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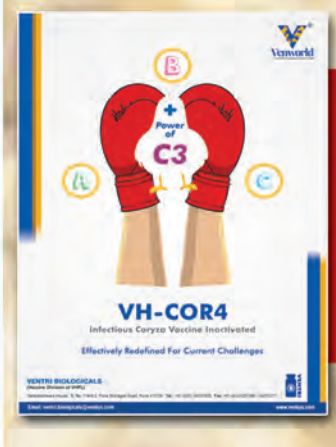
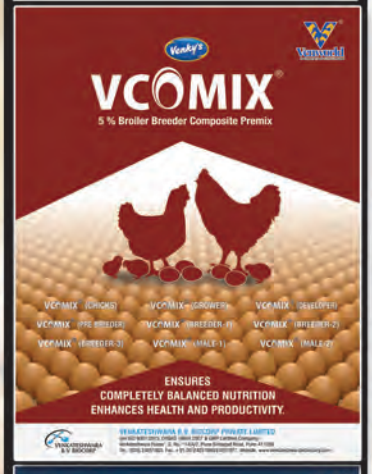
# हिंद पोल्ट्री

# HIND POULTRY

Vol. XXIV January 2026 No. 7




## Advancements in Coryza Vaccine Research Leading to VH-Cor4 a Tetravalent Vaccine Powered of C3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# हिंद पोल्ट्री

MONTHLY POULTRY MAGAZINE

VOL. XXIV No. 7 January 2026





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# Contents




Advancements in Coryza Vaccine Research Leading to VH-Cor4 a Tetravalent Vaccine Powered of C3



Hind Poultry Youtube Studio in Hyderabad

ROSS 308 AP

# BEST ACHIEVERS
## NOVEMBER-2025

Aviagen INDIA

### Northern Region

**COMPANY:** Sampoorna Feeds
**FARMER NAME:** Mr.Jashandeep Singh Sidhu

| NOVEMBER-2025 | Top #1 |
|---|---|
| Farm Type | Open House |
| State | PUNJAB |
| Chicks Placed | 2509 |
| Mean Age | 33.0 |
| Avg Body Wt | 2460 |
| FCR | 1.260 |
| cFCR | 1.158 |
| Livability% | 97.0 |
| Daily Gain | 74.5 |
| EPEF | 573.9 |

### Eastern Region

**COMPANY:** IB Group
**FARMER NAME:** Mr. Kamal Krishna Roy

| NOVEMBER-2025 | Top #1 |
|---|---|
| Farm Type | Open House |
| State | BENGAL |
| Chicks Placed | 1354 |
| Mean Age | 36.0 |
| Avg Body Wt | 2777 |
| FCR | 1.468 |
| cFCR | 1.295 |
| Livability% | 95.6 |
| Daily Gain | 77.1 |
| EPEF | 502.6 |

### Central Region

**COMPANY:** Japfa
**FARMER NAME:** Mr. Suhas Patil

| NOVEMBER-2025 | Top #1 |
|---|---|
| Farm Type | EC House |
| State | MAHARASHTRA |
| Chicks Placed | 5972 |
| Mean Age | 33.4 |
| Avg Body Wt | 2463 |
| FCR | 1.369 |
| cFCR | 1.266 |
| Livability% | 97.1 |
| Daily Gain | 73.8 |
| EPEF | 523.3 |

### South Region

**COMPANY:** IB Group
**FARM NAME:** K S Poultry Farms

| NOVEMBER-2025 | Top #1 |
|---|---|
| Farm Type | EC House |
| State | KARNATAKA |
| Chicks Placed | 25945 |
| Mean Age | 36.0 |
| Avg Body Wt | 2731 |
| FCR | 1.483 |
| cFCR | 1.321 |
| Livability% | 97.1 |
| Daily Gain | 75.9 |
| EPEF | 496.9 |

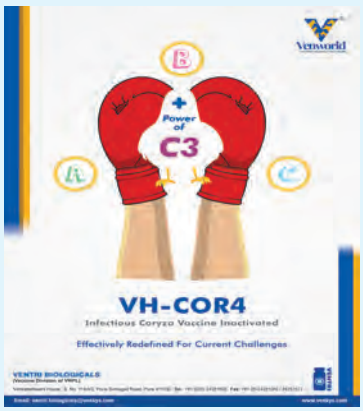
## NOVEMBER-Top PERFORMANCE BY AREA

| Area | Chicks Placed | Mean Age | BW | FCR | cFCR(2Kg) | Livability% | Daygain | EPEF |
|---|---|---|---|---|---|---|---|---|
| North EC House | 12030 | 35.3 | 2631 | 1.370 | 1.230 | 97.2 | 74.5 | 528.3 |
| North Open House | 2509 | 33.0 | 2460 | 1.260 | 1.158 | 97.0 | 74.5 | 573.9 |
| East EC House | 6572 | 34.0 | 2357 | 1.427 | 1.348 | 97.2 | 69.3 | 472.2 |
| East Open House | 1354 | 36.0 | 2777 | 1.468 | 1.295 | 95.6 | 77.1 | 502.6 |
| Central EC House | 5972 | 33.4 | 2463 | 1.369 | 1.266 | 97.1 | 73.8 | 523.3 |
| Central Open House | 2793 | 32.3 | 2271 | 1.387 | 1.326 | 97.2 | 70.3 | 492.9 |
| South EC House | 25945 | 36.0 | 2731 | 1.483 | 1.321 | 97.1 | 75.9 | 496.9 |
| South Open House | 7616 | 36.0 | 2415 | 1.402 | 1.310 | 94.9 | 67.1 | 454.2 |

## NOVEMBER-Top 10 FIELD PERFORMANCE

| Flock | Farm Type | State | Chicks Placed | Mean Age | BW | FCR | cFCR | Livability% | Day Gain | EPEF |
|---|---|---|---|---|---|---|---|---|---|---|
| Flock 1 | OPEN HOUSE | PUNJAB | 2509 | 33.0 | 2460 | 1.260 | 1.158 | 97.0 | 74.5 | 573.9 |
| Flock 2 | OPEN HOUSE | PUNJAB | 10390 | 33.0 | 2491 | 1.330 | 1.221 | 97.0 | 75.5 | 551.0 |
| Flock 3 | EC HOUSE | PUNJAB | 12030 | 35.3 | 2631 | 1.370 | 1.230 | 97.2 | 74.5 | 528.3 |
| Flock 4 | OPEN HOUSE | PUNJAB | 2505 | 32.1 | 2393 | 1.360 | 1.273 | 95.8 | 74.5 | 524.8 |
| Flock 5 | EC HOUSE | MAHARASHTRA | 5972 | 33.4 | 2463 | 1.369 | 1.266 | 97.1 | 73.8 | 523.3 |
| Flock 6 | OPEN HOUSE | UTTAR PRADESH | 9389 | 40.0 | 2960 | 1.347 | 1.134 | 95.1 | 74.0 | 522.3 |
| Flock 7 | OPEN HOUSE | PUNJAB | 14630 | 32.0 | 2293 | 1.320 | 1.255 | 95.8 | 71.6 | 519.6 |
| Flock 8 | OPEN HOUSE | HARYANA | 3775 | 29.0 | 1951 | 1.250 | 1.261 | 95.7 | 67.3 | 515.1 |
| Flock 9 | EC HOUSE | MAHARASHTRA | 15489 | 32.6 | 2370 | 1.375 | 1.293 | 97.5 | 72.6 | 514.7 |
| Flock 10 | EC HOUSE | MAHARASHTRA | 7875 | 35.0 | 2582 | 1.386 | 1.257 | 96.5 | 73.8 | 514.1 |

# Advancements in Coryza Vaccine Research Leading to VH-Cor4 a Tetravalent Vaccine Powered of C3




A technical seminar series on advancements in the understanding and management of Infectious Coryza was conducted by VentriBiologicals Pvt. Ltd. from November 10 to 14, 2025. The Odisha sessions held at Balangir (November 10) and Berhampur (November 11) were led by Prof. Robert R. Bragg, a globally recognized authority from the University of the Free State, South Africa. Both meetings began with welcome addresses by Mr. Satayajeet Mohanty (Zonal Manager), followed by the introduction of the distinguished speaker by Mr. Chita Sahoo (AGM). Prof. Bragg delivered detailed scientific insights covering disease epidemiology, strain variation, diagnostic advancements, and effective vaccination strategies, with a special focus on the VH COR4 vaccine powered by the C3 strain—designed to address the predominant *Avi bacteriumpara gallinarum* strains circulating in India. The sessions were moderated by Dr. SambhajiNimbalkar (AGM), ensuring clear scientific interpretation for all participants. Each event concluded with a vote of thanks from Mr. SatayajeetMohanty, acknowledging the valuable insights shared and the active participation of the attendees.

In Hyderabad on November 13 began with a welcome and speaker introduction by Mr. Suneel Sharma (AGM). Prof. Bragg delivered an in-depth session focusing on field-level challenges in Indian poultry systems and strategic approaches for effective Infectious Coryza management. The discussion session was moderated by Dr. Prakash Reddy (DGM) and Dr. Baburaj (DGM), during which Dr. Prakash Reddy also highlighted current local disease issues and interacted with team members for better field understanding. The Siddipet meeting on November 14

followed a similar structure, beginning with a welcome and speaker introduction by Mr. Suneel Sharma (AGM). Prof. Bragg addressed pathogen dynamics, strain variability, and evidence-based Coryza control methods suited for Indian poultry farms. The session was moderated by Dr. Baburaj (DGM), and the program concluded with a vote of thanks by Mr. Suneel Sharma. These knowledge-sharing initiatives reinforce Venworld's commitment to bringing global scientific expertise to Indian poultry professionals and strengthening evidence-based disease management at the grassroots level.

