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
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From the Editor's Desk

Cooling Solutions: Managing Summer Stress in Poultry Farming



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As the scorching heat of summer descends upon poultry farms, so does the challenge of mitigating its impact on the welfare and productivity of our feathered friends. Poultry farming, a cornerstone of our food supply chain, faces significant hurdles during the hotter months, as rising temperatures can induce stress, reduce egg production, and compromise the health of birds. However, with strategic planning, innovation, and proactive measures, farmers can navigate through the summer months with resilience and success.

The welfare of poultry is paramount, and ensuring their comfort and well-being amidst soaring temperatures is a moral imperative. Heat stress in chickens not only leads to reduced feed intake and egg production but also predisposes them to various health issues, including dehydration and heatstroke. Therefore, it is incumbent upon poultry farmers to implement comprehensive strategies to alleviate the effects of summer stress.

One of the most effective measures to combat heat stress is adequate ventilation and cooling systems within poultry housing facilities. Proper ventilation promotes air circulation, dissipating heat and humidity, and maintaining optimal environmental conditions for birds. Additionally, evaporative cooling systems, such as misters and foggers, can be employed to lower ambient temperatures and provide relief to poultry during hot spells. Investing in insulation and shading structures further enhances the ability to regulate indoor temperatures, creating a conducive environment for poultry to thrive.

Furthermore, nutritional interventions play a crucial role in supporting poultry health and resilience during summer. Adjusting feed formulations to include electrolytes and vitamins aids in replenishing lost nutrients due to heat stress and encourages birds to maintain hydration levels. Additionally, providing access to fresh, clean water at all times is essential to prevent dehydration and ensure proper physiological function in poultry.

Innovative technologies also offer promising solutions for managing summer stress in poultry farming. Automated monitoring systems can track environmental parameters such as temperature, humidity, and air quality in real-time, enabling farmers to swiftly identify and address any deviations from optimal conditions. Furthermore, advances in genetic selection for heat tolerance traits in poultry breeds offer long-term solutions to mitigate the impacts of rising temperatures on bird performance and welfare.

However, addressing summer stress in poultry farming requires a holistic approach that extends beyond technological interventions. Education and training programs for farmers on heat stress management practices are essential to enhance awareness and empower them with the knowledge and skills to safeguard poultry welfare effectively. Collaborative efforts between industry stakeholders, veterinarians, and researchers are also instrumental in developing best practices and disseminating valuable insights to poultry farmers.

As we confront the challenges posed by summer heat in poultry farming, let us reaffirm our commitment to the well-being of our feathered companions. By implementing proactive measures, leveraging innovative solutions, and fostering collaboration and knowledge-sharing, we can ensure that poultry farms remain resilient and sustainable even in the face of rising temperatures. Together, let us strive to create an environment where poultry thrive, and the integrity of our food supply is upheld year-round.

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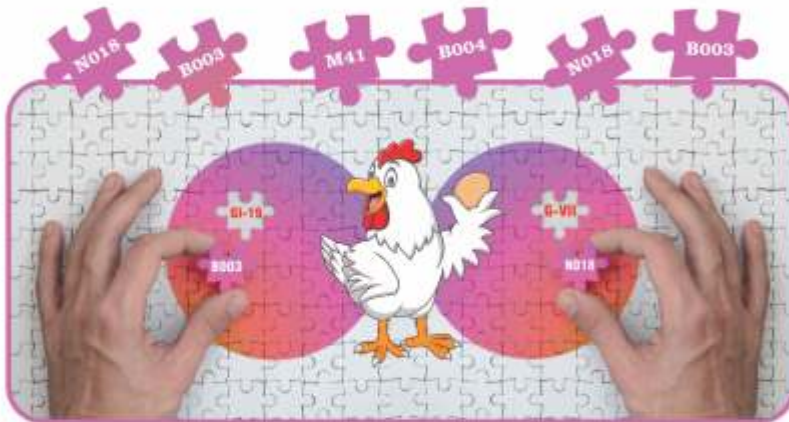
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Summer Stress Management Techniques For Poultry Farmers



