed to have medicinal properties. Apart from its qualitative characteristics, the demand of rearing and consumption of this bird has increased many folds with the help of social media. Further, MP govt. has come up with a mobile application to market the rare chicken breed. "MP Kadaknath" mobile app intends to connect poultries that sale the breed with people from other parts of the country (The Hindu, 2018).

The scientific Kadaknath production technology has reduced mortality rate to 10- 12% or even less which has enhanced the overall profits in Kadaknath chicken farming due to its higher survival percentage. Kadaknath chickens can be raised alike to country chicken or free range chicken. However, during its initial days it may need additional care and management to grow in controlled environment. Kadaknath chickens are best suited for backyard farming rather growing on commercial scales. Rearing of Kadaknath chicken is a viable option in enhancing the financial condition of resource poor and landless tribal farmers which may give a benefit-cost ratio of 2.57 (Mooventhan *et al.*, 2019).

Fact and figures about Kadaknath chicken in improving human health

Nutritive value

Kadaknath chicken is in high demand due to low fat (0.73-1.03%) as compared to other chicken breeds (13-25%). The cholesterol content is 184 mg per 100gm as compared to other chicken breeds (218 mg / 100gm). The protein content is 25 per cent as compared to 18-20 per cent in other chicken breeds. Locally known as 'kali masi', the chicken is popular for its black meat. Scientific data shows that the iron content in Kadaknath chicken is nearly 10 times than an ordinary chicken (Joseph, 2016). Further, Kadaknath chicken provides 8 out of 18 vital amino acids. Kadaknath also contains Vitamins B1, B2, B6, B12, C and E, niacin, calcium, phosphorus, nicotinic acid, etc.

According to the Senior Scientist and Head of Krishi Vigyan Kendra, Jhabua; the meat, eggs and other extracts of Kadaknath should be prescribed for post COVID-19 patients as it contain polyunsaturated fatty acids (PUFAs), Docosahexaenoic acid (DHA) – an omega-3 fatty acid, zinc, iron, vitamin-c and essential amino acids and other nutrients are immunity booster and can be beneficial for a COVID-19 patient to get well from the long term effects of the virus (Singh, 2021).

Medicinal value

Kadaknath meat and blood are consumed by people with chronic diseases and disorders like anaemia. Since it has lower cholesterol, it can be consumed by those with high blood pressure (Jadon, 2021). The melanin pigment in the blood of Kadaknath and its meat are supposed to be

advantageous for people with vitiligo in which the skin discolours erratically in blotches due to the deficiency of melanin.

Kadaknath meat is also believed to be useful in regulating menstrual cycle besides possessing aphrodisiacal properties. Studies conducted by the Central Food Technological Research Institute (CFTRI), Mysore, point out that Kadaknath meat is good for cardiac patients as it increases blood supply to the heart (Jadon, 2021).

Conclusion

The facts and figures of Kadaknath chicken in improving the human health are promising. Further, the increasing demand for rearing and consumptions are rising which ensures good marketability of the bird. But, some of the facts are believed or assumed which needs to be supported by good amount of researches in this aspect.

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PRESS RELEASE

Concern about present scenario of Poultry Industry by PF & BA (MH)

Poultry Sector is one of the most important sectors under Indian Agriculture. The poultry sector provides & ensures the fulfillment of protein requirement and balances the human nutrition. Today, India is one of the largest manufacturers of eggs and broiler meat. In the last two decades Indian Poultry Sector has contributed more than 5% in GDP to the overall Agri sector's GDP. However, since last one and half year Poultry Sector is facing a number of challenges on increased cost of production, misinformed reality about outbreaks of Bird Flu, Covid-19 restrictions and Natural Calamities.

Mr C Vasanthkumar
President - PF & BA(MH)

The recent outbreak of Covid-19 has created a massive crisis thereby initial depletion of demand in chicken products & later created awareness about importance of protein. Initial setbacks posed challenges before the poultry sector & created an unwarranted financial crisis amongst all the poultry farmers and the erosion of working capital has aggravated the situation.

Since last one year, skyrocketing prices of raw materials like soybeans and Maize have added to the woes of poultry farmers. High speculation activities in Soya contacts on NCDX has been disturbing the poultry sector for the last 8 months. For raw material supply, poultry sector largely dependent upon Soyabean. These speculations are one of the main reasons behind skyrocketing prices of eggs and chicken products in the retail market, which may leads to food inflation in the country.

We had a similar situation in 2006 when there was a first outbreak of Avian Influenza in the country. During that time the Government of India, announced Interest Subventions and increased credit duration to the poultry farming for the limited period.

Chicken and Eggs are the only cheapest non vegetarian protein sources available in the market. Now these increased raw material prices directly affecting retail chicken prices. As a result of which chicken is sold at Rs 250-300/kg in the retail market. This may leads to food inflation in the country amid Coronavirus outbreak. Government should look at this issue from a health perspective as Chicken had been endorsed by the World Health Organisation (WHO) as an immunity booster.

Considering all above aspects, Poultry Farmers & Breeders Association (MH) has put forward the following demands.

Fiscal Relief Measures :

1. Restructuring of Existing Term Loans : We request to reschedule the outstanding term loans, so as to provide extended time (6-12 months) for liquidation of loans in order to prevent the farmers turning into NPA
2. Interest Subvention of Rs 4 % : Considering financial losses, we request to grant interest subvention of at least 4% for a period of three years.
3. Grant Additional Working Capital : We request you to grant additional working capital loans to meet increased cost of productions.