## Sofina Foods Recalls Chicken Tenders in Quebec Amid Contamination Fears

In a swift response to potential health risks, Sofina Foods, a major player in North America's poultry processing sector, initiated a voluntary recall of approximately 25,000 kilograms of fully cooked chicken tenders distributed across Quebec. The recall was prompted by routine testing that detected traces of Listeria monocytogenes in select batches produced at the company's Farnham, Quebec facility. Health officials from the Canadian Food Inspection Agency (CFIA) confirmed the contamination, emphasizing that while no illnesses have been reported to date, the bacterium poses severe risks, particularly to vulnerable populations such as pregnant women, newborns, the elderly, and those with weakened immune systems.

This incident underscores ongoing challenges in maintaining stringent sanitation protocols within high-volume poultry processing plants, where rapid production lines can inadvertently harbor pathogens. Sofina Foods acted promptly, halting production of the affected products and notifying retailers like Metro Inc. and IGA stores in the region. The recalled items, branded under "Selection" and bearing specific lot codes from October 15 to November 5, 2025, were pulled from shelves, with consumers advised to dispose of them or return for refunds. Company spokesperson Marie-Claude Lambert stated, "Consumer safety is our utmost priority, and we regret any inconvenience this causes. We are enhancing our cleaning verification processes to prevent future occurrences."

The broader implications for the global poultry industry are significant. Listeria outbreaks have been a recurring concern, with the CFIA reporting over 200 cases annually in Canada alone, many linked to ready-to-eat meats. This recall comes at a time when global poultry demand is surging due to inflation-weary consumers seeking affordable proteins, pushing production volumes higher and straining quality controls. In the U.S., similar recalls by Tyson Foods earlier in 2025 highlighted a pattern, leading to calls from industry groups like the National Chicken Council for harmonized international standards on pathogen testing. Economically, the recall could cost Sofina upwards of CAD 500,000 in disposal and lost revenue.

# Nanovet Nutrition Pvt. Ltd. and Nu.ance Biotechnology Enter into a Strategic Collaboration at Poultry India on 26th Nov, 2025

Nanovet Nutrition Private Limited, a fast-growing, science-driven animal health and nutrition company, announced a strategic collaboration with Nu.ance Biotechnology, Switzerland, during *Poultry India*. This partnership marks a significant milestone in Nanovet's journey to strengthen its global scientific footprint and deliver advanced, research-backed solutions to the Indian livestock industry.

## About Nanovet Nutrition Pvt. Ltd.

Nanovet Nutrition Private Limited is committed to enhancing livestock productivity, animal welfare, and farm profitability through innovative, technology-driven nutritional solutions. The company has established strong expertise in veterinary nutraceuticals, gut health enhancers, feed quality solutions, and biosecurity technologies, addressing the evolving needs of the poultry, ruminant, swine, and companion animal sectors. Headquartered in Bengaluru, India, Nanovet integrates research, innovation, sustainability, and customer-centric development to deliver measurable performance outcomes for producers. Through continuous investment in science and strategic global collaborations, Nanovet is rapidly emerging as a progressive and reliable partner in animal nutrition and health.

Under the visionary leadership of Mr. Sanjeev Khanna, Managing Director, Nanovet Nutrition has witnessed accelerated growth and industry recognition. With deep domain expertise and a strong focus on innovation, Mr. Khanna has steered the company toward adopting advanced technologies, strengthening scientific alliances, and building long-term value for customers and stakeholders. His leadership continues to position Nanovet as a future-ready organization aligned with global best practices.

## Strategic Collaboration with Nu.ance Biotechnology, Switzerland

As part of its commitment to bringing **world-class science to India**, Nanovet has entered into a strategic collaboration with **Nu.ance Biotechnology**, a Switzerland-based biotechnology innovator renowned for its advanced nutritional technologies and mycotoxin management solutions. Nu.ance Biotechnology brings strong global credentials, including:

- A state-of-the-art production facility in France
- Commercial presence across 40+ countries
- Specialized expertise in postbiotics, globa.biotics, feed additives, and next-generation nutritional technologies

This collaboration significantly enhances Nanovet's technical capabilities and supports the introduction of high-performance, research-validated feed solutions

tailored to the needs of Indian and neighboring markets.

### Leadership Presence at the Collaboration Event

The collaboration was formally reinforced during a dedicated event at Poultry India, attended by senior leadership from both organizations. The Nanovet delegation was led by:

Mr. Sanjeev Khanna, Managing Director, Dr. Deepak Singh, Technical Director, Mr. AvinashKharat, National Sales Head

Along with members of the commercial and technical teams. Nu.ance Biotechnology was represented by:

Dr. David Harrington, Chief Product Officer, Mr. J. S. Uppal, Business Director – South Asia The presence of senior leadership underscored the shared commitment of both companies toward innovation, knowledge exchange, and long-term market development.

### Nanovet × Nu.ance: A Future-Focused Partnership

Through this collaboration, Nanovet Nutrition aims to leverage Nu.ance Biotechnology's global expertise in biotechnology, formulation science, and quality systems to further enhance product performance and deliver superior value to customers. Together, both organizations are aligned in their vision to introduce globally benchmarked, sustainable, and performance-oriented innovations for the livestock industry.

This strategic alliance reinforces Nanovet Nutrition's position as a science-led, globally connected partner, dedicated to shaping the future of animal nutrition in India and beyond.

HUVEPHARMA

# Biofilms: the bacterial fortress

TECHNICAL TEAM, HUVEPHARMA SEA

One common survival strategy used by bacteria is to form biofilms. These communities and their inherent resistance to antimicrobial agents are at the root of recurrent bacterial infections in livestock rearing.

Bacteria have adapted to a "biofilmed" state to survive unfavourable environmental conditions such as those which are poorly oxygenated, have extremes in temperature or are lacking in nutrients. In the natural environment, biofilms act as a reservoir for microbial species, constitute a major component of the bacterial bio-mass and guarantee ecological balance. But in livestock buildings, they are a source of permanent contamination that is particularly difficult to eliminate.

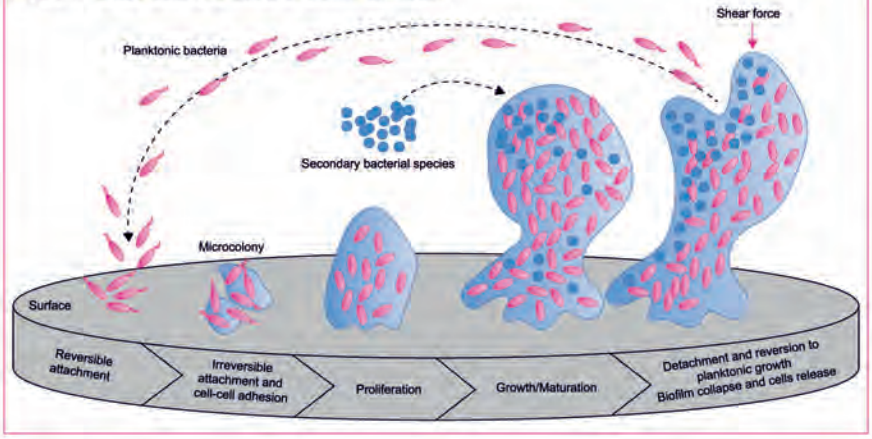
A livestock rearing house is a closed space with a dynamic mi-crobial ecosystem due to the high concentrations of organic matter, high temperatures and high humidity levels. The characteristics of this microbial ecosystem are determined by the microbiota of each animal and that of the herd. Animal excrement regularly enriches the microbiota of the building, especially with strains of enterococcus, coliforms, tract of the animals. The presence of animals in the barn caus-ent air. This warm air rises to the top of the building, carrying with it many micro-organisms in the form of bioaerosols. Thus, all surfaces of the building become contaminated and biofilms are formed (see Figure 1).

Biofilms are complex structures, constituting a considerable bacterial reserve in livestock buildings. They are formed on surfaces through the accumulation of stacked bacteria which secrete a protective polysaccharide or extracellular polymeric substances (EPS) during the maturation phase. This mucous matrix is excreted through a network of channels in which the medium can circulate.

The thickness of the biofilm does not increase indefinitely. Large aggregates or single cells may detach from mature bio-film and can directly seed other surfaces. The detachment of parts of the biofilm is partly due to variations in temperature and humidity inside the buildings. This contributes to air- borne bacterial spread, causing increased infectious pressure and new animal contaminations (see Figure 2).

The structures forming biofilms contain channels in which nutrients can circulate, and cells in different regions of a biofilm exhibit different gene expressions. The biofilm is therefore a mosaic of micro-niches containing different species but also different phenotypes of the same bacterial species. The cohesion of this microbial community relieson synergistic interactions and homeostatic mechanisms. The complexity of biofilm structure and metabolism has led to the analogy of biofilms to tissues of higher organisms eukaryotes), highlighting their remarkable evolutionary importance. Bacteria in a biofilm can be 1,000 times more resistant than individual bacteria. They acquire increased resistance to antimicrobial agents in two main ways:

Figure 1 - Steps leading to bacterial biofilm formation.



