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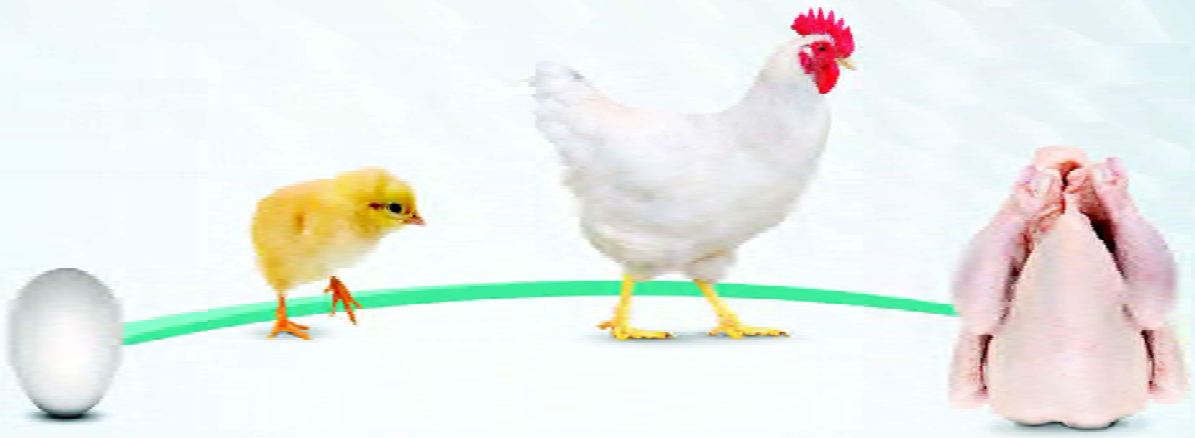

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PRESS RELEASE

Alltech®

Alltech Feed Manufacturer's Forum highlights feed quality optimization andmycotoxin mitigation

Animal feed includes various raw, processed and semi-processed products that are fed to livestock andpoultry.However, the quality of the raw materials being used is a rising concern due to several factors disruptingfeed production.It is every producer's responsibility to pay attention to ingredient qualitynot only to meet the nutrient requirements of the animals but also to keep costs low. Good quality feed production demands optimum utilization of materials, machinery, peopleand procedures.

In response to these challenges, Alltech hosted the Feed Manufacturer's Forum in Ludhiana, on November 17,to discuss feed quality optimization andmycotoxin mitigation.

About65 eminent poultry, dairy feed millers, consultants andfarmers attended the session upon invitation and enjoyed the programme making it a great success.

Dr. Nick Adams, Alltech's global director of mycotoxin management, discussed managing mycotoxins in the feed chain in his presentation, 'Mycotoxins-Facts and Mitigation'. Heasked attendees to think twice about clean feed, speaking about the importance of gut health, grain quality and highlighting the ways that Alltech 37+® mycotoxin analysis and Alltech RAPIREAD®can mitigate the negative effects of mycotoxins.

The renowned nutritionist Dr. Pradeep Mahajan captured the audience's attention with his presentation,'Feed Ingredients: Quality andProcessing'.He shared insights on different raw materials, their selection criteria, nutrient composition, extraction process and best feed milling practices, answering to several queries of the audience.

In the final session,Dr. Lokesh Gupta, seniorregional technical manager - Poultry (South Asia)presented on" Maximising nutrient digestibility and profit". He discussed the history of Alltech enzymes and shared the uniqueness of solid-state fermentation technology and its benefits in maximizing feed efficiency with greater savings.

The gathering also witnessed aspecial moment, as Alltech team along with Dr. Sayed Aman, managing director of India and regional director of South Asia for Alltech, launched the company's newest product in the enzyme category, **Allzyme® Prime,** a unique multi-enzyme complex.

-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

Indian Livestock Production

Dr Biradar Satish Chandra, Dr Vidayasagar, Dr Prashanth Hosmani, Dr Pallavi B and Dr Meenaxi Balure
Dept –Livestock Production Management, Veterinary College Bidar.

Indian livestock production depends on the weather which comes under tropical region lying between latitude 30 degree North and 30 degrees South (N-S 30^0) which has a direct sun ray falling on earth, making it the hottest region of the world, thereby influencing the crop and animal production. India possesses around 500 million livestock and 1 Billion plus human population. Here, the human population is not able to get quality food due lowered animal production and also due to various other factors as enumerated in chapter 1. The proportion of the population engaged in agriculture is also very high to the tune of 50 percent compared to 5 per cent of the population dependent on agriculture in United States. Higher the dependence on agriculture causes lowered progress in turns of technological implementation and adoption in case of Indian animal production, also the price of the animal commodity which is mostly controlled by the public sector due to the welfare measure for its citizens makes animal husbandry unviable. The average milk yield per cow per day in this region is at 15-20 per cent of the well developed nations milk yield. The meat production in this country is also low from sheep, goat and buffaloes. Except for poultry, all other species meat production is low due to lower availability of feed. The poultry and swine sector is at par with the developed nation figure of growth rate, feed conversion ratio, production and reproduction parameters. Due to the monsoon 6 months season and dry season 6 months, feed availability also coincides growth rate in animals. Cattle generally take 4- 5 years to get a body weight of 300-350 kg. The growth of the calf is dependent on adequate milk from the dam, which is often diverted to human consumption and very low say 2- 3 liters of milk is offered to the calf which lowers its growth rate and further it attains adult body weight late. So the overall animal production in India is on lower feed availability, constant attack by pest and diseases thereby contributing very little in terms of yield of milk, meat and egg.

The basics of livestock production depend on good systems of breeding, feeding and management. As enumerated earlier the region falling in tropics has acute shortage of feed supply and therefore lowered yield.

The duration of rain in most part of the country is for 4 months. Most of the milk and meat comes from the rural India and a typical village in India has some 200 families, with around 1000-2000 acres of land, mostly used for agricultural crop production and some common community grazing land which is often over grazed, with hardly any grass. Animals are kept on grazing plus some crop residues as feeding regime, which are the leftover products of agriculture production. Concentrate feeding is by and large not practiced except if the farmer is well aware and keeping stock of high genetic merit. The animals are fed with grass grown on border areas and harvested from the field as weed while the actual crop is growing. During non crop season the animals are fed with straws of agricultural crops. The cattle are generally reared for dung for enriching the soil from manure and some milk for house hold consumption. Then there is a practice of making dung cake dried in sun to be used as fuel for house hold cooking purpose. The feeding standards which emphasises the requirements of energy and protein for various categories of animals are generally not followed. Of late commercial dairy farming is taken up by the farmers, due to regularity of cash from the sale of milk and also due to the various skill enhancement programmes undertaken by the government and cooperative agencies wherein, land is set aside to grow fodder and are fed adequately close to the feeding standards.

The increased temperature in tropical conditions also makes matter worse by having the forages low in protein, low soluble carbohydrates and less digestible energy compared to the grasses grown at temperate region which has higher nutritive value. The early maturity in tropical grass causes increased lignin content thereby lowering the intake and digestibility. The concept of feeding legumes to the livestock is also not emphasised in India. All these conditions lead to increased susceptibility to the disease and parasites and lowered production due to disease stress. The other problems of mastitis, tuberculosis, brucellosis and diarrhoea add to the economic burden to the farmer of tropical countries. Then again we have a public policy of no cattle slaughter worsening stocking density of the region. The increased temperature puts additional stress on the animal to cope with the thermal balance.

The non recording of performance or not keeping the records makes selective breeding impossible and breeding is generally done based on like begets like concept. The low feed intake along with the thermal stress cause the animal to focus more on survival than on production, hence we have often low adult body weight.

The collective burden of temperature, low feed availability, disease, poor skills, low marketing and infrastructure, less price to the commodity all makes animal husbandry less remunerative. This shouldn't be thought of as final and we must not sit pessimistic and we must learn from Israel being a tropical country has adopted the latest technologies in animal production to have better yielding meat and milch animals. In our own country Gujarat can be a role model for other parts of the country to follow.

Why livestock need to be improved

The livestock is very much essential to uplift the socio economic aspects of the rural masses by proving year long employment, food, manure for soil fertility, increased agriculture crop production and psychological wellbeing. The present per capita consumption of animal protein in India is 0.3 g/d as against the requirement of 1 gram per day. The well developed nations consume one liter of milk per day and an egg per day per person, whereas, it is abysmally low in our country. The diet need to be balance with adequate proteins which is generally short in supply in our country. Animals are also involved in draught power, leather yield and entertainment. There is wide variation in the yield of milk and meat, hence this variation gives hope for improvement in animals. For example the average milk yield in Israel is 40 liters per day per cow, whereas, In India, it is 4 liters per cow day per. These variation are the reasons for low consumption of animal protein in the diet of Indian citizens. Problems' existing in the husbandry sector only prove that the scope for improvement also exists. Japan is also a leading example to guide us in showing that in spite of having the least amount of land and intensive cropping system, they have the adequate dairying in their country to provide adequate proteins in the diet. Animal husbandry cannot be competing with agriculture can only complement by using surplus grains and fiber not used by any other species to produce important animal products thereby improving the health of the citizens and to be more efficient. The by products of food industry can also be suitably used for the same. It has been proved that small farms with livestock component are better than crop alone farms.

In spite of all the problems enumerated above the scope for improvement in livestock production are tremendous by being able to adopt new skills, technologies, by being organised and being together forming interest groups etc. A thorough knowledge of breeding, feeding, physiology, reproduction, marketing and management is a must, especially the economic aspect of production and making good profits to be sustaining.