Non Fiscal Relief Measures :

1. To avail Raw Material at fare price : We request Government to make available Soya and Maize to poultry sector at fare price
2. Allow import of crushed GM Soya seeds/ DOC for captive consumption of end users, poultry farmers. Considering skyrocketing prices of Soyabean, it is requested to allow import of crushed GM Soya seed/ DOC at least for the particular time frame to stabilize raw material market.
3. Removal of Soybean commodity from NCDX: Considering high speculations in Soya contracts on NCDX from the last six months, we request the Government as well as SEBI to remove Soybean as a commodity from NCDX as these speculations have huge potential to disturb the poultry sector or maximizing the margins for trade under soya commodity.

Warm Regards

Mr C Vasanthkumar

President

Poultry Farmers & Breeders Association (MH)

Evaluating Protease Enzymes

Dr. Koushik De, Technical ServicesDirector- SCA, Novus International

Enzymes increase nutrients available in feed ingredients. Since enzymes are substrate specific, the benefit of the enzyme in the diet is dependent on the mix of raw materials and the amount of substrate available.

Assessment of added value of enzymes isn't simple. The most accurate method is to use in vivo techniques with animals consuming semi-purified diets.

Dr. Koushik De

Using this method, the direct effect of an enzyme can be understood for each raw material. As this method is expensive and not available to do it for everybody, the matrix approach based on nutrients contribution values given by the supplier has been widely adopted to evaluate an enzyme.

Using a set of nutrient matrix values for an enzyme is a practical approach and providing unique matrix values to a given enzyme ensures it can be applied simply to any kind of diet, regardless of the raw materials or the amount of substrate. This approach has been easy to adopt in practical formulations but has consistently demonstrated enzymes failing to meet expectations. These failures have been due to the lack of or an excess of substrate, and/or over-formulation.

When evaluating enzymes, a few concepts need to be made clear:

1. **Substrate**: the specific substance on which an enzyme act
2. **Enzyme Effect**: nutrients that a given enzyme will make available due to the direct enzymatic effect and the additional benefits accrued by the reduction of the substrate in the diet
3. **Avoid over-formulation**: enzymes need "nutritional space" to express and thus diets need to be near the deficiency point to make a good estimation of the enzyme's potential.

Trials for evaluating enzymes

The test of an enzyme requires being aggressive in the formulation and pushing the limits. Under-performing chickens will help provide a better evaluation of the enzymes and understand how accurate the formulation is.

Challenge Model: In this model, the diet with significant reduction of nutrients, that the enzyme will liberate and make available to the birds, needs to be formulated. Different enzymes can then be added on top.

Objectives of the trial:

1. "AA room" is created for enzymes to show their potential.

Table 1: Challenge Model-Protease-10% reduction of the CP & AA from the specifications.

T1	T2	T3	T4	T5
Control	Neg Control	Protease A	Protease B	Protease C
Current Diet	Reduction of AA & CP by 10%	T2 + Protease A	T2 + Protease B	T2 + Protease C

Table 2: Response Model - Diet reformulation

T1	T2	T3	T4	T5
Control	Control 2	Protease A	Protease B	Protease C
Current Diet	Reduction of AA & CP by 5-10%	Reformulation of T2 + Protease A	Reformulation of T2 + Protease B	Reformulation of T2 + Protease C

2. Each supplier has different recommendations of how proteases affect the feed. This trial allows simplifying the comparison.
3. Proteases can't increase the AA digestibility 10% linearly. As a result, the AA ratio will be unbalanced and subsequently the performance of negative control as well as treatments will be lower than that of the control group.
4. The most aggressive protease will have the best performance compared to T2.
5. If any of the enzyme groups shows the same performance as the control group (T1), it signals some over formulation as no protease can increase 10% linearly on all the AA.

Response Model: The model is a variation of the 'Challenge model' discussed in the previous section. In this model, two control diets will be used; the current diet (this group is optional if there aren't enough treatments) and a diet group with anywhere between 5% to 10% lower AA specifications. The control 2 specifications will be used for the treatment groups. There will be a reformulation following the matrix value recommendation of each protease supplier.

Objectives of the trial:

1. Having T1 compared to T2 will assist in acknowledging any over-formulation or amino acid imbalance.
2. Having lower specifications in AA and CP creates enough space for the enzyme to express to potential.
3. This design allows each supplier to give their ideal recommendations.
4. If the enzyme recommendation is too aggressive, the enzyme group will clearly show lower performance than T2 as long as there is a gap of performance between T1 and T2.
5. If the enzyme recommendation is conservative and the enzyme can deliver additional benefits it will be reflected in greater performance than T2 as long as there is a gap of performance between T1 and T2.

NATIONAL EGG CO-ORDINATION COMMITTEE

DAILY / MONTHLY EGG PRICES DECLARED BY NECC AND PREVAILING PRICES AT VARIOUS PRODUCTION CENTRES (PC) AND CONSUMPTION CENTERS (CC) AUGUST 2021