**1) Physico-chemical resistance**

is the failure of an agent to penetrate the full depth of thebiofilm. Polymeric substances like those that make up the matrix of a biofilm are well known to retard the diffusion of antibiotics or disinfectants.

**2) Extra-chromosomal resistance**

Bacterial resistance to disinfectants is higher when bacteria are in biofilms, due to the acquisition of specific resistance genes carried by plasmids (circular periplasmic chromo-somes). In a biofilm, the plasmids are transferable between bacteria by intercellular bridges. Thus, the acquired resistance can be quickly spread to all bacterial species via horizontal transfer.

Numerous bacterial species and genera that cause infections in animals, and which may or may not have zoonotic potential, can form biofilms. Some examples are:

- Salmonella
- Campylobacter
- Escherichia coli
- Pseudomonas
- Staphylococcus
- Streptococcus

Biofilms increase infectious pressure and bacterial resistance to antibiotics, disinfectants and the immune response of the host. In animal husbandry, contamination of surfaces, air conditioning, ventilation and water distribution system with bio-films is a huge problem. But several of these bacterial species also have an impact downstream in food industries because of their ability to cause infections or food poisoning in humans.

Biofilms are therefore a constant threat to biosecurity because of their ability to diffuse into the environment and colonise all kinds of media. Their resistance to extreme conditions, including disinfection procedures, only makes matters worse. Trying to disinfect without breaking biofilms is useless, and the best and most economical way to break the biofilm is to use detergents. Before the disinfection step, it is imperative to carry out a cleaning step with a detergent to dissolve and eliminate both the visible organic deposits and most of the EPS of the biofilm.

Adherence to this procedure and to general biosecurity management rules guarantees increased effectiveness of the disinfectant and suitable decreasing contamination of the surfaces before placing a new flock or herd in the building. Huvepharma, through its expertise in biosecurity and animal health, provides a range of detergents and disinfectants to eliminate biofilms.



# PFI Officially Issues Two Detailed Communications

The Poultry Federation of India (PFI) under the Presidentship of Mr. Ranpal Dhanda and Core Committee Members has taken proactive steps to safeguard the interests of poultry farmers and the poultry sector.

1. A formal letter to Dainik Bhaskar, seeking immediate correction and clarification of misleading information related to poultry farming practices.

2. A comprehensive advisory letter addressed to all Editors and Media Houses, urging factual verification, balanced reporting, and consultation with authentic sector bodies and technical experts before publishing reports on the poultry sector.

Through these communications, PFI has clearly reiterated that no growth promoters or illegal substances are used in Indian poultry, and that the sector operates strictly under scientific, regulatory, and globally accepted standards.

PFI remains fully committed to protecting farmer livelihoods, consumer confidence, and the credibility of the poultry sector, and continues to engage responsibly with the media in the larger public interest. This action reflects PFI's continued efforts to stand firmly for the poultry sector and its stakeholders.

TeneT

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| Xanthophyll 2% & 4% | Beta-Carotene 10% | Tartrazine |

| ANTIBIOTIC FEED PREMIX | | |
|---|---|---|
| Avilamycin 10% | Nosiheptide 1% | Chlortetracycline 15% |
| Tiamulin Fumarate 10% | Enramycin 8% | Tiamulin Fumarate 80% |
| Flavomycin 8% (Bambermycin) | Tylosin Phosphate 10% | Tincomycin Hcl 11% |
| Tylvalosin 10% & 17% | | |

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| Vitamin B3 Niacin / Niacinamide | Vitamin D3 5.0M IU/GM | Vitamin B5 Calcium Pantothenate |
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**Jinhe CTC** products are rigorously tested using the **High-Performance Liquid Chromatography (HPLC)** method to confirm their potency & purity of CTC 15%, which is essential for effective treatment.

For effective disease control & sustainable farm management, it is vital to choose genuine **Jinhe CTC** that has been tested and verified for quality.

| Comparison between Fake CTC and Real CTC | | | |
|---|---|---|---|
| Item number | Criteria | Fake CTC | Genuine CTC |
| 1 | Smell | Dust-like smell, unpleasant, sometimes musty | Natural fermentation odor, no unpleasant smell |
| 2 | Color | Grey granule | Brown to dark brown granule |
| 3 | Characteristic | Non-compliant; granule texture too uniform; 0 CTC content | Not lumpy or moldy, relaatively uniform texture, compliant with standard |
| 4 | Consequences | Poor therapeutic effect, potential for resistance, damage to livestock health | Effective treatment, stable performance in disease prevention and control |
| 5 | Benefits | Lower purchase cost (Apparent Advantage) | Proven efficacy, safety, stable quality, improves farm productivity, high cost-effectiveness |
| 6 | Risk of using Fake CTC | Ineffective treatment, disease outbreaks, higher mortality, economic loss | / |

| Growth Stage | Susceptible Diseases | Typical Symptoms | CTC Dosage | Drug Combination | Treatment course |
|---|---|---|---|---|---|
| Chicks (0–6 weeks) | Necrotic enteritis | Black feces, depression, emaciation | 2 kg | 80% tiamulin fumarate premix 300 g | 7 days, rest 3 days, repeat for 7 days |
| Chicks | Colibacillosis (airsacculitis/ septicemia) | Dyspnea, depression, cloudy air sacs | | / | 7–14 days |
| Growers | Chronic respiratory disease (CRD) with Mycoplasma or E. coli | Sneezing, open-mouth breathing, reduced egg production | | / | 7 days |
| Adult layers | Salpingitis or egg production decline syndrome (secondary infection) | Reduced egg production, soft-shelled eggs, feather loss | | 80% tiamulin fumarate premix 300 g | 7 days |
| All stages | Mycotoxin-induced immunosuppression and secondary infections | Slow growth, diarrhea, high mortality | | / | 7 days |

Fake CTC, on the other hand, is not subjected to such testing, and the final product often **lacks the required 15% CTC content**. This lack of quality control is the primary reason for **treatment failures** and other associated risks in Poultry Industry.

Using Fake CTC **endangers animal health**, increases the risk of **antimicrobial resistance**, and leads to serious **economic consequences**.

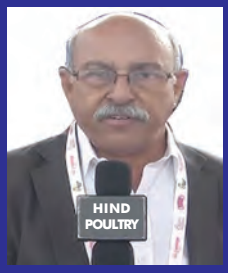
Farmers and veterinarians should always **verify product authenticity** and **rely on trusted suppliers** to safeguard both animal welfare and farm profitability.

**Jinhe Biotechnology Co, Ltd.**

**No. 71 Xinping Road, Tuoketuo County, Hohhot City, Inner Mongolia, China**

**Email: gsm@jinhe.com.cn**
**monusai@tenetpharmavet.com**
**Tel: +91-9819083711**

# Farming Challenges and their required Corrections




Dr S.K.Maini

Chicks always arrive stressed on the farms, as a result of unchangeable post hatch handling procedures and practices, variable weather conditions, transportation from hatchery to the farms, and in adequate brooding conditions on arrival at the farms.

All the above mentioned significantly affect the chicks growth, development, immunity, health, survival and overall performance.

What prevails in the poultry industry is the poor knowledge, understanding, wrong beliefs, in adequate facilities available, faulty practices and procedures being followed since decades and mis-information related to the correlations of every aspect or condition involved with the brooding of the chicks and growing them to adulthood for optimum levels of production and overall performance.

Some of the practices and procedures that need improvements or change are listed below:

**Pre-Brooding Preparation's and Arrangements**:

Shed Preparation: Mostly done 5 to 10 days before the chicks arrive, it should be done immediately after the previous batch is removed, most farmers keep un cleaned shed for several days, cleaned shed after litter removal, and application of proper hygiene and sanitation procedures, should be kept vacant till the next batch of chicks arrival date is confirmed. After spreading the new Litter Material (Paddy Husk /Saw Wood/ Wood Shavings/ Ground Nut Hulls/Coconut Coir Powder or any material used depending upon local availability) should be sprayed at least two times before the chicks arrive. One Spray should be an insecticide to take care of the Pests, the other be Formalin to take care of the bacteria, fungus and Virus's.

Avoid using Lime Powder as it contributes to the dustiness, harmful for the respiratory tract health. However white washing the walls and floor is not a bad idea. Lime powder can be used under the leaking drinkers and on wet patches only. Avoiding spillage and wet patches is the best situation, Wet litter due to birds health and nutrition needs to be promptly looked into and corrected.

**Ventilation and Curtains:** Fresh air is very essential, but maintaining the temperature is equally important. Fix the curtains, to both the side of the shed, during winters and very cold weather, for heat conservation, have a curtain cloth/tarpaulin sheet/plastic sheet or some insulation material below the shed roof. The side curtains should be lift able from below, as fresh air is required just 4 to 10 inches above the litter where the birds breath, this is the area where the Ammonia, Co2 and other gases produced by the wet litter accumulate and cause damage to the Chicks respiratory system leading to stressful conditions, that usually gets complicated with E. coli and

other bacteria leading to Respiratory Infections.

**Temperature for brooding**: the chicks require 90° F during their first week of life, this temperature is reduced by 5° F every week, till the feathers grow and chicks can handle the lower temperatures. Farmers normally maintain the day temperatures very well, the problem is during night time, when outside temperature falls, less labourer's are available to work, and the labourer's take care of themselves more than the chicks.