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PRESS RELEASE

GLOCREST

Art of feed acidification for best gut health

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Product & Techno-Commercial Manager
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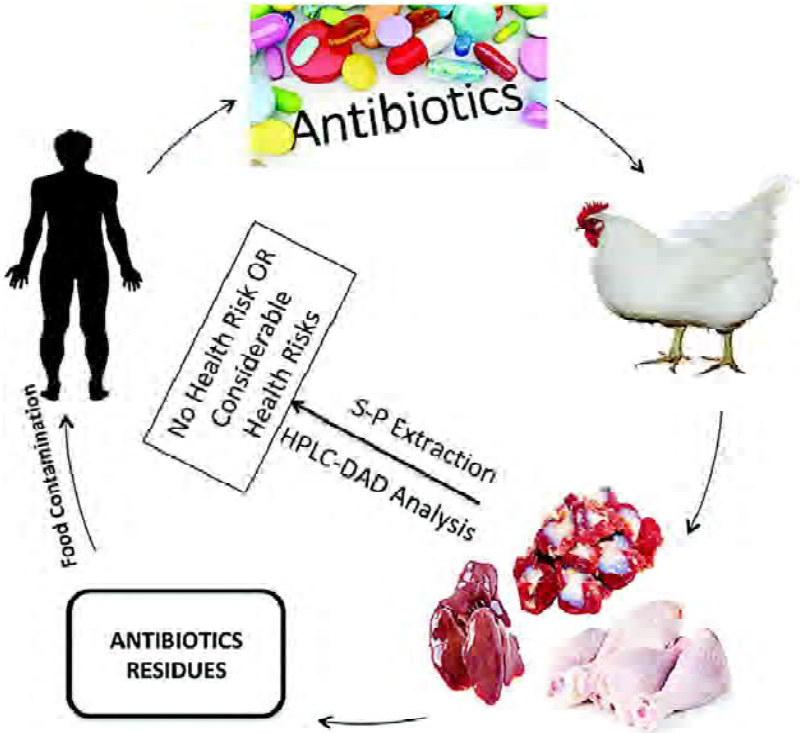
Pharmaceutical Pvt. Ltd.

Dr. Ramdas Kambale
CEO & Board Member
GLOCREST
Pharmaceutical Pvt. Ltd.

Use of acidifiers in poultry diet are very common practice now a days. Acidifiers are proven its importance as alternative antibiotic growth promotor(AGP) which may partially or fully replace AGP depending upon purpose. However, over the years designing of proper feed acidifier to get optimal result becoming an art.Therefore, use of proper combination of organic and inorganic acids along with value added ingredients like saponin which works as anti-ammonia compound could be perfect acidifier as a part of gut hygiene as well as feed hygiene.

The acidifiers could be used to **favourably manipulate the intestinal microbial populations and improve the immune response**, hence perform an activity similar to antibiotics in food animals in countering pathogenic bacteria.It has been observed increased feed intake, growth, carcass yield. Acetic acid and lactic acid enhance body weight in birds. Acidifiers also improve the digestibility of nutrients and increase the absorption of minerals. The utilization of acidifiers also promotes economic benefits of higher feed efficiency, improved daily gain leading to reduction in feed costs.



To overcome problem of antibiotic residue in poultry meat and to improve feed performance GLOCREST launched unique combination of acidifier, mould inhibitor,and antifungal feed additive **Feedacid**. It contains blend of organic acid, inorganic acids,saponin- allicin, Shatavari and Thymol. **Feedacid** contains -

Fumaric Acid – Improves digestibility of nutrients, improved growth, immune response, anti-oxidantstatus, digestive enzyme, intestinal health.

Benzoic acid – Lowering no of Pathogenic bacteria, campylobacter, E. coli, Listeria monocytogens and salmonella.

Formic Acid – It is added to limit /Prevent growth of salmonella sp. and food borne bacteria and GIT.

Lactic Acid – Positive influence on performance of broilers improving body weight and feed conversion ratio.

Malic acid - improves microbial safety regards to campylobacter.

Propionic acid - is fungicide and bactericide - control fungi and bacteria stored in grains, poultry litter, drinking water for poultry.

Feedacid helps maintaining beneficial microflora in digestive tract by antagonistic activity and competitive exclusion. Feedacid produces several bactericidal substances that kill disease producing organism. It also makes gut acidic so useful bacteria like lactobacillus get attached to intestinal villi and prevent attachment of harmful bacteria e.g., E. coli and salmonella. Feedacid used to favourable manipulate intestinal microbial population and immune response. It performs activity similar to antibiotic in countering pathogenic bacteria -along with blend of organic acid, inorganic acids, allicin, Shatavari,and saponin- Thymol. Their apparent actions include improved feed hygiene, lowering of gastric pH and inhibition of pathogens without affecting the beneficial bacteria, stimulation of pancreatic secretions and energy source during intermediary metabolism, enhanced nutrient digestibility, improved growth performance and immunity. **Inclusion of citric acid in Feedacid at the level resulted a better productive performance and higher profits in broiler chickens.** Citric acid used in Feedacid to **promote growth by acidifying the gastrointestinal contents, improving nutrient digestibility, and reducing pathogen loads**.

Role of Thymol in Feedacid : - It acts as Anti-bloating agent. These properties may be attributed to thymol's capability to work as antispasmodic, antioxidant, antimicrobial, immunomodulatory, and anti-inflammatory agent by suppressing harmful compounds/free radicals from interacting with cellular biological compounds, ability to alter the gut microbiota, and increasing digestion, absorption and metabolism of nutrients.**It reduces concentration of ammonia in excreta and litter.Thymol -effective antioxidant for extending broiler meat quality during storage. Asparagus racemosus (Shatavari)increases the appetite and stimulates the liver**. It is concluded that 1% Shatavari inclusion in feed can act as **efficient and effective growth promoter for broilers.**The root is used to prepare medicine.

Allicin is a defence molecule from garlic (Allium sativum L.) with a broad range of biological activities.The antimicrobial properties of Garlic have been observed when it has been used for centuries in many countries to control infectious diseases. It has been documented that garlic is effective against many bacteria that include: Escherichia coli (E. Coli), Salmonella, Clostridium, Staphylococcus aureus, Pseudomonas, Proteus, Klebsiella, Micrococcus, and Bacillus subtilis.Garlic supplementing chickens had an improved effect on humoral immune responses to the Newcastle disease virus.

current state of knowledge on the use of garlic in relation to their impact on growth performance, product quality, immune modulation, and feed conversion efficiency as effective poultry feed additives.

Conclusion: -Feed with perfect blend of organic and inorganic acid with saponin like allicin -Thymol is right choice maintain gut health- feed hygiene and alteration AGP.

Dose of Feedacid 1 to 2 kg per ton of feed.

Contact us for Details

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(Some information and images taken from Internet).

PRESS RELEASE

Alltech India hosts Poultry School in Karnal, Haryana

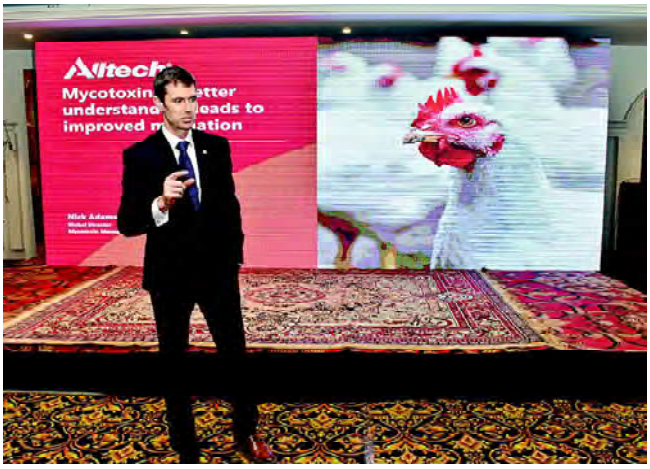
The Alltech India teamrecentlyorganizeda Poultry School in Karnal, Haryana,on Saturday, November 19, to share the latest studies, innovative solutionsand best feed milling practices with its poultry customers. The eventwas a great success, with 70 major poultry producers, feed millers and market leaders actively participating.

Dr. Nick Adams, Alltech's global director of mycotoxin management, presented on 'Mycotoxins-Facts and Mitigation'discussing on managing mycotoxins in the feed chain. He asked attendees to think twice about clean feed, speaking about the importance of gut health, grain quality and highlighting the ways that Alltech 37+® mycotoxin analysis and Alltech RAPIREAD®can mitigate the negative effects of mycotoxins.

The renowned nutritionist Dr. Pradeep Mahajan captured the audience's attention with his presentation,'Feed Ingredients: Quality and Processing'. He shared insights on different raw materials, their selection criteria, nutrient composition, extraction process and best feed milling practices.

In the final session,Dr. Lokesh Gupta, seniorregional technical manager - Poultry (South Asia) discussed on 'Maximizing nutrient digestibility and profit'. He presented the history of Alltech enzymes and shared the uniqueness of solid-state fermentation technology and its benefits in maximizing feed efficiency with greater savings.

The gathering also witnessed a special moment, as Alltech team along withDr. Sayed Aman,



managing director of India and regional director of South Asia for Alltech, launched the company's newest product in the enzyme category, **Allzyme® Prime,** a unique multi-enzyme complex.

-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.