Name Of Zone / Day	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Average
NECC Prices																																
Ahmedabad	460	463	466	469	472	474	474	460	450	430	430	430	432	434	436	440	442	442	442	442	442	430	430	432	435	438	438	441	441	-	-	445.34
Ajmer	415	415	420	427	427	415	405	405	405	390	390	405	405	405	405	410	410	410	405	405	405	409	410	415	415	415	418	420	-	-	-	410.04
Barwala	410	410	410	414	416	416	390	390	390	385	385	389	392	392	395	403	406	406	406	406	406	406	410	414	416	416	419	423	-	-	-	404.32
Bengaluru (CC)	450	450	455	460	460	470	470	470	450	440	430	420	410	410	420	425	435	435	435	435	435	435	435	410	410	410	415	415	420	-	-	435
Brahmapur (OD)	436	440	443	452	459	465	465	429	429	408	408	408	408	408	413	417	420	423	423	423	423	411	411	414	421	426	431	433	433	-	-	426.9
Chennai (CC)	480	480	480	480	480	485	485	485	485	460	460	460	430	430	430	440	440	450	450	450	450	450	450	430	430	430	430	430	430	-	-	454.14
Chittoor	473	473	473	473	473	478	478	478	478	453	453	453	423	423	423	433	433	443	443	443	443	443	443	423	423	423	423	423	423	-	-	447.14
Delhi (CC)	425	425	425	425	430	430	430	410	410	410	405	410	410	412	412	418	425	425	425	425	420	420	420	428	435	435	-	442	445	-	-	422.57
E.Godavari	425	428	431	436	441	446	446	416	416	395	395	395	395	395	398	401	404	407	407	407	407	393	393	396	401	406	411	416	416	-	-	411.14
Hyderabad	423	426	429	432	435	435	435	410	380	380	380	380	380	385	390	393	396	396	396	396	396	380	383	388	393	398	403	403	-	-	-	400.75
Ludhiana	396	396	400	410	414	414	414	399	391	391	385	385	390	392	392	401	405	405	405	405	400	401	406	413	416	416	416	422	-	-	-	402.86
Mumbai (CC)	480	483	486	489	492	495	495	480	470	450	440	440	440	440	445	450	453	453	453	453	453	440	440	440	443	448	448	453	453	-	-	458.79
Muzaffurpur (CC)	457	457	452	462	467	467	462	452	448	448	448	448	452	452	452	452	452	452	452	452	457	457	457	462	462	467	467	471	471	-	-	457.07
Mysuru	450	450	457	462	462	472	472	472	450	440	430	421	410	410	421	427	435	435	435	435	435	435	435	410	410	410	415	415	421	-	-	435.59
Nagpur	450	450	450	453	456	460	460	440	420	420	410	405	405	400	407	407	417	417	417	400	393	393	393	393	403	410	417	417	-	-	-	420.11
Namakkal	460	460	460	460	470	470	470	470	450	450	450	420	420	420	420	430	430	430	430	430	430	430	410	410	410	415	415	420	420	-	-	436.55
Patna	462	457	457	462	467	467	462	452	448	448	448	448	448	452	452	452	452	452	452	452	452	452	452	457	457	462	462	467	467	-	-	455.79
Pune	470	473	476	479	482	482	482	470	460	440	430	430	430	430	435	440	443	443	443	433	433	420	420	420	422	425	427	430	430	-	-	444.76
Ranchi (CC)	476	471	467	467	471	471	471	467	467	462	457	457	457	457	457	457	457	457	457	457	462	462	462	467	467	471	477	477	477	-	-	464.9
Vijayawada	435	438	441	446	451	456	456	426	426	405	405	405	405	405	408	411	414	417	417	417	417	403	403	406	411	411	411	416	416	-	-	419.93
Vizag	440	442	444	450	455	460	460	425	425	425	425	425	425	425	425	425	425	425	425	425	425	400	400	405	410	410	411	416	416	-	-	426.52
W.Godavari	425	428	431	436	441	446	446	416	416	395	395	395	395	395	398	401	404	407	407	407	407	393	393	396	401	406	411	416	416	-	-	411.14
Warangal	425	428	431	434	437	437	437	412	382	382	382	382	382	387	392	395	398	398	398	398	398	382	385	390	395	400	405	405	405	-	-	402.83
Prevailing Prices																																
Allahabad (CC)	452	448	448	452	452	457	457	443	443	433	433	429	429	429	429	438	438	438	438	433	433	438	438	438	438	438	443	443	448	-	-	440.55
Bhopal	445	450	455	457	460	460	450	450	430	405	400	400	405	407	407	407	410	425	425	400	405	405	405	405	405	410	415	420	-	-	-	422.07
Hospet	410	410	415	420	420	430	430	430	410	400	390	380	370	370	380	385	395	395	395	395	395	395	395	370	370	370	375	375	380	-	-	395
Indore (CC)	445	450	455	460	455	455	430	430	430	430	400	400	415	400	415	420	420	415	405	400	400	400	410	400	415	400	400	410	-	-	-	420.18
Jabalpur	435	438	455	445	448	443	438	432	417	417	397	399	401	403	410	417	417	410	405	400	402	404	406	409	411	414	416	416	-	-	-	418.04
Kanpur (CC)	467	467	467	467	467	467	467	467	467	467	467	467	467	467	467	467	467	467	467	467	467	467	467	467	467	467	467	467	467	-	-	467
Kolkata (WB)	475	480	490	505	510	510	475	475	465	465	465	465	465	467	470	473	476	476	476	476	456	456	456	460	465	470	475	475	480	-	-	474.21
Luknow (CC)	490	480	480	470	470	470	470	470	470	470	470	466	460	460	460	460	460	460	460	460	460	460	460	460	460	460	477	477	477	-	-	467.14
Raipur	425	430	430	442	445	445	430	421	410	400	400	400	405	405	410	415	420	420	420	410	385	385	385	395	395	405	411	411	-	-	-	412.68
Surat	470	473	476	479	482	484	484	470	460	440	440	440	442	444	446	450	452	452	452	452	452	440	440	442	445	448	448	451	451	-	-	455.34
Varanasi (CC)	467	467	467	473	473	473	457	450	450	450	450	450	457	457	457	457	457	460	460	460	460	460	460	467	467	473	473	473	460	-	-	461.55

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Chick Feed Tray


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Deluxe Drinker
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Feeder


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Tel : 040 64610508, Mobile : 92466 59508, E-mail : info@saikrishnapoultry.com, Web : www.saikrishnapoultry.com

PRESS RELEASE

In favor of Farmers, Central Govt announces Soya meal Import

Livestock Industry & All India Poultry Breeders Association (AIPBA)'s Chairman, Shri Bahadur Ali

"On the behalf of entire Indian Poultry Farmers, Aqua Culture Farmers (Fisheries and Shrimp), Dairy Farmers, I would like to thank our Hon'ble Prime Minister Shri Narendra Modi Ji, Hon'ble Home Minister Shri Amit Shah Ji, Hon'ble Cabinet Minister of Environment Govt. of India Shri Bhupender Yadav Ji for making this historic decision of allowing GM Soya Meal Import for the first time in the favour of Livestock Farmers.