**Feed:** Pre Starter Crumble's for the broilers and the Chick Starter Crumble's for the layer chicks are used, first on the brooder floor , then in the feeders. It is essential to provide the required quantity of feed and record the daily feed consumed of the birds, to analyse weight gain related problems later.

**Fresh clean sanitised water**: Clean cool and sanitised water be provided at all the times, use of bleaching powder, tablets or liquid chlorine, hydrogen peroxide, iodophores or commercial water sanitizers may be used to keep the bacterial loads low and the chicks free from infections.

It has become a normal practice in the poultry industry, farmers use antibiotics in drinking water, during the first week of the chicks life, even without the Veterinarians/Poultry Advisor's recommending it, assuming it to be used for the prevention, control and spread of bacterial infections. Chicks are hatched (99%) disease free, they need products containing Probiotic Bacteria to colonize their gut for its better development, fitness and

health, and to keep the population of the pathogenic bacteria under check.

**Over Crowding**: Should be avoided at all cost, as it increases competition for floor space, feeding and watering space and give rise to several vices, difficult to control later, it has direct effect on the growth, weight gain, immunity development and survivability of the chicks.

**Bird weighing and Recording of their body weights**: Body weights must be taken and recorded every 2 weeks, from day old till peak production. Mark the birds or the cages, same birds have to be weighed every time for accuracy, weigh at least 25 to 30 birds, take the average, compare it with the standard body weight chart provided by the chicks supplier, and take appropriate corrective action at the earliest.

**Vaccines and the vaccination programs**: Several types and varieties of poultry vaccines ( live and killed, single and in combination) are available in the market from both international and indigenous vaccine manufacturer's. No vaccine can give the desirable results, if the immune system of the birds is compromised, as a result of inadequatenutrition, immune-suppression due to presence of mycotoxins and endotoxins, faulty management, and poor hygiene and sanitation.

Equally important is the proper use of the vaccines as per the manufacturer's recommendations or the Veterinarians advise. The birds should have standard body weights, active, fit and fine immune system, be free from any sub clinical or clinical diseases, and the vaccination program be adjusted as per the existing disease known to exist in the area.

**Guess Work and Blame Game is very common**: Without improving their knowledge and understanding of the practices and procedures, or learning from their past experience, batch after batch, farmers, their supervisor's and workers make the same of similar mistakes, keep losing money on medicines, loosing birds and the farms profitability.

Hatchery's are often blamed for supplying poor quality chicks with mycoplasma and E. coli etc., feed is blamed for its quality and not supporting the required weight gains. Pharma products are blamed for not protecting the birds from diseases, problems and their complications. The Vaccines are blamed for failure to protect the birds and not providing sufficient immunity to prevent outbreaks. Veterinarians and poultry advisors are blamed for not being able to solve the problems of the flock, and the farmers are blamed for their faulty management, self and /or over medication, inadequate facilities, poor hygiene and sanitation.

# Turning Poultry Pest Challenges into a Performance Breakthrough at a 1.2–Lakh Breeder Farm

*A veterinarian's data-driven discipline and Envu's precision science restore order in one of Karnataka's leading breeder operations.*

**Dr. Srinivas**
*Veterinarian and Owner of Pragathi Hatcheries at Bengaluru (Karnataka)*

## When the Night Looked Calm but the Numbers Fell

By midnight, the sheds were still. Fans turned steadily, and the rhythmic sound of feeders filled the air. Yet every morning, the spreadsheets on Dr. Srinivas's desk told another story. Egg counts had dropped again, hatchability had slipped, and several technicians were complaining of sleepless nights.

Bed bugs, red mites, and houseflies—small, persistent, and mostly invisible—were quietly eroding performance at a 1.2 lakh-bird breeder farm near Dodballapur in Bengaluru Rural District. For Dr. Srinivas, a veterinarian who had built his enterprise on measurement and discipline, the losses were more than operational. "Everything looked normal until we saw the data," he said. "The losses came from what we could not see."

He had entered poultry farming in 1994 after a short stint in veterinary sales, determined to apply scientific management to an industry often guided by habit. Over three decades, he created a closed-loop enterprise of brooding, growing, and laying units on raised platforms, supplying hatchable eggs and day-old chicks across southern India and the Northeast.

Success for him had always meant predictability: healthy birds, efficient feed conversion, and consistent customer satisfaction.

## When Hidden Threats Disrupted a Perfect System

The problems began after a major upgrade. In 2002, the farm shifted from deep-litter to cage systems. The change improved hygiene but also created hidden joints and crevices where ectoparasites could thrive. Within months, the numbers faltered.

Production, which should have remained near 8,400 eggs per 10,000 birds, fell to about 6,000. Hatchableegg selection, once 96–97%, dropped to 78–80%. Feed conversion, normally H" 285 g per hatchable egg, worsened by 20–30% even though feed accounts for around 80% of total cost. Mortality rose from 2–3% to 8–11%. Birds became restless, fertility declined, and many workers left after nights of insect bites.

Conventional fixes brought little relief. Chemical dosing through drinking water reduced infestation briefly but lowered production by 10–15%. Generic sprays achieved less than 5% control. "I had lost confidence," Dr. Srinivas recalled. "Every product promised results, yet none solved the problem."

Losses spread across every key measure—feed efficiency, hatchable quality, and labour stability. The solution, he realised, required a change in method that would address the source rather than the symptoms.

## Precision Control and the Return of Order

Relief arrived through an encounter at an industry exhibition. Envu specialists suggested that instead of internal dosing, the farm needed precision external spraying with verified coverage. They recommended Temprid, a contact adulticide, together with detailed application protocols and post-spray audits.

Dr. Srinivas agreed to a controlled trial. Within 24 hours, nearly 90% of bed bugs were eliminated. After a second spray, the sheds stayed clear for months. Calm returned among birds, and confidence returned among workers. "That first spray was a

turning point," he said. "It proved that science, applied correctly, could restore stability."

He then formalised a system that targeted every life stage of the pest. Adult insects were managed with Temprid for immediate and residual control. Larval breeding sites in litter and manure were treated with Bilarv, a larvicide that achieved 100% control within a day. Pre-monsoon preventive rounds and post-treatment inspections became part of routine operations. The results were measurable and sustained.

Feed efficiency alone reshaped profitability. In breeder production, where feed represents four-fifths of total cost, recovering the FCR margin changed viability within a single cycle. Hatchable quality returned to benchmark levels, mortality normalised, and longevity extended to 70–72 weeks, adding six weeks of profitable lay. Workers returned, and customers reported stronger chick quality and a reliable supply.

### Lessons from a Difficult Season

For Dr. Srinivas, the episode confirmed that unseen problems demand close observation. "If the numbers look fine by day but hatchability keeps falling, check again at night," he now tells other farmers. "That is when the real story shows."

He treats ectoparasite control with the same seriousness as feed formulation and vaccination. Each flock is inspected after dark and audited after every treatment. Every adjustment now follows inspection records rather than routine habit.

The experience also changed how he views partnership. "What mattered was the combination of good products and continuous follow-up," he said. "The visits, data checks, and training ensured that each application was correct."

Nearby farms have faced similar fly pressures, and Dr. Srinivas believes that systematic adult and larval control can help them prevent those seasonal surges. He often summarises his learning simply: "Precision means targeting pests, not birds, and applying products only where they are needed."

### Vigilance and the Next Frontier

Even after recovery, vigilance remains essential. Red mites continue to challenge the industry. They are smaller, spread faster, and are harder to detect. Dr. Srinivas follows Envu's ongoing research on new molecules and resistance management, convinced that future progress in breeder health will depend on continued innovation in pest science. His team now performspre-monsoon inspections and keeps digital records of pest sightings to anticipate outbreaks rather than react to them.

Today the sheds are quiet again. Birds feed normally, workers rest through the night, and production remains steady at target levels. The calm reflects discipline, training, and scientific consistency. For Dr. Srinivas, the lesson is clear: knowledge and structure remain the best defence against unseen threats.


# CRUSHCON Marks First Regional Event for USSEC's Middle East, North Africa, and South Asia (MENASA)

The U.S. Soybean Export Council– Middle East, North Africa, and South Asia (MENASA) hosted its signature CRUSHCON event in Dubai. The event featured decision-makers from the poultry, aquaculture, edible oil, and other industries from throughout South Asia, the Middle East and North Africa.Customers from across the region gather to learn, engage and network.

Set against the theme of Connect, Collaborate, and Catalyze, discussions centered on global trade, derisking the supply chain, sustainability, and leveraging AI to make data-driven decisions. Insights included a promising outlook for soymeal demand, buoyed by strong poultry sector growth, cautious optimism around artificial intelligence, and a thirst for more information on sustainable agriculture. "USSEC continues to foster relationships and build trust in international markets on behalf of U.S. Soy farmers," added Jim Sutter, USSEC CEO. "CrushCON is the perfect platform to meet our customers, understand their needs, and show the value of U.S. Soy." Experts agreed that despite risks in the global economy, consumer confidence in animal protein production and uncertainty in the oil palm industry indicate a growing preference for soy, especially from the United States.

## MENASA's Growing Appetite for U.S. Soy

U.S. Soy has seen significant growth in the MENASA region, driven by rising disposable income, urbanization and a protein demand boom. In February, Pakistan reopened imports of U.S. soybeans after a two-year pause, importing 844,000 MT to date. Bangladesh's soy value chain is also committed to purchasing $1.25 billion USD of U.S. Soy over the next 12 months, a value 2.5 times more than ever before. On the MENA front, Egypt ranked as the third largest importer of whole U.S. soybeans in the marketing year 2024-2025, while Morocco ranked ninth as the world's largest U.S. soybean meal importer.