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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

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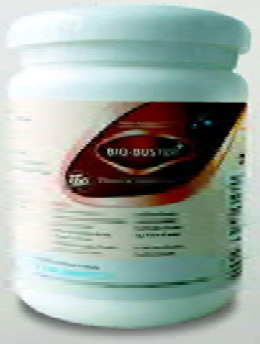

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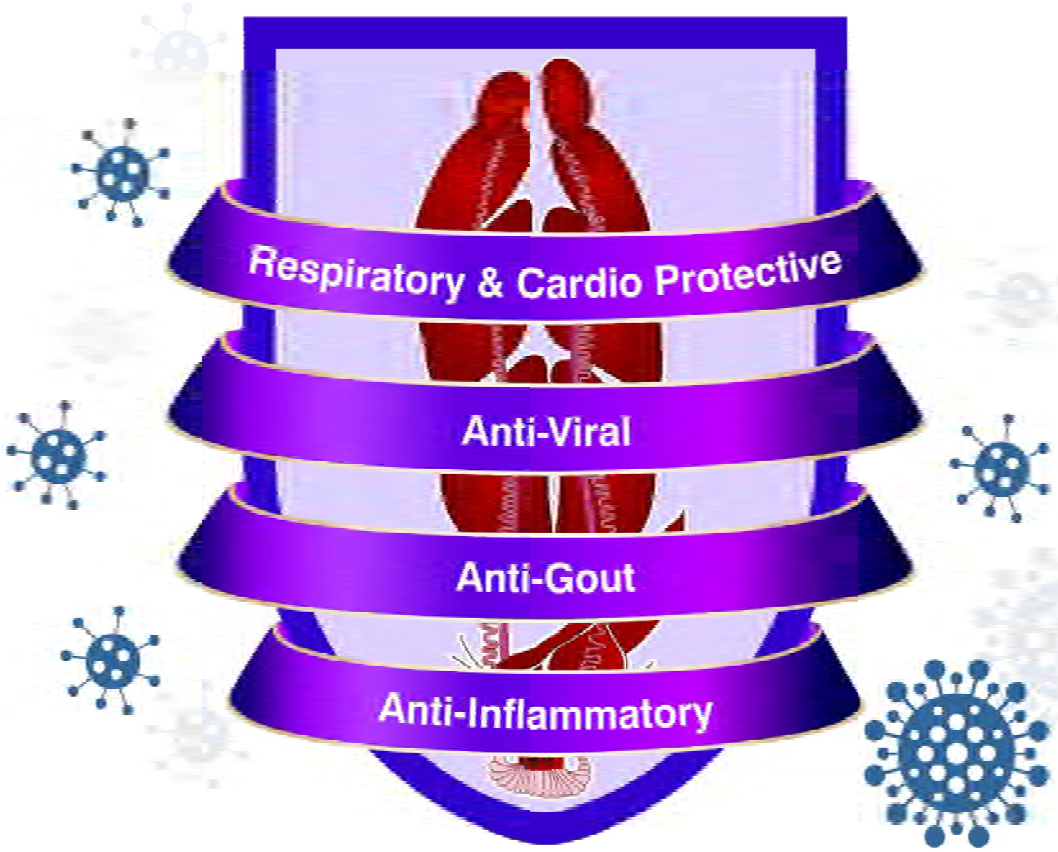

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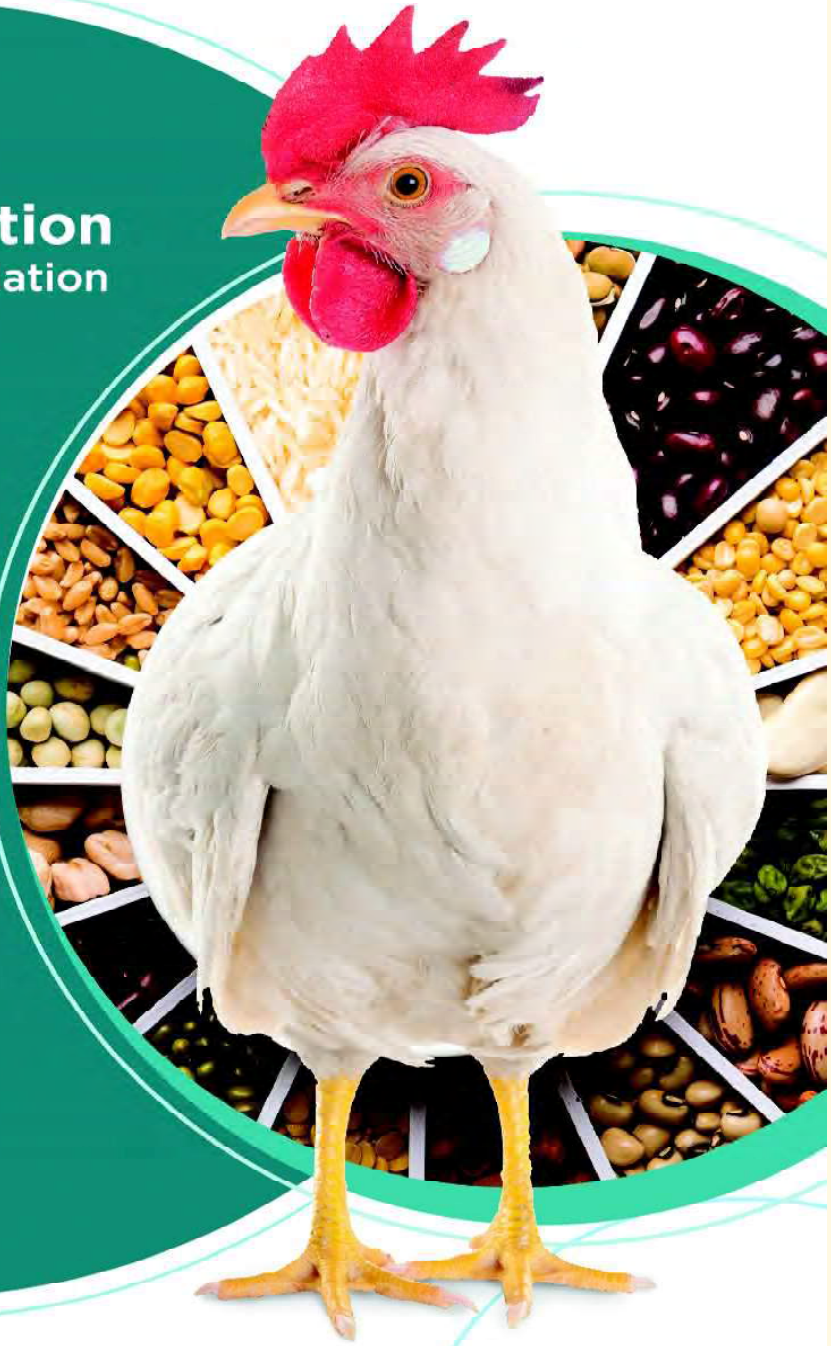

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Bottom Trawling Vs Benthic Environment: A Note on Bycatch

B. Sureandiran, N. K. Suyani*, S. Thamizhanthiand Shivani Tandel

College of Fisheries Science, Kamdhenu University, Veraval, Gujarat, India

Introduction

India has a vast coastline of 8118 km endowed with 2.02 million km^2 of Exclusive Economic Zone (EEZ) and 0.53 million km^2 of continental shelf. It has a catchable annual marine fisheries potential yield of 5.31 million tonnes (MT), of which 49.5% is constituted by pelagic resources followed by 43.3% demersal resources, 4.3% oceanic groups, 1.1% island resources and 1.8% others (DOF, 2022). Due to development in mechanization of craft and synthetic gear materials from late 1950s, production of marine fish in the country has increased from 0.5 MT during 1950 to 3.05 MT in 2021 (CMFRI, 2022). The increasing export demand for shrimps gave a noteworthy boost to mechanised fishing sector, particularly bottom trawling (Madhu, 2018).Many designs of trawlers have been developed in the past decades such as two seam trawls, four seam trawls, six seam trawls, bulged belly trawls, high opening trawls and large mesh trawls. Bottom trawl fishing has both direct and indirect effect on aquatic flora and fauna as well as on the benthic environment, as it harvest and kills a huge quantity of non-target species and juvenile fish species of commercially valuable finfish and shellfish species (Petovicet al., 2016). These non-target or discarded fishes are commonly referred as the bycatch. As the benthic communities are offering many services to commercially important fish species and thus frequent changes in the benthic habitats due to bottom trawling could result in reduced annual marine fish landing (Dayton et al., 1995). Trawling intensity generally depends on the size and weight of the trawl followed by rapid of trawling, type of sea bed, tidal flow and natural mix-up in the zone (Dellapennaet al., 2006). Total discarded bycatch calculated to be approximately about one-quarter of the worldwide fisheries catch, while the amount of fish escaping from fishing gear during the trawl fishing operation is still unknown (Kumar et al., 2015). The bottom trawling method alone contributes about 35 million metric tonnes of annual fish catches which also accounts for the combined weight of reported bycatch and the estimated catch due to illegal fishing method (Watson and Tidd, 2018).

Present scenario and issues of trawling in India

In India there are about 1269 landing centres supported with a total of 77559 mechanized fishing vessels, of which nearly 49% (35228) are trawlers (CMFRI, 2020). In 2021, nearly 80% of marine fish production in India was harvested by mechanized fishing vessels. The overall catch rates of mechanized fishing vessels has increased from 2175 kg/trip in 2020 to 2541 kg/trip in 2021 (CMFRI, 2022) indicating trawlers contribution is increasing annually every year with degradation of the aquatic biodiversity.Bottom trawlers are efficient in catching the shrimp resources but the targeted species is only 25-30% of the total catch and the rest is comprised of unintentional catch or bycatch (Madhu, 2018). Single-day trawlers are operated at a depth of 30 to 50 m with the hauling time of 5 to 8 hours in many landingcentres. In case of multi-day trawlers fishes are stored in cold room and fish hold area on the vessels. It is observed that the comparative economic viability of bringing the fish in preserved form or in non-preserved form depends on the demand of the fish groups (Dineshbabuet al., 2013) Cohort of bycatch, which affects the ecosystem either directly or indirectly at different trophic levels, is a serious issue in commercial fishing around the world (McCauley et al., 2015).