SHRI BAHADUR ALI
Chairman. AIPBA. Founder
MD, ABIS Exports (I) Pvt. Ltd.

It will be imported under chapter 23 of the customs rule. Under HSN code 234020/30 Duty will be accordingly put.

1. **Seller has to declare the "Soya meal consignment is for Animal Feed purpose and not for Food".**
2. **Importing CHA has to take the declaration from Importer that "The use of consignment is for Animal Feed use and not for Human Food."**

We would also like to thank Hon'ble Minister Commerce and Industries and Food, Consumer Affairs Govt of India, Shri Piyush Goyal Ji, Hon'ble Minister State for Commerce and Industries Govt of India Shri Som Prakash Ji, Hon'ble Minister of Animal Husbandry Dairying and Fisheries Shri Parashottam Rupala Ji, Hon'ble Minister of State AHD&F Dr. Sanjeev Balyian Ji and their entire office Shri Atul Chaturvedi Ji Secretary (AHD), Dr. O.P. Chaudhary, Joint Secretary (NLM/PC) Department of AHD for standing in support of Livestock Industry and taking the initiative to save guard more than 10 crore Indian Livestock Farmers and 5 crore people who are engaged in livestock employment directly or indirectly at the time of distress caused due to shortage of Soya Meal/De-oiled cake which will ensure our nation's livestock is fed, so that the Nations citizen can be fed milk (Dairy), Chicken, Egg (Poultry), Fish and Shrimp (Aqua) regularly and with affordable price.

Shri Gulrez Alam, Secretary, AIPBA & Director, IB Group and Shri Ashish Gupta Executive Member, AIPBA who have tirelessly worked in favour of the Livestock Industry.

The entire Livestock Farmers and I feel secure and thankful under the dynamic leadership of Shri Narendra Modi Ji".

पशुपालन और डेयरी विभाग
DEPARTMENT OF ANIMAL HUSBANDRY AND DAIRYING

CLFMA OF INDIA
ASSOCIATION OF LIVESTOCK INDUSTRY

28th July 2021
3:00 PM Onwards

Webinar on Animal Husbandry Infrastructure Development Fund

Event Coordinator
Saurabh Sood
+91 8130130138

Program Schedule

Time (PM)	Session	Key Speakers
03:00 to 03:10	• Opening Remarks	• Dr. O. P. Choudhary, Joint Secretary, DAHD, GOI
03:10 to 03:30	• Introduction & Background about AHIDF • Emerging Trend and Prospects of Feed Manufacturing	• Dr. S. K. Dutta, Joint Commissioner, DAHD, GOI • Sh. Neeraj Srivastav, Chairman, CLFMA.
03:30 to 04:10	• AHIDF Guidelines and Application Process	• Dr. Lipi Sairiwal, Asst. Commissioner, DAHD, GOI
04:10 to 04:20	• Question & Answer	• Department of Animal Husbandry & Dairying, Govt. of India
04:20 to 04:30	• Closing Remark • Vote of Thanks	• Sh. Suresh Deora, Secretary, CLFMA • Mr. Karan Sharma, Associate Director, Grant Thornton Bharat LLP

Advantages of AHIDF

- Cabinet approved AHIDF with an outlay of Rs. 15000 crore" on 24th June 2020
- Project loan upto 90% of project cost from scheduled banks
- Interest Subvention of 3% payable upto 8 years
- Credit Guarantee Coverage for MSME upto 25% of loan facility
- No limits on loan amount

Click here to Join: https://gtindia.zoom.us/j/92106771740
Meeting Password: dXtSdLMys2

Press Release Report

CLFMA organized a webinar on "**Animal Husbandry Infrastructure Development Fund (AHIDF)**" in association with the Department of Animal Husbandry & Dairying on 28th July 2021 from 15:00 hrs/3:00 pm onwards. Dr. O.P. Chaudhary, Joint Secretary (NLM/PC) Department of Animal Husbandry & Dairying, Govt. of India, Dr. S.K. Dutta, Joint Commissioner, Department of Animal Husbandry & Dairying, Govt. of India, Dr. Lipi Sairiwal Assistant Commissioner, Department of Animal Husbandry & Dairying, Govt. of India, Shri. Sadique Akhtar, Team Leader, PMA (Manager, Grant Thornton Bharat LLP), Shri. Udit Paliwal, Program Management Expert, PMA (Consultant, Grant Thornton Bharat LLP) from GOI showed their valuable presence for the Webinar. Dr. O.P. Chaudhary, Joint Secretary (NLM/PC), Department of Animal Husbandry & Dairying, Govt. of India was unable to connect the Webinar.

CLFMA's Second Online Webinar on the AHIDF with Government of India started with Opening

Remarks & Introduction by Dr. S.K. Dutta, Joint Commissioner, Department of Animal Husbandry & Dairying, Govt. of India. He briefed on the AHIDF (Animal Husbandry Infrastructure Development Scheme) of Rs.15000 Crores, under which, animal feed component was also included. He said that, the scheme enables the beneficiary to take the benefit of 90% the loan from the Bank, on which, 3% interest subvention is provided by the GOI., apart from this there is also a provision for availing 25% of the total borrowings as credit guarantee.