## U.S. Soy: Consistent, Reliable and Value Driven

Data-led sessions demonstrated U.S. Soy's key advantages as a superior feed ingredient and its defining 4Ds:





- Drier soybeans
- Higher digestibility
- Lower Damage
- Zero deforestation compared to soy from other origins

Consistency is a core need for animal producers and refiners – something that U.S. Soy delivers with its nutritional profile. When customers choose U.S. Soy, they can be assured that they are receiving a high-quality product that can improve animal performance, increase efficiency, and lower feed costs.

## Sustainably Nourishing the World

Participants heard directly from U.S. soybean farmers about their sustainable practices and the Sustainable U.S. Soy Assurance Protocol (SSAP) - a program that verifies that U.S. soy is grown responsibly with less environmental impact.

Global speaker lineup included U.S. soybean farmers Susan Watkins, USB Secretary; Rob Shaffer, ASA Director; Janna Fritz, USSEC Chair; Mark Zenuk, Founder, Tillridge Partners; Tanner Ehmke Lead Economist, CoBank; Dr. Abdul Basit, Chairman of the Pakistan Poultry Association; Sanjeev Asthana, Solvent Extractors Association of India; Divya Gulati, Chairman, CLFMA and Osama Soliman, CEO of Soyven.

Markets evolve, preferences change, but U.S. Soy's consistency, reliability, and high quality remain constant, driving the aquaculture, edible oil, feed, food, and poultry industries forward.

# New Delhi Kickoff Sets Stage for 7th WVPA Asia Meeting 2026

**As Witnessed by M.K. Vyas - Hind Poultry**

In a landmark gathering at the ICAR complex in New Delhi, the Indian poultry sector officially launched its countdown to the 7th World Veterinary Poultry Association (WVPA) Asia Meeting, scheduled for October 9-10, 2026. The kickoff meeting brought together a formidable coalition of industry stalwarts, academic researchers, Poultry Journalists' and government regulators to chart a two-year roadmap for an event that aims to redefine Asia's role in global food security.

The significance of the upcoming 2026 conference cannot be overstated. India secured the hosting rights after a high-stakes bidding process in Manila, where it defeated Pakistan by a single vote. With Asia currently producing more than 50% of the world's poultry output, the 2026 meeting is viewed as a "knowledge bridge" intended to harmonize science and coordinate action across the continent.

Dr Jeetendra Varma, President, WVPA India in his address briefed about WVPA India activities. Dr. Verma update that World Veterinary Poultry Association is the global professional association dedicated to poultry veterinarians and other avian health professionals, fostering international collaboration since 1959. Dr Jeetendra Varma, officially revealed 7th WVPA Asia Meeting 2026 to be organised in New Delhi on October 09-10, 2026 and discussed the Action & Roadmap for this.

The Guest of Honour Dr. Inderjeet Singh, honourable Vice-Chancellor, Bihar Animal Science University (BASU) suggested for industry led research and innovations and there should by good collaboration between industry and academia.


## Collaborative Intelligence: A "Whole of Society" Approach

Dr.M.L Jat, Director General of ICAR, challenged the room to move beyond being "number two" in global rankings. "India can't be number two. We need to be number one," he declared, advocating for a shift away from working in "isolated silos" toward a "whole of government" and "whole of society" approach.

## The Visionary Address: Mr. Suresh Rayudu on the Future of Indian Poultry

The highlight of the kickoff event was the keynote address by Mr. Suresh Rayudu, Chairman and Managing Director of the Srinivasa Group. Rayudu delivered a comprehensive and often provocative analysis of the industry, blending historical reflection with a data-driven vision for 2030 and beyond.

Reflecting on the 60-year legacy of the Srinivasa Group and the recent passing of his father, a pioneer in the field, Rayudu highlighted the extraordinary productivity of the Indian poultry sector. He argued that while India often ranks lower in other agricultural commodities, in poultry, the nation is "among the best in the world".

Mr. Rayudu presented a startling economic comparison regarding the price of eggs. He noted that based on inflation data from 1970 and 1982, a single egg should cost approximately 12 rupees today; instead, the retail price remains around 6 rupees. More impressively, he pointed out that the Indian poultry farmer receives nearly 80% of the retail price, a figure far superior to the United States, where farmers receive closer to 40% to 50%. This efficiency, Rayudu argued, is a testament to the industry's contribution to national health and affordability. Road to 2030: Chasing Global Leadership Looking toward the next decade, Rayudu predicted that India is on the cusp of producing 200 billion eggs annually. In the meat sector, he estimated current production at 8.5 million tons, though he suggested the actual figure might be higher if live-weight calculations were standardized. He boldly projected that by 2030, India would overtake Brazil to become the number three chicken producer in the world. The Modern Veterinarian: From Clinical to Digital A significant portion of Rayudu's speech focused on the "desperate need" for a modernized veterinary workforce. He criticized the current veterinary curriculum as being treated in a "stepmotherly" fashion, failing to prepare students for the demands of a high-tech industry.

He also raised alarms regarding the "romanticism and idealism" of certain policies, particularly concerning vaccines. Rayudu highlighted the threat of illegal vaccines entering India via borders like Nepal and called for the government to allow the use of legitimate vaccines for diseases like Infectious Laryngotracheitis (ILT), which are already standard globally. Dr. Praveen Malik, Commissioner, Animal Husbandry Department, Government of India CEO of Agri Innovate, further expanded on the role of technology transfer. He urged the private sector to participate in surveillance networks, generating data through their own laboratories to support the government in managing transboundary diseases like Highly Pathogenic Avian Influenza (HPAI).

This was followed by special online address by Prof. Dr. Sjaak, WVPA Global President who highlighted WVPA International activities. Mr. Dhruva from Agrinnovate also addressed the gathering.

### Looking Ahead to 2026

As the meeting concluded, Dr. Nigam, Secretary of WVPA India, outlined the four pillars of the "Asia Knowledge Network": knowledge exchange, collaborative research, policy advocacy, and the "One Health" approach.

The 2026 conference is expected to be a massive undertaking:

- **Delegates:** Approximately 600 attendees, including 150 international guests.
- **Scientific Program:** 20 to 25 international speakers, parallel sessions on disease diagnosis, and a dedicated forum for young scientists.
- **Support:** Travel grants of •750 for selected international young scientists and rail/ airfare support for Indian students.
- **Venue:** The state-of-the-art Bharatratna C. Subramanium Convention Center in New Delhi.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# WATER QUALITY

*This Aviagen Brief has been written specifically for producers in Asia and the Middle East where typical ambient temperatures can range from below freezing to above 50°C (122°F). This advice may be useful in other regions, but this must be discussed with your local Technical Service Manager.*

## INTRODUCTION

Water is an essential biological ingredient of life. Not only is it a vital nutrient, but it is also involved in many essential physiological functions such as:

- Digestion and absorption, where it supports enzymatic function and nutrient transportation.
- Thermoregulation.
- Lubrication of joints and organs and the passage of feed through the gastrointestinal tract.
- Elimination of waste.
- It is also an essential component of blood and body tissues.

Chickens consume about twice as much water as feed, although this ratio can be much higher during hot conditions. About 70% of a chick's weight is water (this can be as high as 85% at hatch), therefore, any reduction in water intake or increase in water loss will have a significant effect on the lifetime performance of the chick.

Due to the essential role that water plays in the health and performance of biological systems, it is vital to ensure that an adequate, clean supply of water is provided if optimal bird performance is to be achieved.

This Aviagen Brief provides information on the factors that influence water consumption and water quality, highlighting methods to maintain and/or increase water intake, and discussing what constitutes good water quality and how to maintain it.

## WATER LOSSES

The water intake of the body should remain in balance with water loss if dehydration is to be avoided. The main sources of water loss are respiration, transpiration, and excretion of feces and urine. Fecal water loss is about 20–30% of the total water consumed, but the most important loss of water is via the urine. The characteristics of water loss will change, depending on the environment and the humidity, for example, while evaporative heat loss may represent only 12% of the water loss in birds at 10°C (50°F), it can increase to 50% when the environmental temperature reaches 30°C (86°F). This is a critical factor with regard to the chick where water represents a larger proportion of its weight.

**KEY POINT**

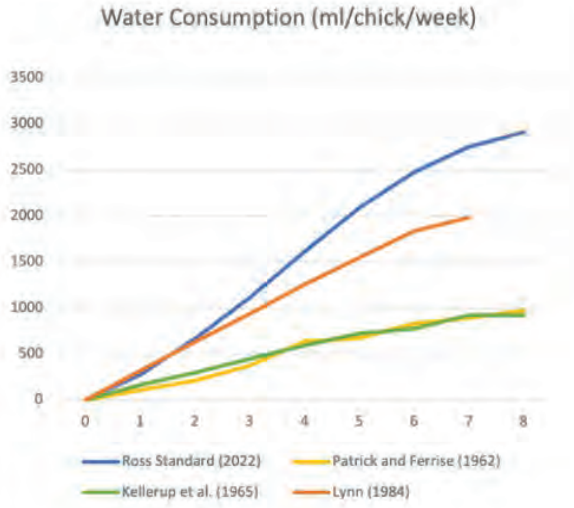
- Immediate water availability when chicks are placed in the house is important if permanent damage to the biological performance of the flock is to be avoided.