Bottom trawling on seafloor

Bottom trawl fishing activity which will harvest all the targeted and non-targeted fish species in the net, mechanically disturbs the bottom fauna and

flora and damages a wide variety of marine habitats. Benthic habitats not only being shelter for juvenile fishes and larvae's but also the associated fauna will provide food for those depended organisms. Thus frequent alterations in the benthic habitats would result in decline of marine fish landings. In general, benthic environmental effects due bottom trawling has been found to be more detrimental to biodiversity-rich marine habitats such as sea grass meadows, coral reefs, sea mounts, etc. (Thrush and Dayton, 2002). Further, sea-bed organisms help in raising the sea-bed density, which offers more shelter for juvenile fishes and thus reduces the pre-predator interactions. The bottom trawl net, with its homogenization effect, shears-off bottom vegetation and exposes the organisms to predation and reduces food supply. The benthic animal's composition is critically affected by repeated bottom trawling, a single passage of beam trawl is having dangerous effect of killing 5-65% of the resident fauna and mix the top few centimeters of sandy sediments (Dupliseaet al., 2001). The non-target species may have key roles in the marine food-webs that fortify ecosystem processes and functioning, which in turn determines the productivity of marine capture fisheries (Auster and Langton, 1999). The environmental damage caused by repeated high bottom trawling can be substantial and irreversible, threatening the biological diversity and economic sustainability (Kumar and Deepthi, 2006).

Bycatch Reduction Devices (BRDs)

The importance of reducing discard fishes or bycatch in bottom trawling have been emphasized by a number of governments, stakeholders, researchers and fishery scientists. Some measures have been proposed and undertaken for bycatch reduction in bottom trawling fishing method. Bycatch reduction devices are also known as trawl efficiency devices or trash excluder devices. Turtle Excluder Device (TED) which is a specific type of BRD designed to exclude large animals particularly for sea turtles. There is an extensive and increasing requirement for using bycatch reduction devices in trawl fisheries in India and world. These devices reduce the negative impacts on benthic environment caused by the shrimp trawlers or bottom trawlers. Fisherman could get benefit economically from higher catch value due to improved catch quality, shorter sorting time, lower fuel costs, and longer tow duration. BRDs have been developed based on the differential behaviour patterns such as differences in swimming speed and size selectivity of fish and shrimp (Boopendranath, 2007).

Pathways of utilizing bycatch

Bycatch in different Western countries is almost discarded as trash, but in countries like Indiabycatch is brought back to the landing centres because of its various economic utilities. In several states, bycatch is majorly utilized for fish meal and fish manure production. The Code of Conduct for Responsible Fisheries (CCRF) informs to the states to encourage those involved in fish processing, distribution and marketing to improve the use of bycatch to the extent that is consistent with responsible fisheries management practices (FAO, 2004). In India, the total catch is deposited in the deck of the trawler after each haul is sorted and economically valuable species such as shrimps, lobsters, large crabs, cephalopods, edible fishes and edible gastropod are separated and stored in proper icing method. In multi-day fishing, the target species are stored in chilled fish holds, and non-target species are thrown back into the sea. Some of the trawlers bring back the bycatch to the landing centre to be used as food, manure and animal feed. Larger, economically valuable fish and shellfish in the bycatch are marketed fresh. Smaller varieties or species present in abundance (soles, whitefish, lizard fishes, anchovies, carangids, sardines, mackerels, etc.) are either sun-dried or salt-dried. Major quantity of the sun-dried specimens is used for local consumption, while some quantity is exported. Several improved fish processing methodologies have been developed by the Central Institute of Fisheries Technology (CIFT), Cochin, for bycatch species. A

variety of products such as fish paste, fish sausages, fish pappads, fish wafers, fish diamond cuts, fish jam, fish noodles and canned fish paste products have also been prepared from the bycatch species. CIFT has also standardized a method for preparing fish silage (poultry and animal feed) from cheaper bycatch fish species. Several products were prepared from the bycatch species, and some of the technologies have been transferred for development of value-added products. One such example is preparation of fish protein concentrate (FPC) from different trash fish species in the bycatch. Bacteriological peptone from threadfin bream was also developed and put to commercial production for use as a growth supporting compound in microbiological media formulations (George et al., 1981). Pickled fishery products hold promising prospects as substitutes for canned products for domestic and international markets and also have the advantage that cheaper bycatch may be used for this method of preservation. Many species landed in India as trawl bycatchhave been used in surimi preparation.

Conclusion

A global strategy for mesh size regulation in mechanized bottom trawls in ecologically sensitive coastal ecosystems need to be implemented to restore and maintain the diversity of organisms. The adverse impacts of trawling over the benthic environment is poorly studied in the tropical waters. The absence of data on the quantity and quality of bycatch and lack of information on the biology and ecosystem roles of discarded species merged with methodological limitations such as absence of control sites or sites protected from trawling, handicap defining strategies and policies aimed at reducing bycatch. However, a precautionary approach is required for ensuring sustainability of oceanic resources.

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Importance of Fishmeal Inclusion in Poultry Feed

Suraj Amrutkar[1], Suhas Amrutkar[2], Bharti Deshmukh[3], Vinod Gupta[4] and S. K. Gupta[5]

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3. Assistant Professor, AGB Division, GADVASU, Ludhiana
4. Senior Scientist & Head, KVK Samba, SKUAST-J, 5. Director Extension, SKUAST-J

Suraj Amrutkar

Introduction:

Fish meal means a product obtained by drying and grinding or treating fish or fish waste in which no other matter has been added. Fish meal is a commercial product mostly made from fish that are not used for human consumption. Fish meal is generally used to feed to farm animals including poultry birds. Fish meal has played a critical role in the growth of farm animals, because it is nutritionally rich and cheap to produce. Fishmeal is prepared from the bones and offal's left over from fish caught by commercial fisheries. Fish meal takes the form of powder or cake. This form is obtained by drying the fish or fish trimming, and then grinding it. If the fish used is a fatty fish, then it is first pressed to extract most of the oil.

Dried whole fish and fish meal are good sources of crude proteins. The protein of fish meal is a good source of lysine and methionine. Fish is also a good source of available phosphorus, calcium, vitamin-B_{12}, iodine and selenium. Many varieties of fish go in the preparation of dried fish or fish meal and the composition is variable. During processing, if more heat is applied, gizzard erosion may occur in chicken. It is advisable to use only good quality fish and economically feasible.

History of Fishmeal industry:

The fish meal and oil industry started at the beginning of the 19th century. It was based on surplus catches of herring from seasonal coastal fisheries. It was essentially an oil production activity. The residue was originally used as a fertilizer, but since the beginning of 20th century, it has been dried and ground solid product that has been obtained by removing most of the water and some or all of the oil from fish or fish waste.

Protein of fish meal:

Fishmeal of good quality crude proteins and normally contains between 50-60% by weight. From a nutritional stand point, fish meal is one of the preferred animal protein supplements in the diets of farm animal. A typical inclusion rate of fish meal in terrestrial livestock diet is usually 5% or less on dry matter basis. Any complete diet must contain some protein, but the nutritive value of protein related directly to its amino acid consumption and digestibility. Proteins are made up of amino acids which are released for absorption into the blood stream following protein digestion. Monogastric animals only have dietary requirements for specific amino acids rather than protein amount. The amino

Table1. : Feed ingredient composition of fish meal– Proximate principles and AIA (on a fed basis)

Parameters	Unit	Fish Meal (40 %)	Fish Meal (54 %)
Dry Matter	%	88	88
Metabolizable Energy (nitrogen corrected)	Kcal/kg	1834	2464
Protein	%	39.8	53.4
Ether Extract	%	6.2	7.0
Linoleic acid	%	0.11	0.12
Crude fiber	%	0.9	0.9
Nitrogen Free Extract	%	4.4	4.4
Ash	%	36.8	21.9
Acid Insoluble Ash	%	22.0	8.71

acid profile of fish meal makes this feed ingredient as attractive as protein supplement. Proteins in cereals grain and other plant concentrates do not contain complete amino acids profile and are usually deficient in essential amino acids like lysine and methionine. Broiler production in developing countries especially in India particularly has always been dependent on important source of protein such as fishmeal, soyabean meal and animal protein concentrate. Among the animal protein sources, fishmeal is particularly suited to meet the demands of the protein. Fish meal is brown powder which normally contains a high level of protein and appreciable quantities of fats and minerals. Maximum inclusion level of fishmeal in poultry is 5%, which is economical and safe also. Fish meal is very important protein source in poultry nutrition, mainly due to the high quality of the protein it supplies. The reason for its wide spread use, especially its high nutrient density and excellent digestibility. The protein in fish meal has high biological value in diets for animals. It is rich in the essential amino acids, particularly lysine and the sulphur amino acids. The presence of fishmeal in a complete diet will supplement any deficiencies of the amino acids in vegetable proteins such as soyabean meal. Fish meal is also fed to farm animals not only to improve productivity, but also to protect health and welfare and reduce dependence on antibiotics and other drugs. The presence of fishmeal in a complete diet will supplement any deficiencies of the amino acids in vegetable protein such as soyabean meal. In India, fish meal is the most important conventional animal protein source for poultry and its supply is mainly dependent on transportation cost or distance. As a result, the cost of fishmeal is very high and its level in the diet results in less profitable poultry production. Moreover, due to the use of different varieties, parts of fish and processing technologies inclusively mean that there can be significant variation in the quality of different lots of fish meal. The potential of fishmeal as a valuable protein source in broiler feeding is not in doubt; but alternative protein sources such as leaf protein concentrate, ground nut meal, maggot meal, sun dried shrimp waste meal, silk worm pupa meal, meat and bone meal, full fat soyabean meal have been used either to replace fishmeal wholly or partly in broiler diets with remarkable success especially in relation to some growth indices.