A short movie on AHIDF scheme was played during the Webinar to give a glimpse of the entire Scheme. Shri. Sadique Akhtar, Team Leader extended his thanks to the participants. He welcomed Shri. Neeraj Kumar Srivastava, Hon'ble Chairman of CLFMA. Shri. Suresh Deora, Hon'ble Secretary of CLFMA. He has also thanked Mr. Divya Kumar Gulati, Dy. Chairman of CLFMA and all the participants & Dr. Lipi Sairiwal, Assistant Commissioner, Department of Animal Husbandry & Dairying, Govt. of India to participate in this program. He welcomed all the participants and the member of CLFMA for giving their valuable time to participate in the webinar.

Chairman, Mr. Neeraj Kumar Srivastava introducing CLFMA OF INDIA to the panellists and

participants and gave a presentation on "Emerging Trend and Prospects of Feed Manufacturing". He said that, CLFMA was very enthusiastic about this Webinar as the AHIDF scheme of Rs.15,000 Crores floated by GOI., and the same is very beneficial for the upliftment of the Livestock Industry. He also briefed on CLFMA policy, which included three core values viz.

1. Membership Value
2. Visibility and Credibility of the Organization
3. The recognition and influence.

Chairman, Mr. Neeraj Kumar Srivastava also briefed on the Poultry Feed Scenario & Industrial Scenario, current soaring price of the grains, especially the soybean meal & other protein sources which has created a huge havoc in the livestock industry. He gave an outlook of the challenges / difficulties faced by Livestock Sector during Covid 19, rising feed cost Post Covid-19 and gave the opinion of implementing better value chains, trainings, equipment, equipment's, and employee's safety.

He briefed on the pivotal role played by CLFMA for the upliftment and sustainability of compound feed industry and animal farmers, present ongoing trends and how the Livestock Industry could be helpful in reviving the Animal Husbandry Sector in the Country.

Dr. Lipi Sairiwal. Assistant Commissioner, Department of Animal Husbandry & Dairying, Govt. of India explained AHIDF Guidelines and the entire process of application process in detail, which are available on the GOI. She has also guided on how to apply for the loan to all the participants.

Website: dahd.nic.in & ahidf.udyamimitra.in

Shri. Udit Paliwal, Program Management Expert, Dr. Lipi Sairiwal, Assistant Commissioner, Dr. S.K. Dutta, Joint Commissioner, Shri. Sadique Akhtar, Team Leader interacted very well in Q&A Session with the participants and tried to resolve every question and for any further queries, they requested to contact either CLFMA OF INDIA or directly on the website, where contact details are available, so that they can try to handhold and help the related stakeholders.

Closing Remark was made by Shri. Suresh Deora, Hon. Secretary of CLFMA. He said the, AHIDF fund was a very good project for people in Industry whether they are Farmers, Section 8 companies, Proprietor, Partnership Firm, etc., as they can avail interest subvention of 3% on 90% of the Loan. He appreciated Dr. Lipi Sairiwal for presenting the detailed guidelines of the scheme. He suggested the Government of India to consider the following requests to be included under the scheme:

1. Please expand the scope of the Scheme;
2. To add some more products like feed supplements and additives, by pass fat, breeder broiler and hatchery farms;
3. To link up this scheme with CGTME scheme. Where, there is a non-collateral loan up to Rs.2 Crores & he said that, if this scheme is combined with CGTME Scheme CLFMA will be very grateful to the whole Ministry.

Mr. Suresh Deora, Hon. Secretary CLFMA extended thanks to everyone on behalf of himself and CLFMA for organizing this webinar & requested Dr. S K Dutta, Joint Commissioner that Government of India shall consider CLFMA's requests.

Vote of thanks was proposed by Shri. Sadique Akhtar, Team Leader, PMA (Manager, Grant Thornton Bharat LLP)

Total participation for the Webinar was 150 & 63 participants registered for the same.

Third Edition of RESCOM SUMMIT 2021 E-Conference

Organized by

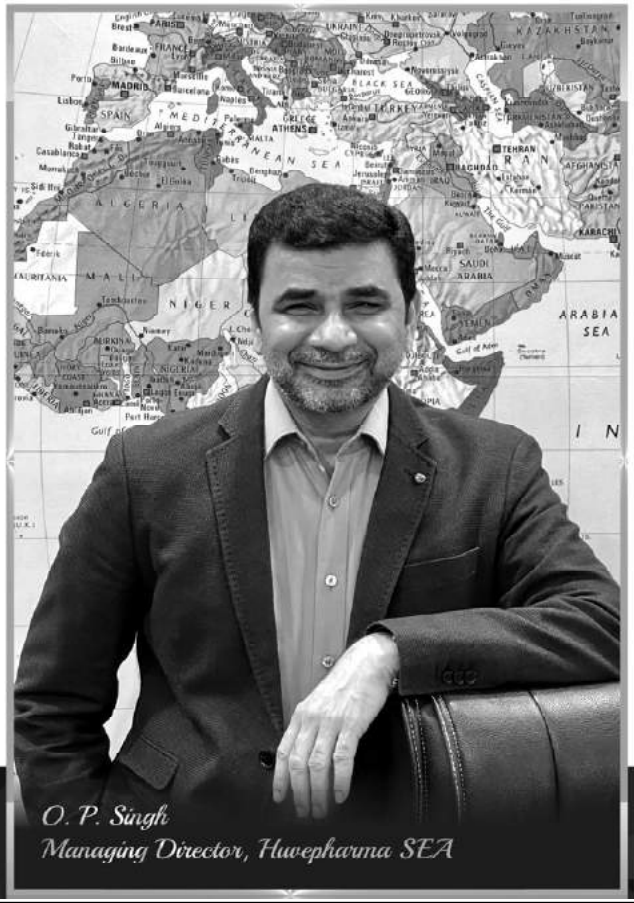
Huvepharma SEA

(On 2nd & 3rd of August)

RESCOM SUMMIT 2021, an initiative of Huvepharma SEA (Pune) Pvt. Ltd., is the third in the series of technical conferences mainly focused on **RES**piratory **COM**plex in the poultry segment. This specially designed conference, exclusively for veterinarians, nutritionists, pathologists & technocrats who contribute immensely to the poultry industry through their technical expertise and commitment, is a knowledge sharing platform to interact with nationally and internationally reputed panel of speakers & experts.