## WHAT INFLUENCES WATER CONSUMPTION IN CHICKS?

### AGE

Water intake is closely linked to feed intake and bird age (growth response). As the bird gets older, the demand for water will increase (**Figure 1**). Water quality and availability, therefore, have the potential to impact heavily on the growth performance of the modern broiler, and any husbandry technique that limits water (such as part house brooding or failing to increase drinker space in the first 10 days) will have a parallel negative effect on growth.

**FIGURE 1:** Water Consumption (ml/chick/week). Adapted from Bailey, 1999 and the current **Ross Broiler Performance Objectives**, (based on the assumption that water intake is 1.8 times that of feed intake).



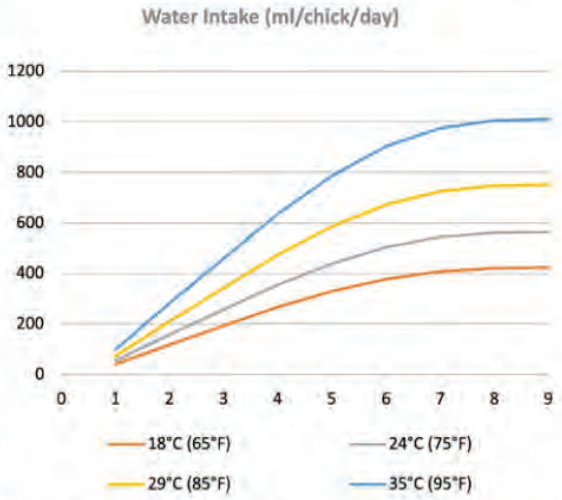

### SEX

The sex of the bird will also affect water intake. The water intake of males will be greater than that of females from the first week of life. Water:feed ratio is also higher in males than in females. Adipose tissue differences between the sexes explain these differences in water intake (females being fatter than males; fat has a lower water content than protein).

### ENVIRONMENTAL TEMPERATURE

Environmental temperature can impact heavily on water intake (**Figure 2**). The water intake of chickens is approximately double that of feed intake (1.8:1, at a temperature of 21°C (70°F) in bell drinkers). However, in heat-stressed birds this level will be increased. A chicken's water intake will increase by 6–7% for each degree above 21°C (70°F, NRC, 1994).

**FIGURE 2:** Effect of Environmental Temperature on Water Intake. (Based on daily feed consumption defined in the current **Ross Broiler Performance Objectives**, and the assumption that water intake increases by 3.33% per °F increase in temperature [6% per °C] , Singleton, 2004).




It is strongly recommended that each house has a water meter installed and that accurate daily records of water intake are maintained.

### KEY POINTS

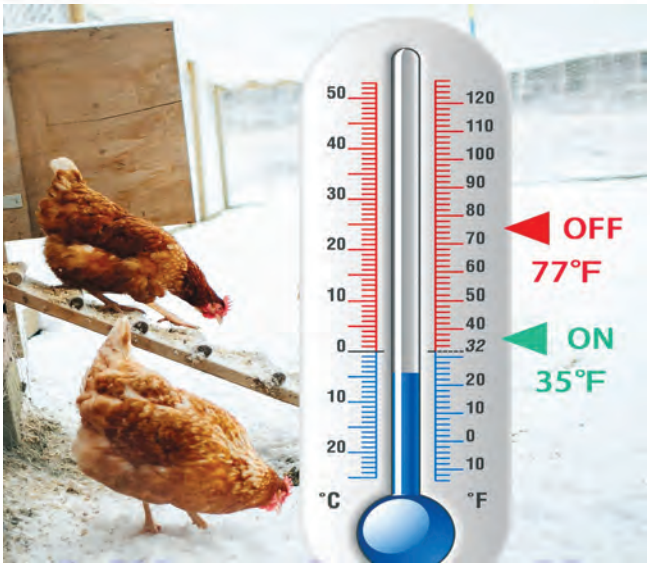
- Increases in water intake will occur with age and environmental temperature.
- Water availability must reflect these changes if performance is not to be restricted.
- Each house should be fitted with a water meter.

## WATER TEMPERATURE

With the exception of water used for vaccination, little thought is given to the temperature of the water presented routinely to birds. Stored water tends to be at a similar temperature to that of its environment. This is not significant in cold climates, but in hot climates water consumption will be reduced as the water temperature increases. Work by Beker and Teeter (1994) found the preferred water temperature of birds to be around 10°C (50°F), with water temperatures of 26.7°C (80°F) and above leading to significant reductions in water consumption and daily weight gain. It is therefore important to regularly monitor water temperature. If it regularly exceeds 24°C (75°F), then thought should be given to developing methods of cooling water temperature in hot weather. This may involve running the drinker supply pipes through a cool pad reservoir or even across the face of the cool pad airflow.

Positioning the water tank and supply pipes underground will also help to protect the water from the ambient air temperature, keeping it cool. Pipes and tanks that are exposed to the sun should be insulated and shaded to prevent heat gain. It is also good practice to flush the drinker lines at regular intervals in hot weather to keep the water as cool as possible.

For vaccination the target water temperature should be <20°C (68°F). In hot weather this can be achieved through the addition of ice to the storage tank before vaccination commences. It is important to ensure that all the ice is melted before addition of the vaccine to prevent non-uniform mixing.




## DRINKING SYSTEMS

In most modern broiler units, nipple drinkers are the system of choice; these have the advantage of reducing disease spread, providing cleaner water, and reducing the labor requirements for clean out. However, good management is necessary for the proper operation of nipple drinker systems. Management factors that influence water intake in such systems are water line height (birds should lift their heads to reach the nipple drinker which should be higher than the birds' back to prevent bumping and leakage, see **Figure 3**, page 4), water line maintenance (regular flushing and cleaning), drinker line location, and water pressure.

Nipple flow rate will also influence water consumption and should be checked regularly against the manufacturer's recommendation. The flow rate should be correct in all drinker lines throughout their entire length. For young chicks, water pressure (and flow rate) should be low. Pressure should be gradually increased with age and weight so that water flow is increased as birds get older in accordance with demand. As a general rule, water pressure should be adjusted so that there is a flow rate of at least 60 ml/min available from each nipple. To achieve good performance the nipple lines should be controlled to meet the birds' requirement rather than to simply protect the litter. In general, the systems with higher flow rates produce better growth rates by increasing both feed and water consumption, but water leakage and litter deterioration is more likely.

The negative growth impact of low nipple flow rates is most commonly seen in birds growing to higher weights (>2 kg [4.4 lb]), where the increased water demand cannot be met and feed intake is reduced. The effect of low nipple flow rates is even clearer if the stocking density is increased and the bird:nipple or bird:drinker ratio is high. As a useful guide, use the Lott equation to calculate static weekly flow: **(weeks of age)* 7 + 20 ml/min** may be a helpful reference.

Where bell drinkers are the system of choice, drinkers should be cleaned daily to prevent the build up of organic matter. Height should be adjusted so that the base of the drinker is level with the broiler's back from 18 days onward (**Figure 3**).

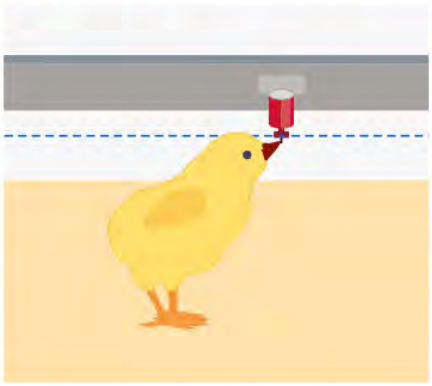
No matter what drinker system is installed, the provision of adequate drinker space is essential if water intake is not to be reduced. As a guide, 83 nipples or 8 bell drinkers per 1000 birds should be provided post-brooding. Where ambient temperatures and/or heavier liveweights (>2 kg [4.4 lb]) are used, drinker space should be increased by up to 50% of these guidelines.

## KEY POINTS

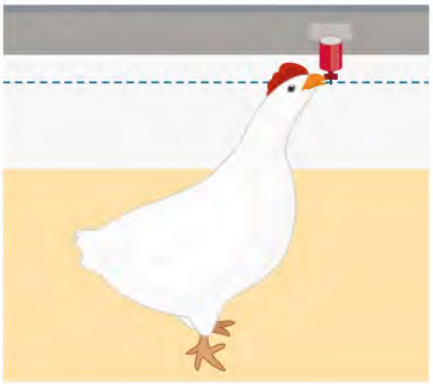
- In most broiler units, nipple drinkers are the system of choice. Good management of these systems is critical with water line maintenance, drinker line location, water pressure, and nipple flow rate all affecting water intake.
- Regardless of the water system in place, drinker height and provision of adequate drinking space is critical.

**FIGURE 3:** Drinker Height of Bell and Nipple Type Drinkers.

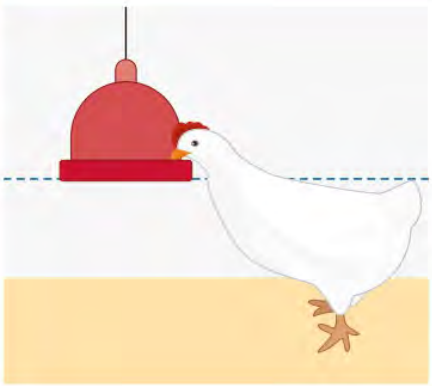
**Correct nipple drinker height for birds under 7 days old (bird's back-to-floor angle: 35–45°).**



**Correct nipple drinker height after 7 days old (bird's back-to-floor angle: 75–85°).**



**Correct height of bell drinker.**



## FEED EFFECT ON WATER INTAKE

Any nutrient that promotes mineral excretion through the kidneys also promotes increased water consumption. Therefore, excess minerals in feed or water above nutritional requirements will lead to an increase in water intake. This is also true for high protein diets where any protein not used for protein synthesis is deaminated and excreted in the urine. This energy-demanding process is associated with an increase in water loss.