Table 2. : Feed ingredient composition of fish meal– Minerals (on a fed basis)

Parameters	Unit	Fish Meal (40 %)	Fish Meal (54 %)
Calcium	%	5.39	4.45
Total Phosphorus	%	2.99	2.47
Nonphytin Phosphorus	%	2.99	2.47
Sodium	%	0.65	0.54
Chloride	%	0.60	0.49
Potassium	%	0.62	0.52
Magnessium	%	0.16	0.13
Sulfur	%	0.45	0.37
Iron	%	439	363
Manganese	Mg/Kg	33	27
Copper	Mg/Kg	7	5
Selenium	Mg/Kg	2.11	1.76
Zinc	Mg/Kg	147	121

Energy in Fishmeal:

The lipid in fishmeal not only imparts an excellent profile of essential fatty acids but also provide a high content of energy to the diet. Since there is very little carbohydrate in fishmeal relates directly to the percentage of protein and oil it contains. The quality and quantity of oil in fishmeal will in turn depend on the species, physiology, sex, reproductive status, age, feeding, and habits of the captured fish and the method of processing. The lipid in fishmeal and fish oil are early digested by all animals especially poultry, fish, pigs and ruminants such as cow, sheep and goat. In these animals, the lipid digestibility is 90% or greater. The high

Table 3. : Feed ingredient composition of fish meal– Vitamins (on a fed basis)

Parameters	Unit	Fish Meal (40 %)	Fish Meal (54 %)
Biotin	Mg/Kg	0.1	0.2
Choline	Mg/Kg	2152	2953
Folic acid	Mg/Kg	0.2	0.3
Niacin	Mg/Kg	38.7	53.2
Pantothenic acid	Mg/Kg	6.3	8.7
Pyridoxine	Mg/Kg	2.8	3.9
Riboflavin	Mg/Kg	3.4	4.7
Thiamin	Mg/Kg	0.4	0.5
Vitamin E	Mg/Kg	4.9	6.8
Vitamin B_{12}	Mg/Kg	73	100

digestibility of fish lipids means they can provide lots of usable energy. If a diet does not provide enough energy, the fish will have to break down valuable protein for energy, which is expensive and can increase production of toxic ammonia.

Lipids in fish meal:

The lipids found in fishes can be separated into both liquid fish oils and solid fats. Although most of the obtained oil was usually extracted during processing of fish meal, the remaining lipid typically represents between 6-10% by weight but cal also ranges from 4-20%. Fish lipids are highly digestible by all species of animals and excellent sources of the essential poly-saturated fatty acids (PUFA) in both the omega-3 and omega-6 families of fatty acids. The predominant omega-3 fatty acids in fish and fish oil are linolenic acid, docosa hexaenoic acid and eicosa pentaenoic acid. Both DHA and EPA fatty acids are produced and passed along the food chain by small size algae and zooplankton consumed by fish. Fish meal high in n-3 fatty acids, when fed to some animals (particularly poultry) can increase the n-3 content in the animals flesh, thus making these tissues to be another source of n-3 fatty acids for human diet.

Immunity:

Eicosa pentaenoic acid and *DHA* of fishmeal and fish oil can prevent cardiovascular diseases and significantly affect the vascular and haemostatic systems, the brain, the retina and other body tissues. Many researchers have demonstrated that the n-3 PUFA has anti-inflammatory properties and benefits to the immune system with particular effectiveness against asthama.

Performance:

Broiler and layer chicken bird has increase their performance through increasing weight gain, better feed conversion efficiency under economic condition by adding fish meal inclusion in poultry feed up to maximum 5% level. It also improves the quality of meat.

Ahmad Karimi (2006) reported that Fishmeal is very important protein source in poultry nutrition, mainly due to the high protein quality of the protein it supplies. He was carried out to investigate the effects of formulating isonitrogeous and isoenergetic diets varying in fish meals (0, 2.5 and 5% during the starter and 0, 1.25 and 2.5 % during grower period) on performance. A total 264 Hubbard straight run broiler were allocated to each of these three dietary treatments which were replicated four times (22 chicks per pen) in a completely randomized design. Chick body weight, daily gain, feed intake and feed conversion ratio were determined at 10, 20, 32 and 42 days of ages. The results showed that the body weight at 32 and 42

Table 4. : Feed ingredient composition of fish meal– Amino Acids (on a fed basis)

Parameters	Unit	Fish Meal (40 %)	Fish Meal (54 %)
Protein	%	39.8	53.8
Arginine	%	1.90	2.54
Histidine	%	0.62	0.95
Isoleucine	%	1.49	2.03
Leucine	%	2.46	3.52
Lysine	%	2.27	3.29
Methionine	%	0.87	1.30
Cysteine	%	0.37	0.53
Phenylalanine	%	1.65	1.98
Tyrosine	%	-	-
Threonine	%	1.29	1.89
Tryptophan	%	0.35	0.48
Valine	%	1.76	2.42

days, daily gain during 0-42 days, daily gain during 0-42 days and feed intake during 11-20 days, 21-32 days and 0-42 days significantly increased with fishmeal inclusion. In conclusion the results of this experiment indicated that the beneficial effects of fishmeal on broiler performance become most evident at higher use levels and during the latter growth periods, mainly via stimulation of feed intake.

Disadvantages:

Although the feeding value of fishmeal is unquestionable, its use in animal feed also can't be without limitation because of their unfavorable effects on meat, fats and eggs. Another factor that requires attention when the level of fishmeal is high in the relation is its gizzerosine content, originally found in overheated fishmeal. This gizzerosine compound has been shown to induce gastric acid secretion in young chicks (in a mode of action similar to histamine) but with higher potency and a longer lasting action, resulting in poor performance and gizzard erosion. With inadequately heat treated fishmeal, there is also the potential problem of excessive thiaminase activity. Availability and price of fishmeal in relation to other animal protein sources might be the overruling factor in decisions to include fishmeal in broiler diets. Rancidity is also a problem due to high fat content. Dry fish and fish meals are a potential source of infection of coliform and salmonella. If fish oil is more than 1% of the feed, fishy flavor may be found in the eggs and poultry meat. These problems together with risk factor associated with nutritionists studying alternating sources for inclusion in to the diet of poultry.

Cost per Kilogram of gain:

Total feed cost per kilogram of gain is significantly higher for diets containing fish meal as compared to soyabean based diet. The soyabean based diets has the lowest feed cost per kilogram of gain. The price of fishmeal per kilogram was greater than that of soyabean based diet. The high cost of fish meal is driven by the high demand and seasonal or limited production of fish. Fish meal can be produced from all species of fish but usually produced from wild caught marines fishes. However, demand of fishmeal is constantly increasing but supply is not growing accordingly, and this affects producer and supplier behavior increasing the cost of fish meal. Soyabean based meal on the other hand is less expensive although there is high demand for this commodity all year round. The primary reason is the higher world-wide production of soyabean year round in several parts of the world.

Conclusion:

Fishmeal is often used to supplement vegetable protein sources such as soyabean meal. Researchers have demonstrated that including fish meal in balanced broiler diet resulted in better growth performance. Replacing fishmeal with soyabean meal under supplement of limiting amino acid yielded better performance of broiler with low cost of gain.

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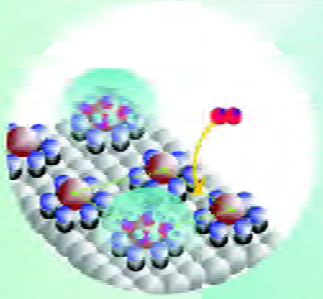
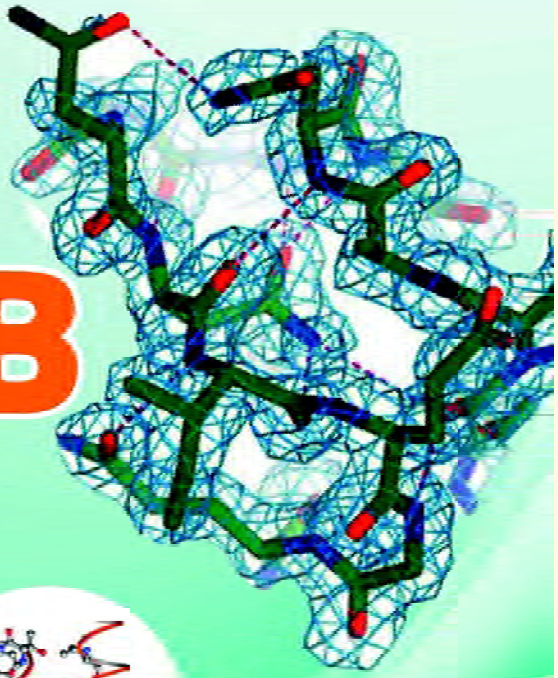
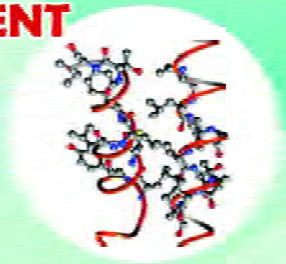
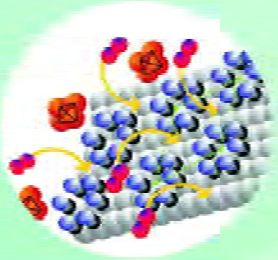


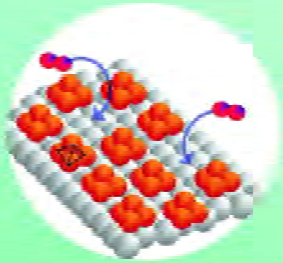


EXOSORB BIOTECH

POULTRY FEED SUPPLEMENT







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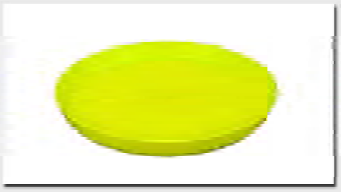
Chick Feed Tray


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PRESS RELEASE

Indian Poultry Science Association fellow award to Professor Jyoti Palod

Professor Jyoti Palod, Department of Livestock Production Management, College of Veterinary & Animal Sciences, G. B. Pant University of Agriculture & Technology has been awarded with Indian Poultry Science Association fellow in the inaugural session of XXXVII Indian Poultry Science Association Conference and National Symposium on Recent Advances in Sustainable Poultry Production for Livelihood and Nutritional Security on 4th November, 2022.