The previous **RESCOM SUMMIT 2015 & 2017** was held offline at GOA & Hotel Jaipur Marriott, Rajasthan & it was attended by over 280 - 300 veterinary pathologists also university professors from all over the India & Bangladesh.

This year **RESCOM SUMMIT 2021** was held in collaboration with the Symbiosis School of Biological Sciences (SSBS) on online platform. "A Unified Mission" was the theme for RESCOM SUMMIT 2021, attended by an overwhelming number of technocrats, veterinarians, consultants from across the globe.



The third edition of the **RESCOM SUMMIT 2021** E-conference was started with opening remarks delivered by Mr. O. P. Singh. He heartily welcomed all the participants who had connected digitally &

briefed about the event. He has mentioned the **RESCOM SUMMIT 2021** has been a ambition of Huvepharma to connect technology of not only in India probably in Asia. He addressed about the responsibility towards unified mission for food safety, he elaborated the future challenges of poultry industry.

He also presented alarming statistics of economic depletion in Indian poultry industry due to mycoplasma disease mismanagement & explained the importance of data collection & disease mapping.

While concluding his opening remarks Mr. O. P. Singh has given the strong message to all industry people on the need of creating awareness & rebuilt the image of Indian poultry industry also he has explained the importance of food safety & public health. He has invited everyone in unified mission plan which was going to be made in two days time of E-Conference. He requested to all the industry technocrats to visualize, perceive, catered & calibrate the risk of Human health, disease management & the environment safety. Requested to build up an infrastructure of relevance & prepare a action plan to strengthen the production system.

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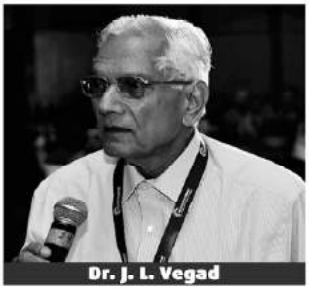
Huvepharma SEA honoured the Pioneer's of Animal Health Industry on the occasion of RESCOM SUMMIT 2021 E-Conference. All the honourable scientists were felicitated & presented with mementos for their valuable contribution & excellence in the field of veterinary science.


Dr. J. L. Vegad


Prof. Dr. R. N. Sreenivas Gowda


Dr. K. S. Prajapati


Dr. N.K. Mahajan

Dr. J. L. Vegad was professor & head, Department of Veterinary pathology at Jawaharlal Nehru Krishi Vishwavidyalaya, Jabalpur. He was then professor emeritus of the Indian Council of Agricultural Research, New Delhi. He obtained PH. D. from New Zealand under a commonwealth scholarship.

His contributions to the study of acute inflammatory response in the sheep & chicken are pioneering. He has published more than 150 research papers, 60 of them in British, American & New Zealand journals.

For ten years he was on the editorial board of 'Comparative Haematology International' published from England. For 7 years he was president of the Indian Association of veterinary pathologists.

Prof. Dr. R. N. Sreenivas Gowda Founder Voice Chancellor Karnataka Veterinary Animal & fisheries Sciences University Bidar. He was a recipient of number of awards including, University gold medal for outstanding research & prestigious CLFMA award, & lifetime achievement award UAS alumni association & Indian Poultry Science Association, Indian poultry journalists Association.

He was invited by several countries such as USA, Germany, France, UK, Netherlands & Australia to present his research papers. He guided more than 40 master & doctoral degree students to his credit. He was adviser for more than 160 post graduate students of different fraternity.

Pioneers of Animal Health Industry

Dr. N.K. Mahajan
Is a PHD. in Veterinary Public Health & Epidemiology from Hisar.

He was Regional Director in Referral veterinary diagnostic and extension centre, Mahendergarh, as well as he was a Professor and Head and Senior Disease Investigation Officer (Poultry), Dept. of Veterinary Public Health & Epidemiology, Hisar, Haryana.

He was also Nodal Officer, Jalandhar and Wild Life Centre. He has more than 30 year' experience in poultry disease investigation besides teaching to undergraduate and postgraduate veterinary students.

Dr. K. S. Prajapati.
Former HOD, Department of Pathology, Veterinary College, Anand

He is Councilor in the World Poultry Science Association. Dr. Prajapati guided 25 MVSc and 5 PHD students in Veterinary Pathology. Also He has published 77 research papers in national and International journals of repute, presented 93 papers in various workshops and has published 24 popular articles. He was honoured with Outstanding Poultry Pathologists And Exemplary Veterinarian Awards. Also Indian Association of veterinary pathologists confers Fellowship on Dr. K. S. Prajapati for his outstanding contributions to the Advancement of Veterinary Pathology in India.

★ SPEAKER'S OF THE E-CONFERENCE ★

The RESCOM SUMMIT 2021 E-Conference was two day affair with the first & second day's agenda having three technical presentations on per day.

On first day 2nd of August first presentation of the day was by Dr. Mieke matthijs Head of Poultry Health Sciences, Utrecht University, Netherlands. Utrecht University is one of the oldest universities in the Netherlands and one of the largest in Europe. It is an international research university of the highest quality and the alma mater of many leading names, academics and scientists who have made an important contribution to the quality of society.