In particular, the presence of inorganic elements such as sodium (Na), potassium (K), and chloride (Cl) will be associated with increased water consumption and wetter droppings. A moderate increase in dietary sodium is not normally a problem where birds have access to low sodium drinking water; they will increase the water intake if the diet is high in salt and excrete the excess. However, in areas where water sodium levels are elevated, it is important to factor this added supply into practical diet formulation, otherwise unevenness and poor growth rate will occur. Recent Ross Nutritional Specifications specify 0.18–0.23% sodium in broiler diets. These reflect total sodium intake and, therefore, any contribution from the water should be included.

The dietary requirement for potassium is low, 0.6–0.9% being adequate, levels of intake above this may, however, have a thirst-inducing effect, increasing fecal moisture. This is normally seen where soya is used as the single protein source to provide high protein starter diets. The general standard should be to control dietary potassium to a total intake of <0.9%.

Chloride levels should equal sodium levels (0.18–0.23%). The total chloride level is generally constrained by delivering a proportion of the sodium requirement as sodium bicarbonate rather than as salt (sodium chloride). Deficiency states are uncommon.

## WATER QUALITY

A supply of clean, uncontaminated water should be freely available to the birds at all times. However, depending on the source, the water supplied to the birds may contain excessive amounts of various minerals or be contaminated with bacteria. Acceptable levels of minerals and organic matter in the water supply are given in **Table 1** (page 6).

### KEY POINTS

- Excess levels of some inorganic elements such as Na, K, and Cl will increase water intake and the occurrence of wetter droppings.
- Dietary levels of these elements should be in line with Aviagen nutritional recommendations.

Regular assessments of water quality are necessary for monitoring microbial load and mineral content. The water supply should be checked for the level of calcium salts (hardness), salinity, and nitrates. After cleaning out and prior to chick delivery, water should be sampled for bacterial contamination at source, from storage tanks and from drinkers.

**TABLE 1:** Water Quality Criteria for Poultry

| CRITERIA | CONCENTRATION (PPM) | COMMENTS |
|---|---|---|
| **Total Dissolved Solids (TDS)** | <1,000 | Good. |
| | 1,000–3,000 | Satisfactory: Wet droppings may result at the upper limit. |
| | 3,000–5,000 | Poor: Wet droppings, reduced water intake, poor growth, and increased mortality. |
| | >5,000 | Unsatisfactory. |
| **Hardness** | <100 Soft | Good: No problems. |
| | >100 Hard | Satisfactory: No problem for poultry, but can interfere with effectiveness of soap and many disinfectants and medications administered via water. |
| **pH** | <6 | Poor: Performance problem, corrosion of water system. |
| | 6.0–6.4 | Poor: Potential problems. |
| | 6.5–8.5 | Satisfactory: Recommended for poultry. |
| | >8.6 | Unsatisfactory. |
| **Sulfates** | <200 | Satisfactory: May have a laxative effect if sodium (Na) or magnesium (Mg) is >50 ppm. |
| | 200–250 | Maximum desirable level. |
| | 250–500 | May have a laxative effect. |
| | 500–1,000 | Poor: Laxative effect (birds may adjust), can interfere with copper absorption; additive laxative effect when combined with chlorides. |
| | >1,000 | Unsatisfactory: Increased water intake and wet droppings, health hazard for the young birds. |
| **Chloride** | <250 | Satisfactory: Maximum desirable level, levels as low as 14 ppm may cause problems if sodium is >50 ppm. |
| | 250–500 | Acceptable with caution. |
| | >500 | Unsatisfactory: Laxative effect, wet droppings, reduced feed intake, increases water intake. |
| **Potassium** | <300 | Good: No problems. |
| | >300 | Satisfactory: Depends on the alkalinity and pH. |
| **Magnesium** | 50–125 | Satisfactory: If sulfate level is >50 ppm magnesium sulfate (laxative) will form. |
| | >125 | Laxative effect with intestinal irritation. |
| | 300 | Maximum desirable level. |
| **Nitrate Nitrogen** | 10 | Maximum (sometimes levels of 3 mg/L will affect performance). |
| **Nitrates** | Trace | Satisfactory. |
| | >Trace | Unsatisfactory: Health hazard (indicates organic material fecal contamination). |
| **Iron** | <0.3 | Satisfactory. |
| | >0.3 | Unsatisfactory: Growth of iron bacteria (clogs water system and bad odor). |
| **Fluoride** | 2 | Maximum desirable level. |
| | >40 | Unsatisfactory: Causes soft bones. |
| **Bacterial Coliforms** | 0 colony forming unit (CFU)/mL | Ideal: Levels above indicate fecal contamination. |
| **Calcium** | 60 | Average level. |
| **Sodium** | 50–300 | Satisfactory: Generally no problem, may cause loose droppings if sulfates are >50 ppm or if chloride is >14 ppm. |

**If there are issues with intestinal health, a more acidic water pH of 5–6 will be beneficial.*

Regular assessments of water quality throughout the production period itself should also be made. Ideally, these should be taken from a tap between the tank and the first drinker. Where the facility of a tap does not exist, the water sample should be taken from the first drinker. The main water connection at the top of the drinker should be removed and drained so that any build-up of bacteria and debris can be flushed through allowing an accurate water sample to be taken. Water should be left running for at least 2 to 3 minutes before the sample is taken. As with all testing, the results should properly reflect the water status and, therefore, care to avoid contamination either during sampling or during transport to the laboratory is necessary.

If proper maintenance of the water line does not occur, microbial contamination can build up, affecting bird performance, reducing the effectiveness of medication and vaccination, and reducing nipple flow rate. Implementing a regular water sanitation and line cleaning program will prevent the build-up of microbial contamination. Controlling bacterial load is much more difficult with open drinker systems as they are exposed to contamination by fecal dust and the oral and nasal secretions of birds as they drink (**Table 2**).

Closed nipple systems have the advantage of reducing disease spread, but even with these, dosing with a sanitizer that is effective in the presence of organic load and biofilms is regularly required. Chlorination to give between 3 and 5 ppm at drinker level (using for example chlorine dioxide), or UV radiation are effective means of controlling bacterial contamination. Treatment should occur at the point of water entry into the house.

High levels of calcium salts or iron in the water may lead to the valves and pipes of the drinker system becoming blocked. Where this is a problem, it is advisable to filter the supply using a filter which has a mesh of 40–50 microns. For further information on water line sanitation programs, refer to **Aviagen Brief—Water Line Sanitation**, 2021.

## KEY POINTS

- A supply of clean, uncontaminated water should be freely available at all times.
- Regular assessments of water quality should be made to ensure microbial load and mineral content are within acceptable levels.

**TABLE 2:** Effect of Drinker Types on Water Bacteria Contamination (Micro-Organisms/ml of Sample). Adapted from Macari and Amaral, 1997.

| MICRO- ORGANISMS | NIPPLE | | BELL DRINKER | |
|---|---|---|---|---|
| | Entrance+ | End++ | Entrance | End |
| Total Coliforms | 640 | 3,300 | 1,600 | 1,700,000,000 |
| Fecal Coliforms | 130 | 230 | 1,000 | 80,000,000 |
| Escherichia Coli | 110 | 900 | 900 | 66,000,000 |
| Fecal Streptococcus | 55 | 1,200 | 2,000 | 36,000,000 |
| Mesofiles Micro-Organisms+++ | 24,000 | 700,000,000 | 86,000 | 1,400,000,000 |

*NOTES*
*+ Entrance means the first drinker in the chicken house.*
*++ End means the last drinker in the chicken house.*
*+++ Mesofiles Micro-Organisms – total count of saprophytes and pathogenic microorganisms.*
*The water was not treated.*

## CONCLUSION

Water is an essential ingredient for life, a clean supply of which should be readily available from placement throughout production. Any restriction in water intake or contamination of water will ultimately affect the growth rate and overall performance of the bird. There are many factors that can affect water intake including age, sex, environmental temperature, water temperature and the drinker system type. The bacterial and physical quality of water should be monitored regularly, and where required, corrective action should be taken to ensure that bird performance is not compromised.

## IN SUMMARY

- Unrestricted access to a source of good quality water at an appropriate delivery temperature (10–12°C/50–54°F) should be available.
- Provide adequate drinker space and ensure that drinkers are easily accessed by the whole flock.
- Monitor the feed to water ratio daily to check that birds are drinking sufficient water.
- Make allowances for increased water intake at higher temperatures (6.5% increase per degree over 21°C (70°F).
- In hot weather, take steps to ensure that water is as cool as possible, e.g. flush drinker lines, use a cool pad, position tankers and drinkers underground or insulate.
- Regular testing of the water supply for temperature, bacterial load, and mineral content should occur and where necessary the appropriate corrective action taken.