Dr Jyoti Palod has been a Professor for the last 13 years in the College of Veterinary and Animal Sciences, G. B. Pant University of Agriculture and Technology, Pantnagar, Uttarakhand. She joined GBPUAT, Pantnagar, as Associate Professor in 2003.

She received ICAR Junior Research Fellowship and obtained B.V. Sc. and A.H.as well as M.V. Sc and AH from the College of Veterinary Sciences and Animal Husbandry, Mhow, MP, and PhD. From DUVASU, Mathura.

She started her professional career in 1995 at the Animal Husbandry Department, Govt. of Rajasthan as Veterinary Officer. She worked in State level Institute of Animal Nutrition, Jaipur from 1996 to 2003 where she had the additional responsibility of Assistant Director from 2002 to 2003.

She contributed immensely during the famine period (2002) in Rajasthan. She was a member of several state and national level committees pertaining to procurement of Paddy straw from Haryana, green fodder sowing areas (in famine-affected districts of Rajasthan) and green fodder price and Famine relief committee Govt. of India, New Delhi for the procurement of damaged wheat grain.She was also a Member of the State Level Literature Preparation Committee, Rajya Sandarbh Kendra, Jaipur, in 2002. She has distributed literature to the veterinarians and farmers of different districts of Rajasthan in the form of books and booklets with special reference to feeding during the famine period.

She believes in disseminating relevant information amongst various stakeholders and has about 200 technical and popular articles in her credit. She has been the Editorial board member of 4 Journals and reviewer of 8 Scientific Journals.

Poultry line congratulates her for this great achievement.

PRESS RELEASE

Poultry Farmers & Breeders Association (MH)

Press conference on 14thNovember, 2022 by PF & BA

Chicken to be sold at Lower Price in Maharashtra to Celebrate 'National Chicken Day'

Pune, 14th November 2022: Observing the birthday of Padmashri Dr B.V.Rao, the pioneer of the Indian Poultry industry, the Poultry Farmers and Breeders Association (PFBA) are celebrating 'National Chicken Day' on the 16th of November.

As a part of activities celebrating the platinum jubilee of Indian Independence and the 'National Chicken Day,' the association is organizing a campaign from 16th to 18th November. On these three days, the chicken will be sold at lower rates in 105 shops in Pune city and Maharashtra.

C. Vasath Kumar, President of PF & BA informed the press with regard to the above. Dr Vijay Tijare, Dr Shrilankeshwar Waghole and Dr Ajay Deshpande were present at the above press conference.

Mr Vasanth Kumar said, "This campaign is aimed towards public awareness. PF&BA, Maharashtra, Karnataka Poultry Farmers Breeders Association, Civbha and West Bengal Poultry Federation are organizing various programs during this campaign. It includes chicken distribution, awareness programs, lectures, demos, and training."

He said, "PF&BA has been striving hard for the welfare of poultry breeders and farmers since two decades. We have more than 100 members he said. These members collectively contributing four crores of broilers per month. The association also represents the members in state and central governments."

The association is thinking of organizing such programs periodically with a probable plan to celebrate chicken week, he added.

Few of the chicken shop owners will be felicitated for their remarkable service of selling broilers to

the consumer at a reasonable price all the time and increasing chicken consumption, told Mr.C.Vasanth Kumar.

Poultry Farmers & Breeders Association also did chicken awareness campaign through Radio Jingle in last year during IPL cricket matches 100 days continuously.

Last six months we have done chicken promotion through Zee 24 Taas News channel by showing a TV commercial, which was appreciated by many consumers after seeing the same. On the occasion of National Chicken Day we are promoting chicken benefits on Zee 24 Taas News channel from 15th November, 2022 to 26th November, 2022 told Mr. C. Vasanth Kumar.

Place :Patrakar Bhavan, Pune.

Date : 14th November, 2022.

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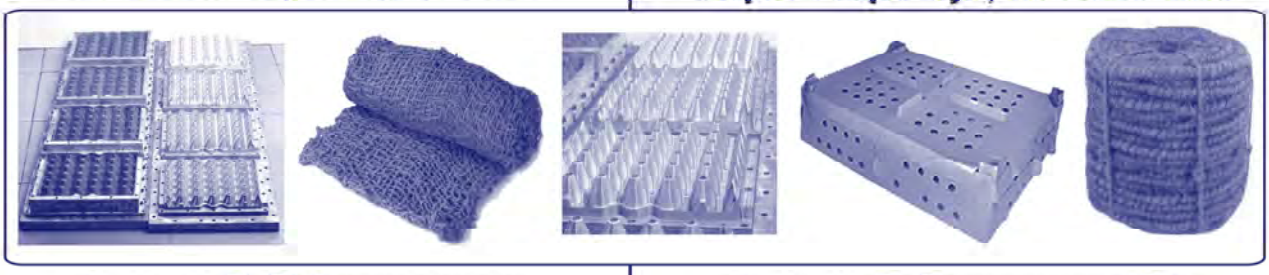

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NATIONAL EGG CO-ORDINATION COMMITTEE

DAILY / MONTHLY EGG PRICES DECLARED BY NECC AND PREVAILING PRICES AT VARIOUS PRODUCTION CENTRES (PC) AND CONSUMPTION CENTERS (CC) NOVEMBER 2022

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	Average
NECC SUGGESTED EGG PRICES																															
Ahmedabad	538	540	540	540	540	540	540	540	540	540	542	542	545	548	550	550	550	550	550	-	550	555	560	563	565	565	565	565	565	565	549.76
Ajmer	507	507	507	497	497	-	500	500	500	500	500	510	511	521	521	521	521	515	515	525	535	535	538	546	551	551	551	551	540	535	520.97
Barwala	504	504	504	504	504	504	504	504	504	504	504	506	511	514	516	516	516	516	516	522	529	535	538	543	547	547	547	547	547	547	520.13
Bengaluru (CC)	520	520	520	520	520	520	520	520	525	525	530	530	535	540	540	540	545	545	545	545	545	545	550	555	555	555	555	555	555	555	537.67
Brahmapur (OD)	521	524	527	512	512	514	516	518	518	518	518	518	523	528	530	532	532	532	532	532	534	540	545	550	555	557	557	557	557	547	531.87
Chennai (CC)	530	530	530	530	530	530	530	530	540	540	545	545	555	555	555	565	565	565	565	565	565	565	575	575	575	575	575	575	575	575	554.33
Chittoor	523	523	523	523	523	523	523	523	533	533	538	538	548	548	548	558	558	558	558	558	558	558	568	568	568	568	568	568	568	568	547.33
Delhi (CC)	526	530	530	530	530	530	530	530	530	530	530	530	530	536	538	540	540	540	540	540	545	556	560	563	568	572	572	572	572	572	543.73
E.Godavari	506	509	512	512	495	498	501	504	504	504	504	504	509	514	517	517	517	517	517	517	519	524	529	534	537	539	539	539	539	531	516.93
Hospet	480	480	480	480	480	480	480	480	485	485	490	490	495	500	500	500	505	505	505	505	505	505	510	515	515	515	515	515	515	515	497.67
Hyderabad	496	499	485	485	485	485	485	485	485	488	491	494	497	501	504	507	510	510	510	510	515	525	530	533	536	539	541	541	541	541	508.47
Jabalpur	525	528	528	518	518	-	518	518	518	518	518	521	523	523	523	528	528	528	528	528	533	542	542	542	557	557	557	557	547	547	531.66
Kolkata (WB)	575	580	582	565	565	570	573	573	573	560	560	560	570	577	577	580	583	583	583	583	588	588	593	601	604	604	604	604	604	585	581.57
Ludhiana	504	504	504	504	504	504	504	504	504	504	504	504	509	512	512	514	514	514	514	516	523	532	534	536	544	548	548	548	548	548	518.73
Mumbai (CC)	553	556	559	559	559	549	545	545	550	550	553	556	559	562	566	-	572	575	575	575	575	580	590	595	598	601	604	606	606	606	571.69
Mysuru	520	520	520	520	520	520	520	520	525	525	530	530	535	540	540	540	545	545	545	545	545	545	550	555	555	555	555	555	-	555	537.07
Namakkal	510	510	515	515	515	515	515	515	515	520	520	525	525	530	530	530	535	535	535	535	535	535	535	540	540	545	545	545	545	545	528.5
Pune	560	565	565	565	565	565	565	565	565	565	565	565	565	565	565	567	567	567	567	567	570	575	585	590	590	590	590	590	590	590	572.17
Raipur	525	527	530	530	530	-	530	530	532	532	532	532	532	532	532	532	532	522	522	517	517	530	540	550	552	552	552	545	540	540	533.41
Surat	535	556	556	559	559	559	559	559	559	559	559	559	559	562	570	570	570	570	570	-	570	570	575	580	580	580	580	580	580	580	566.34
Vijayawada	506	509	512	512	495	498	501	504	504	504	504	504	509	514	517	517	517	517	517	517	519	524	529	534	537	539	539	539	539	531	516.93
Vizag	510	510	512	512	500	500	505	505	505	505	505	505	510	515	520	520	520	520	520	520	522	525	530	535	538	540	540	540	540	540	518.97
W.Godavari	506	509	512	512	495	498	501	504	504	504	504	504	509	514	517	517	517	517	517	517	519	524	529	534	537	539	539	539	539	531	516.93
Warangal	498	501	487	487	487	487	487	487	487	490	493	496	499	503	506	509	512	512	512	512	517	527	532	535	536	541	543	543	543	543	510.4
Prevailing Prices																															
Allahabad (CC)	557	557	557	557	548	548	548	548	548	543	543	543	552	557	557	557	557	557	557	567	581	586	590	595	600	605	605	605	600	590	567.17
Bhopal	520	520	520	510	510	-	510	510	510	510	510	520	-	525	525	540	540	540	540	-	540	550	555	560	565	565	-	565	550	550	533.08
Indore (CC)	525	525	520	520	520	-	520	520	520	515	515	515	-	530	530	535	535	530	530	-	540	560	565	565	565	560	-	555	550	540	534.81
Kanpur (CC)	538	538	538	538	538	538	538	538	538	538	538	538	548	548	557	557	557	557	557	557	571	571	571	586	586	586	586	586	571	571	555.97
Luknow (CC)	560	567	567	567	567	567	567	567	567	567	567	567	577	577	577	583	583	583	583	583	600	600	600	610	610	610	610	610	610	610	583.77
Muzaffurpur (CC)	565	565	565	560	560	560	565	565	565	555	555	562	570	575	577	577	577	577	578	585	597	601	604	605	610	610	610	610	600	600	580.17
Nagpur	-	540	550	535	535	-	535	-	-	530	540	540	540	540	550	450	550	550	535	535	535	550	550	550	550	550	550	550	550	550	540
Patna	565	565	565	560	560	560	565	565	565	555	555	562	570	575	577	577	577	577	578	585	597	601	604	605	610	610	610	610	600	600	580.17
Ranchi (CC)	557	562	562	552	557	557	557	557	557	548	548	552	562	567	576	576	576	577	576	581	586	595	595	604	609	609	609	610	609	595	575.93
Varanasi (CC)	567	567	567	567	567	567	567	567	567	550	550	557	563	573	577	577	577	577	577	580	590	597	603	607	609	610	610	610	600	600	579.9