In her career so far, Dr. Matthijs has worked as a Practitioner, Poultry Veterinarian, Researcher and played many academic and research roles. Dr. Matthijs is an active Board member of the Veterinary Poultry Science Association of the Royal Dutch Veterinary Association, since 2008.

Dr. Matthijs spoke on the topic "The Impact of the Respiratory Disease Complex: Solution and Economic Impact." Dr. Matthijs briefed about *Mycoplasma gallisepticum* & Its severity. also Dr. Matthijs explained Mycoplasmal infection along with intercurrent infections, how antibiotics and vaccination are some important parameters to be considered. Also she explained that 'Mycoplasma' is sensitive to antibiotics inhibiting Protein synthesis, so it is good for Temporary reduction of MG and its clinical sign, but frequent requirement of treatment, resistance residues and No complete elimination of infections are some disadvantage of Antibiotics.

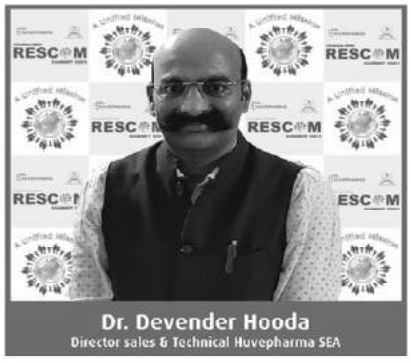
Her second days presentation was on "Biosecurity in Poultry Farms- Emerging and remerging health challenges". She started her presentation with brief introduction of Biosecurity system at farm level & strategies. For ensuring the protection against infection. She also discussed about farm management & vaccination. While concluding her presentation she elaboratory analyzed that 1. Biosecurity is the key approach to prevent introduction and spread of pathogens in poultry farms. 2. Strict compliance is difficult but very important. 3. No one size fits all approach, design Biosecurity program that fits a farm.

The subsequent session was held by Dr. Santosh Koratkar who is a veterinarian, having 16 years of experience in the field of classical virology.

He was assigned as a Research Scientist-II in the National Institute of Virology (NIV) on a project entitled "Multisite epidemiological & virological monitoring of human influenza surveillance network in India phase I and II" for 7 years.

He was a part of the national team for Avian Influenza outbreak investigation and surveillance studies. He worked on pathogenicity studies of high pathogenic and low pathogenic avian influenza viruses isolated during the outbreak and surveillance.

Dr. Koratkar presented on the topic "Molecular & phylogenetic analysis of avian mycoplasmosis: a tool for futuristic decision making in India". He briefed about Mycoplasma & it's resistance to antibiotics. He also discussed about the diagnosis techniques, i.e.: Isolation of organism, Serological tests, Nucleic Acid Detection through PCR and sequencing of the specific gene & the technique for DNA isolation and PCR. He presented the year wise percentage for MG & MS. positivity from year 2017-2020 in India. Dr. Koratkar concluded that conventional culture techniques are difficult, yet it gives a confirmatory diagnosis. He said that molecular diagnosis based on nucleic acid detection of mycoplasmosis is fast and more sensitive also he concluded his presentation by informing that PCR/ gene sequencing techniques are better in differentiating species and strain of avian mycoplasmosis.



The final speaker for the first day was Dr. Devender Hooda who is a part of poultry health industry for over 18 years & has worked across segments – vaccines, feed additives & antimicrobials amongst others, with a special interest in poultry pathology.

A qualified veterinarian, he has also completed his MBA from IIM Ahemdabad. Presently associated with Huvepharma SEA as Director Sale & Technical.

Dr. Hooda's presentation was on "Epidemiological impact study of Mycoplasmosis prevalence – A clinical tool in Indian Context" He explained about the importance of vertical transmission stated that vertical Transmission has very high impact on future generations and it also deteriorates chicks' quality.

He said that as per his experience in the industry, it is the costliest disease in the Poultry, as it greatly impacts the profitability of poultry farm.

Dr. Hooda explained about Mycoplasma Antibody response & suggested to continue CRD control Program and shown some field studies and the findings. He concluded his presentation by saying that Prevalence of MG and MS- both are high, whereas MS is becoming more pathogenic than we thought before. He said that laying flocks were never better treated in prevention program and will be remain carrier for rest of the life.

★ SPEAKER'S OF THE E-CONFERENCE ★

On second day of RESOCM SUMMIT 3rd of August the second presentation was made by Mr. Jean Charles who is Expert in providing solutions for Animal Farming Stakeholders in a B to B relationship & International Environment. Having 18 years' experience in Hygiene in Animal Farming , also 10 years' experience in Animal Nutrition, with a strong background in sales & Marketing.

He presented on topic "Biosecurity- Face of Avian Influenza" to protect and prevent Biosecurity principles. He covered the details of Biosecurity Principles & products to be used to ensure the safety against infections. He also presented the important data for Biosecurity and structure, size, transmission of AI virus in the environment. He briefed very specific information in terms of chemistry, application & prediction how each molecule functions in managing the Biosecurity system. He further said that HYGIENE protocol is also an essential part of Biosecurity where detergent is important for cleaning, wetting and biofilm breaking to remove grease, protein and carbohydrates and also to break biofilm and let water penetrate and reactive microorganism metabolism. During his presentation on Biosecurity protocols he suggested to Adapt practices to the field, choose products for their effectiveness for sure, but also for their versatility and taking in account the field situation & formulation is key for efficacy and versatility but also for cost effectiveness. While concluding his presentation he summed up with saying that Biosecurity protocol must be adapted to the situation. Use of classical protocol for standardized the risk of Avian Flu, also maintain External Biosecurity for personnel, Domestic and Wild animals, Vehicles etc.