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# Increase in Prices of BV-300 Layer Breed Chickens

Venkateswara Hatcheries Private Limited (VH Group), has officially announced the price hike of its popular BV-300 layer DOC (Day-Old Chicks). This price research will be effective from 1 January 2026. In a letter issued by the company to all layer farmers, it has been stated that this decision has become necessary in view of the increasing cost of production.

### Why increased prices?

The company said that there has been a significant increase in several operating costs over the past few months, including-

Keeping in mind all these factors of rising fuel prices, research and development (R&D) expenses, other overheads and cost of production, it has been decided to increase the price of BV-300 layer DOC from Rs. 47 to Rs. 50 per chick.

### Housing for farmers-a chance to buy at old prices

The company has also provided a significant relief to the farmers. Those farmers who have no outstanding dues and who need their next DOC consignment before March 31, 2026, can get the chicks at the old price of Rs. 47 per DOC by paying in full by December 31, 2025. This decision has been taken to protect farmers from the impact of increased costs.

Venkateshwara Hatcheries in his letter expressed his gratitude to the farmers for their continued cooperation and trust. The company said that it is committed to provide best services and quality chicks to the farmers in the future as well. Company General Manager K. G. Anand while signing the letter assured that VH Group will maintain its cooperation and service level with farmers.

BV-300 Layer DOC is a popular breed among poultry farmers across the country, known for its high egg production. This value research has been done keeping in mind the increasing demand for this breed and the increase in production cost.

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# Nepal's Poultry Industry Facing Downward Trend Post-Covid Pandemic

Chicken and eggs demand in Nepal during the Covid pandemic reached a record level as people searched for animal protein to remain immune to the virus. Now, The Kathmandu Post reported that poultry entrepreneurs are wary about the future. This week, stakeholders discussed the current state of the sector, noting that the industry has faced continuous challenges and a downward trend post-Covid. Raghunath Bhatta, President of the Nepal Poultry Entrepreneurs Forum, revealed that before the Covid pandemic, there were 14 hatcheries producing layer chicks for egg production; that number has now dropped to seven.

Similarly, hatcheries producing broiler chicks for meat have plummeted from 340 to just 109. The number of feed industries has also shrunk from over 200 to 115. The main reason for the drop was the rising feed cost and unauthorized imports of chicken and eggs from India, entrepreneurs said.

### Situation of the sector

According to data provided by Mr Bhatta, total investment in Nepal's poultry sector currently stands at USD 1.11 billion, with an annual turnover of approximately USD 1.01 billion. While Nepal is nearly self-sufficient in chicks, feed, eggs, and meat, it remains heavily dependent on imports for feed raw materials, medicines, vaccines, and technical equipment. Mr Bhatta added that the import of raw materials and other essential goods for the poultry business results in an annual capital outflow of USD 312.20 million. Government officials said

that despite past setbacks from avian influenza outbreaks, the poultry sector has been expanding at a rate faster than expected. Chicken has become widely popular as it is cheaper than other meat products. As a result, the poultry market has been growing rapidly despite challenges. Amid the gloomy outlook, poultry entrepreneurs are preparing to celebrate the 13th National Poultry Day. According to them, poultry farming began in Nepal after the late King Mahendra inaugurated the central hatchery in Parwanipur, Bara district, on January 1, 1961. However, commercial chicken production in Nepal started in 1974. Between 2004 and 2013, the country saw many farmers shifting to the poultry business.

### Imports of production inputs

Nepal started officially observing National Poultry Day on January 1 every year since 2013. A press conference was organized by the forum in Bharatpur recently to provide information regarding the upcoming celebrations. It was disclosed during the press meet that up to 70% of raw materials for feed are imported. Furthermore, 90% of medicines and 95% of vaccines and equipment are brought in from abroad. Umesh Chandra Sapkota, Central President of the Nepal Feed Industries Association, said that while corn imports were once very high, the situation has now improved due to increased domestic cultivation. "Currently, less than 50% of the corn required for feed is imported," he said, adding that demand for feed industry has led farmers to switch to corn nowadays. However, according to Mr Sapkota, soybeans that are needed for the preparation of the feed must be imported in large quantities. "We rely on imports for 99% of our soybean requirements because domestic production is insufficient," he said. Since feed accounts for 70% of the total cost of poultry production, the reliance on foreign raw materials significantly drives up costs, he added.

"It is difficult to start producing vaccines immediately, and we may not be able to manufacture tools, equipment, and technology locally yet. However, we can certainly increase corn and soybean farming."

### Incentives are needed

"The government must provide incentives, and Nepali farmers need to step forward," said Rajendra Lamichhane, Central President of the Nepal Hatchery Industry Association. Poultry farmers have suggested the government totally ban illegal import of chicks, offer subsidies for the construction of poultry houses, and fix the price of chicken and eggs. They have also suggested the government arrange market centers for selling chicken and eggs and provide loans at reasonable rates.

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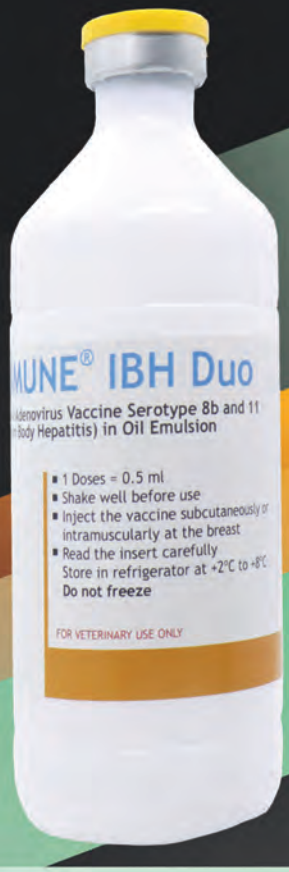


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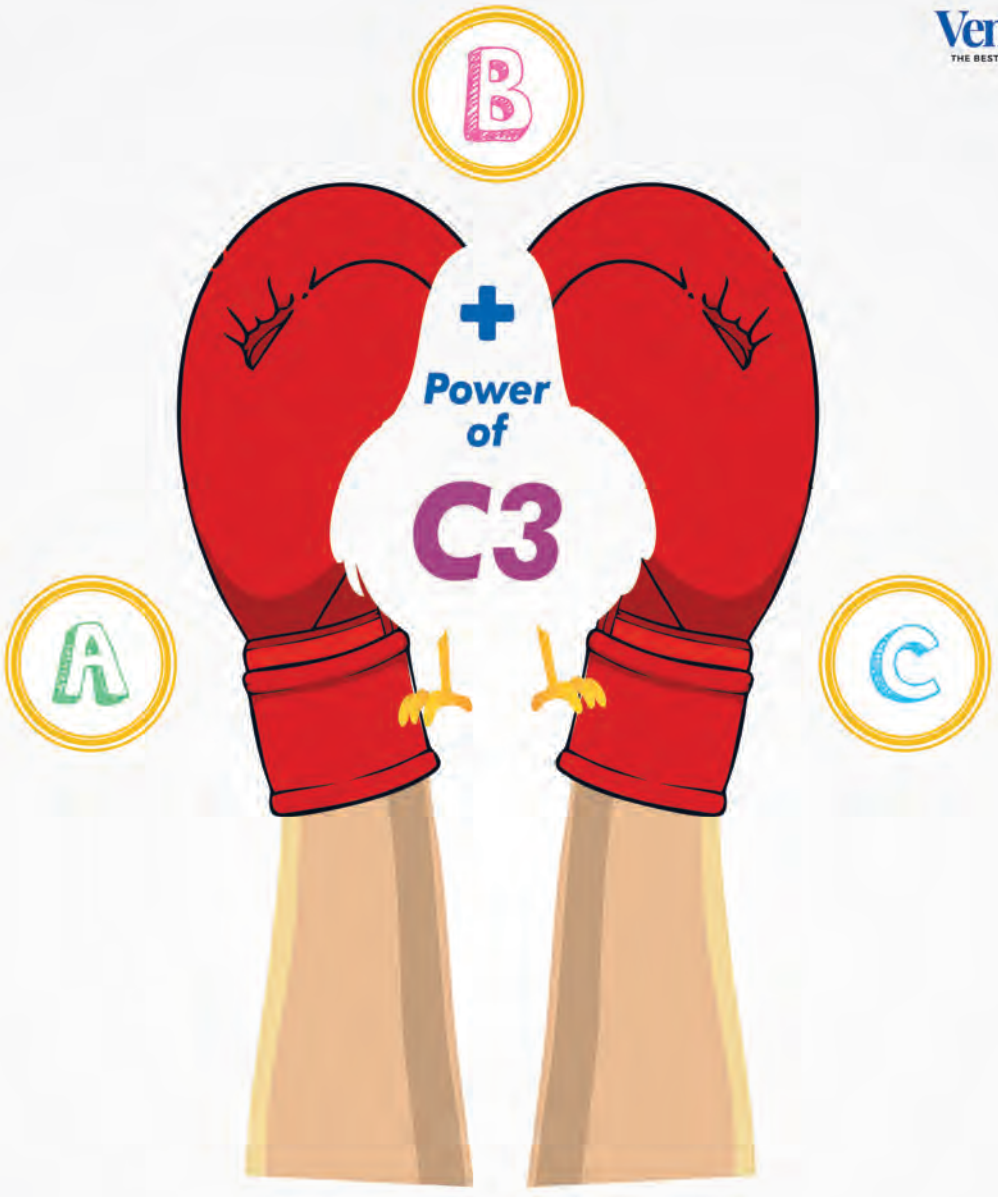


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