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% achievement of standard H.H Eggs	92.00%
Feed Cost Per Egg upto 41 Weeks Age considering Rs. 26/KG	Rs 2.98

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Mr. JM.Ravi

Flock Age	32 Weeks (Still Continuing)
Peak Production	93.11%
Weeks Above 90%	7 Weeks (Still Continuing)
Hen House Eggs	74.09
Cumulative Feed per Egg	120.07 g
Feed Per Day (Laying Period)	97.76 g
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Feed Cost Per Egg upto 32 Weeks Age considering Rs. 26/KG	Rs 3.20

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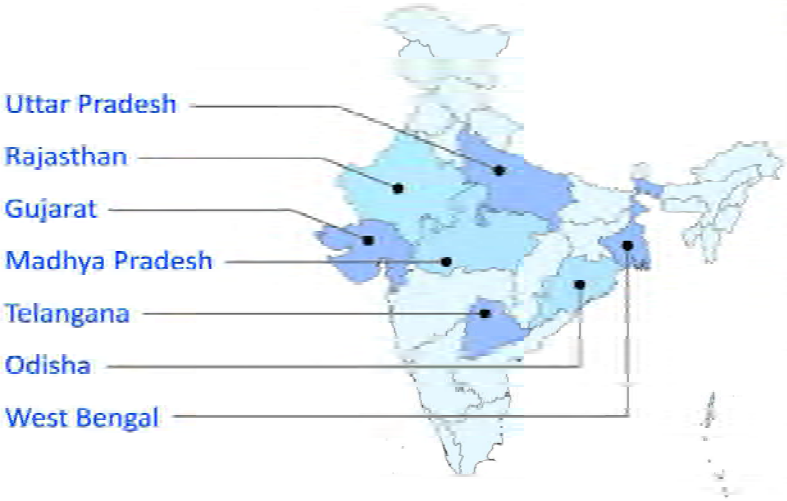

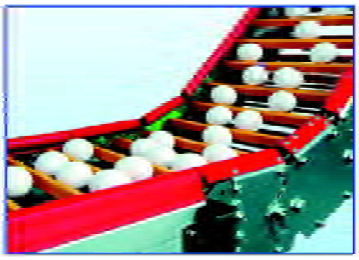

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PRESS RELEASE

Poultry Farmers & Breeders Association (MH) National Chicken Day Report

On the occasion of Padmashri Dr. B.V. Rao's birthday, 16th November was celebrated as **"National Chicken Day"**. The meeting was started by lighting the Niranjan Deep and putting a garland in the image of Padmashri Dr.B.V.Rao sir photo. On this occasion, President of the Association Shri Vasanth Kumar declared the **"National Chicken Day" celebratoions.** Shri. Sanjay Nalgirkar, Dr. Ajay Deshpande, Shri Rajendra Thorat and Shri Krishna Charan were also joined him for lighting the Niranjan Deep.

President Shri. C.Vasanth Kumar welcomed all the members, Sponsorers and Traders.

Technical Seminar

Dr.Chainapure Sudhakar Maroti - Gave presentation on **Role of gut health and immunity** for optimal production and also guided how to **prevent and control early chick's mortality in Progeny through Presentation.**

Mr. Sharad Shyam Sundar – Director of Sylon Group gave history of their company and details of the products.

President Mr. C. Vasanth Kumar felicitated Dr. Chainapure by offering a flower bouquet.

Birthday Celebrations – The Association has celebrated the birthday of 17 members falling between two meetings. In this meeting, they also celebrated the members' birthdays by cutting a cake and the members celebrated birthday were felicitated by giving a rose flower

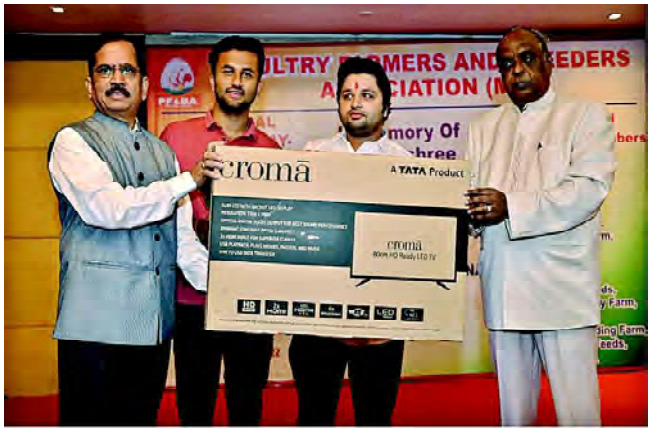
New Member:

President Mr. C. Vasanth Kumar welcomed new member **Mr. Sarfraj Momin** owner of **Huda foods** by offering him a flower bouquet by the Association.

Mr. C. Vasanth Kumar felicitated Chicken shop owners.

These traders are declaring the **prices** keeping **consumer** in view, **giving advantage of reducing farm gate price to the consumer and helping the chicken consumption to go up**. They were given a **LED TV** which will help them to the **chicken promotion videos** at their shop to the consumers.

1) **Chitra Chicken centre** – **Mr. Alok Pardeshi** from Sahakar Nagar, Pune.



2) **A.K.Poultry** – **Mr.Sarfraj Akbar Shete** from Camp, Pune.

3) **Golden Poultry** – **Mr.Amjad Shaikh** from Fatimanagar, Pune.

Felicitation :

Poultry Farmer & Breeders Association felicitated the President **Mr. C. Vasanth Kumar** for his contribution to the Association since 2006 to 2022 by offering **Puneri Feta shawl, Garland** and "**Achievement Award**". Mr. Sajay Nalgirgar felicitated the President Mr. C. Vasanth kumar and citation read by Dr. Ajay Deshpande, ArunPawar, Mr. Pandurang Sandbhor, Mr. Krishna Charan, Mr. Kunal Pathre, Dr. K.P Kale etc. expressed their gratitude by praising the work of Mr.Vasanth Kumar. He assured that he will continue to give the services to the Association and the Poultry sector.

Mr. Vasant Kumar welcomed the incoming **President Mr. Sanjay Nalgirkar, Secretary Dr. Ajay Deshpande** and **Treasurer ShriKrishna Charan** and felicitated with flower bouquets to all.

Shri Sanjay Nalgirkar announced the names of the **Executive committee members** of the Association.

List as Follows:-

1) President – Mr. Sanjay Nalgirkar

2) Vice President – Mr.Uddhav Ahire

3)Hon. Secretary – Dr.Ajay Deshpande

4) Treasurer – Mr.K.V.Krishna Charan

Executive Committee Members :-

1) Dr.SyamDhawan
2) Mr.KunalPathare
3) Mr.VaibhavPawar
4) Mr.Dhananjay Babar
5) Mr.PandurangSandbhor
6) Mr.C.Vasanthkumar **(Former President)**
7) Mr.Rajendra T. Thorat

Invitees :-

1) Dr.P.G.Pedgaonkar
2) Mr.Balaji (Suguna)
3) Mr. Krishna Gangurde
4) Mr. Das (Baramati Agro)
5) Mr.PrasadWagh
6) Mr.Nabhaji Kalbhor.

The meeting concluded with vote of thanks by Mr. Pandurang Sandbhor. He thanked President Mr. Vasanth Kumar, Fauna Remedies Inc., Sylon Group, Staff of Hotel Ramee Grand, Secretariat of Association, Anchor Pranali for their efforts and also the members for attending the meeting.