The last technical presentation of the RECSOM SUMMIT 2021 was presented by Mr. Osler Desouzart who is a member of the advisory board of the World Agriculture Forum and has his own consulting company, OD Consulting, Market Planning & Strategy, with clients in different countries of the Americas, Europe, Africa & Asia.

Desouzart has spent most of his professional career in the international marketing of meats, having worked for the largest pork and poultry industries in Brazil (Sadia & Perdigao) heading their foreign trade department.

He presented on the topic "COVID19 Pandemic Hanging Meat Market Dynamics in Asia - An Opportunity or Threat to Indian Producers". He started his presentation with a note that three tsunamis that turned the world upside down first was African Swine Flu, Second the COVID 19 and the third another tsunami post COVID 19 economic recession. Following an unprecedented contraction, the world economy is on firmer footing and told about the recovery of two power houses of Asian economy which include India as well. He also presented the figure of IMF growth forecast where India is expected to grow at 6.9 in the year 2022. He corelated how economic growth affects meat market. He further said that 18 percent of global meat consumption will be served by international trade and poultry led by chicken will assume a leadership that will be permanent and with an explosive increase in international trade. He said that Latin America and Asia will lead the poultry meat production growth in the next decade. He also briefed about the positive aspects for Indian Poultry sector where positive demography, growth in the poultry meat consumption and huge potential for further growth. He advised as not to engage in simplistic market diagnosis like "a chicken is a chicken and what matter is price" Your international competitor will not do that. He concluded his presentation by saying that chicken from outside will surely come, prepare yourself to engage them as of now & bring allies to support you.

RESCOM SUMMIT 2021 concluded with the brain storming sessions conducted by Dr. Alain Kanora, International Sales Director Affiliates at Huvepharma and Mr. O. P. Singh, where they had touched upon various subjects which are major challenges of Indian Poultry Industry.
Closing remarks delivered by Mr. O. P. Singh. He thanked all participants for their support & active participation.
He made special mention of the speakers who went to great lengths to communicate digitally with the audience & keep them hooked.
He encouraged the esteemed & knowledgeable audience to take the lead in establishing a safe food chain through healthy poultry in the interests of the poultry industry as well as the consumers at large.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Introduction

The basic nutrients that poultry birds require for maintenance, growth and reproduction include carbohydrates, proteins, minerals and vitamins. The energy and protein are the most important as well as expensive nutrients in poultry diet. Maize and soyabean meal are the conventional feed ingredients commonly used in poultry industry because of its nutrients composition and digestibility. In recent year skyrocketing prices of conventional protein sources like soyabean meal, has leads to increase in feed cost and production cost of chicken. Today's biggest challenge in poultry industry is optimising feed cost by using alternative non-conventional protein sources like DDGS, Maize Gluten, Rapeseed Meal, Groundnut Cake, Cotton Seed Cake, Guar Meal, Sunflower Meal, etc. There are some limitations in using such alternative ingredients due to poor nutrient digestibility and presence of anti-nutritional factors like non starch polysaccharides (NSP's), phytate and protease inhibitors. Anti-nutritional factors are inhibiting normal feed digestion, & thereby bird's health results to compromised performance.

NSPs shows anti-nutritive effect and inhibit the digestion and utilization of dietary nutrients by two mechanisms. First mechanism linked with the fact that nutrients are encapsulated by the fibrous cell wall so that digestive enzymes cannot reach there thus nutrients remains unutilised. Second mechanism relates the viscous nature of digesta caused by NSPs which directly affects passage rate of digesta and nutrients utilisation. Phytate blocks the absorption of not only phosphorus but also other minerals, particularly calcium, magnesium, iron, and zinc. Phytate also negatively affect the absorption of proteins and lipids. Poultry birds do not produce enzymes for the hydrolyses of NSPs and phytate, present in feed. Use of exogenous enzymes like protease, xylanase, mannanase, phytase, amylase etc. gives flexibility in using alternative ingredients without compromising bird's performance by reducing anti-nutritional effects and improving nutrients availability.

Table: Antinutritional factors present in common feed ingredients

Feed Ingredient	Arabinoxylan	Mannan	Total NSP	Phytate P	Available P	Total P
Maize	5.2	0.2	8.1	0.2	0.08	0.28
Wheat	8.1	0.1	11.5	0.27	0.1	0.37
Bajara	3.6	0.1	10.4	0.175	0.085	0.26
Rice	0.2	0.1	0.8	0.065	0.085	0.15
Wheat Bran	21.9	0.6	35.5	0.39	0.21	0.6
Rice Bran	8.5	0.4	21.7	1.08	0.21	1.29
Soybean Meal	4	1.6	23.5	0.34	0.28	0.62
Rapeseed Meal	4	0.5	29.3	0.32	0.28	0.6
Sunflower Meal	11	0.6	40.5	0.34	0.28	0.62
Guar Meal	0.3	9.27	23	0.49	0.15	0.63
Groundnut Cake	6.6	0.5	35.6	0.48	0.15	0.63
Cotton Seed Cake	0.7	0.04	28.3	0.3	0.3	0.6
DORB	12.3	0.48	58.9	0.99	0.21	1.2
Maize Gluten	0.2	0.19	31	0.36	0.14	0.5
DDGS	11.7	0.5	25.3	0.2	0.1	0.3

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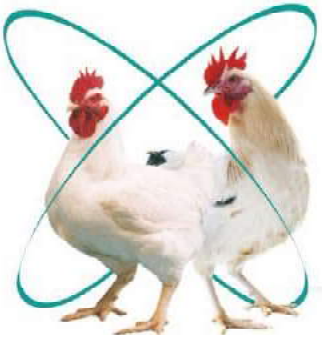

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