They assured that the Chicken promotion activity will be continued next year also.

Mr. Pandurang Sandbhor was welcomed as Executive Committee Member.

He requested members to join for an entertainment program, cocktail and dinner.

Meeting was concluded by thanking the Chair.

National Chicken Day celebration by Association members at various chicken shop's some images.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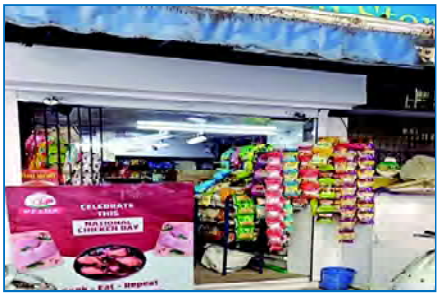
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Place	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
Hyderabad	125	130	135	135	138	141	144	150	153	156	159	162	162	157	150	150	150	143	140	140	143	148	148	148	151	151	145	150	155	158
Karimnagar	125	130	135	135	138	141	144	150	153	156	159	162	162	157	150	150	150	143	140	140	143	148	148	148	151	151	145	150	155	158
Warangal	125	130	135	135	138	141	144	150	153	156	159	162	162	157	150	150	150	143	140	140	143	148	148	148	151	151	145	150	155	158
Mahaboobnagar	125	130	135	135	138	141	144	150	153	156	159	162	162	157	150	150	150	143	140	140	143	148	148	148	151	151	145	150	155	158
Kurnool	125	130	135	135	138	141	144	150	153	156	159	162	162	157	150	150	150	143	140	140	143	148	148	148	151	151	145	150	155	158
Vizag	115	120	125	125	130	133	136	142	145	148	151	154	154	149	149	149	149	142	139	139	139	142	142	142	142	142	136	141	146	149
Godavari	118	123	128	128	133	136	139	145	148	151	154	157	157	152	150	150	150	145	142	142	145	148	148	148	151	151	145	150	155	158
Vijayawada	118	123	128	128	133	136	139	145	148	151	154	157	157	152	150	150	150	145	142	142	145	148	148	148	151	151	145	150	155	158
Guntur	121	126	131	131	136	139	142	145	148	151	154	157	157	152	150	150	150	145	142	142	145	148	148	148	151	146	141	146	151	156
Ongole	121	126	131	131	136	139	142	145	148	151	154	157	157	152	150	150														
Namakkal	78	78	78	85	92	97	103	108	111	114	114	114	109	109	109	114	114	114	114	117	119	119	119	119	119	105	106	109	112	115	115

Malnutrition and its mitigation by livestock production

Dr Biradar Satish Chandra, Dr Ratnaprabha, Dr Vidayasagar, Dr Prashanth Hosmani and Dr Amina
Dept –Livestock Production Management, Veterinary College Bidar.

Malnutrition is rampant in our country and can be equally seen among the rich and the poor. Rich suffer from over nutrition, thereby causing all the related disorders associated with it such as obesity and metabolic disorders which derails the basic metabolism i.e. burning of food for performing work and other essential functions of the body. It is as dangerous and harmful as the under nutrition seen among the poor and less empowered people such as women and children.

Now we need to tackle the problem from both ends in order to reduce the burden amongst the medical facilities of our country. First let us tackle the under nutrition among the people. Under nutrition is seen among the women and the children and also among the poor people of our country. Under nutrition, leads to a poor child, adult, and further into poor parents causing a vicious cycle of poor growth and development. This is the reason why Indians average height and weight is low in comparison to western countries standards. This also causes low productivity among the working class and increased exhaustion and staying away from the work and increased visits to hospitals.

So, we need to make the child strong in order to make him a healthy adult and break the vicious cycle of poor growth. Here it is very simple to achieve by increasing the consumption of milk, meat, eggs, fish, insects, pulses, sprouts etc. There is a shortage of protein production in our country by almost 65 per cent of the requirement to the population. Protein is very vital to the growth and development of the individual. In the absence of adequate protein in our country, efforts must be made at national level to increase the production of above-mentioned products and also ban export of those items, since, it may fetch some foreign revenue but it will further weaken the people. Also those products such as rice bran, wheat bran and groundnut cottonseed cakes used in animal consumption, if at all exported also need to be banned from export and rather they need to be imported to produce adequate protein in our country.

The individuals who are on obesity side need to be counselled to go on negative energy balance diet, which in layman's language is to tell them to go for fasting or semi fasting i.e. eat in six to eight hours window, and rest hours they need to be nil by mouth or fast.

A special mention needs to be made here that the citizens' health depends upon strong animal husbandry activities, i.e. feeding our cows, buffaloes, sheep, goats, fishes, birds adequately, which is not happening presently and they are under fed. This results in poor production of milk, meat and eggs in our country, further making it poorly available to our citizens. A simple fact is that the national average of milk production in our country is 3 liters per day per cow as compared to developed nations which have 30 l/d per cow.

Now, presently there is excess of grains available to the citizens and is over and above the requirement of the present population. Consumption of excess grains with less protein in the diet leads to poor growth and development of citizens. Policy at the national level should be to divert these grains to animals such as cows, buffaloes, sheep, goats and fishes, so that the animal products such as milk, meat, eggs and fishes yield is increased, so that these products of animal origin are having better biological value and thereby help in solving the protein crisis of the country. Another way of increasing the protein intake by the vegetarian conscious people is to go for fermenting the millets and consuming it with pulses and curd.

It is pertinent to mention here that the requirement of protein, that too high quality protein is 1 g/kg body weight, but right now if we see the total amount of animal and plant protein produced in our country, doesn't even meet 0.3 g/kg body weight requirement. Hence under such a situation, it is wise at all levels, policy makers, press, universities to work towards making better quality food available for the citizens so that it can make our nation strong and efficient.

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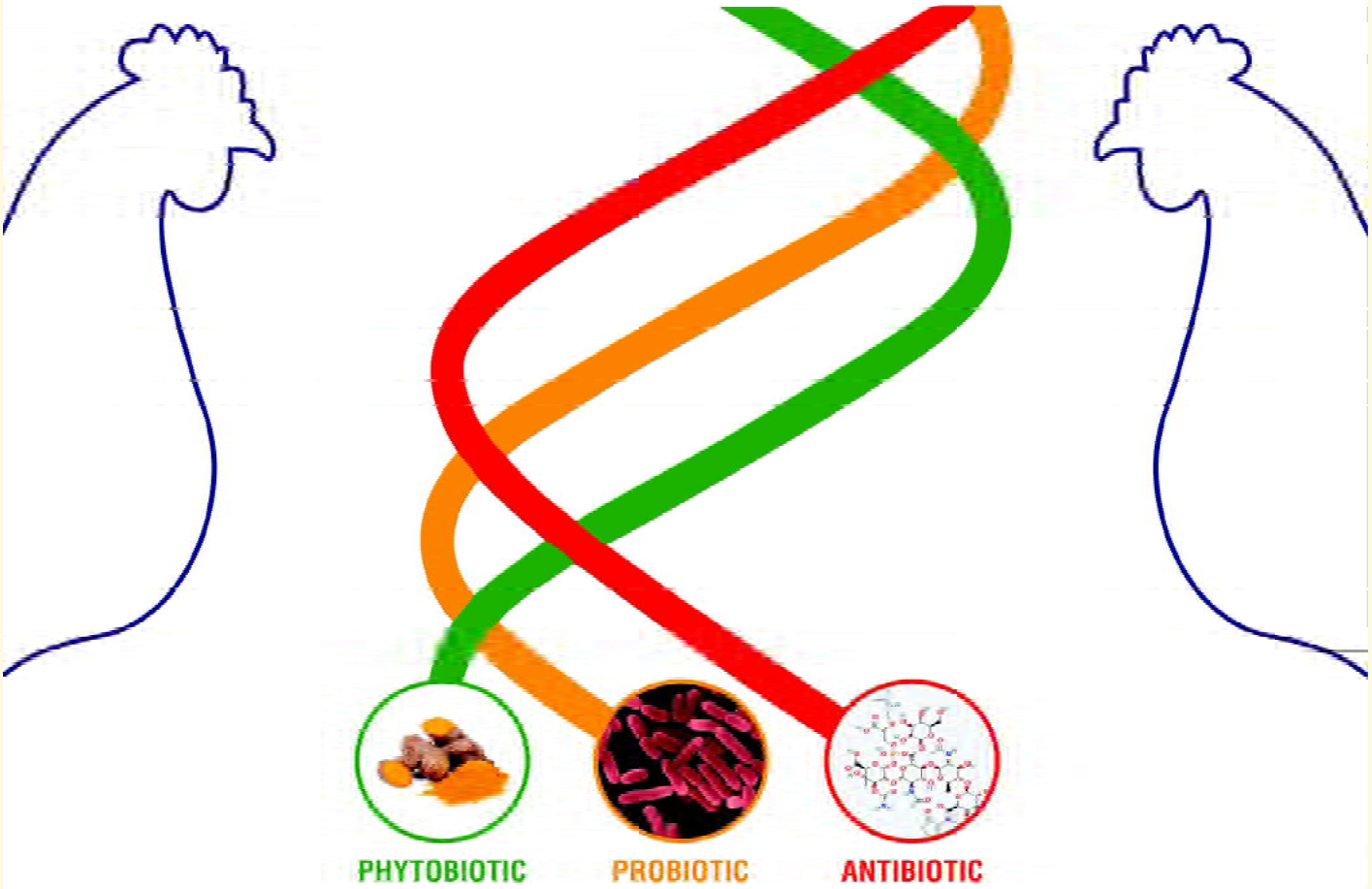

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