Karishma Choudhary and Vinod Kumar Palsaniya
M.V.Sc. (LPM), CVAS, Navania, Vallabh Nagar, Udaipur

Introduction:

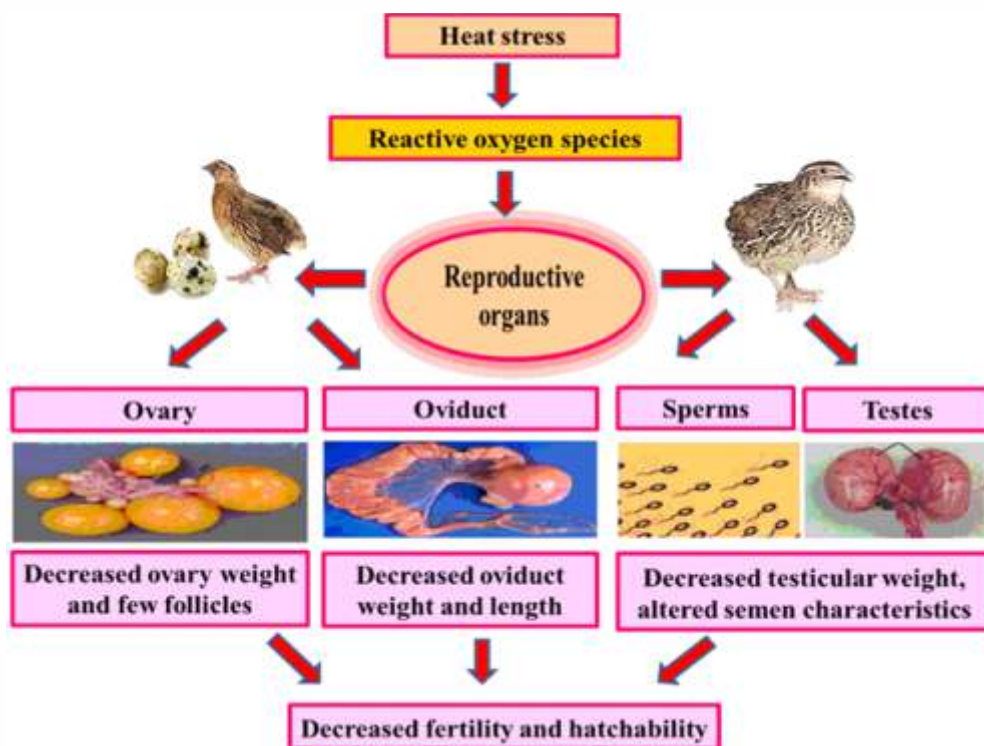
Summer poses unique challenges for poultry farmers as rising temperatures and humidity levels can significantly impact the health and productivity of birds. Heat stress is a primary concern during the summer months, leading to decreased egg production, impaired growth rates, and even mortality in extreme cases. However, with proper management techniques, poultry farmers can mitigate the effects of summer stress on their flock and ensure optimal performance during hot weather conditions.

and ducks, are highly susceptible to heat stress due to their limited ability to regulate body temperature efficiently. Poultry experiences heat stress, commonly referred to as summer stress, when the temperature rises during the summer. When ambient temperatures rise above the comfort zone for birds, usually between 65°F to 75°F (18°C to 24°C), they experience physiological strain, leading to reduced feed intake, panting, increased water consumption, and decreased egg production. Additionally, high humidity exacerbates heat stress by hindering evaporative cooling through panting.

Understanding Summer Stress in Poultry:

Poultry, including chickens, turkeys,

Impact of Summer Stress on



Poultry

When poultry are suffered with heat stress, behavioral, neuroendocrine, and physiological alterations are seen. A few examples of alterations in behaviour are panting, less walking, raised wings, reduced feed intake, and increased water intake. Respiratory alkalosis, acid-base imbalance, and oxidative stress are examples of physiological alterations. The bird may internally suffer from impaired protein digestion and absorption, elevated metabolic disorders, elevated risk of illness prevalence, and impaired reproduction. Reduced feed intake, low feed conversion ratio, decreased body weight, poor quality meat and eggs, and, as previously indicated, higher mortality are some of the production issues that may arise.

Key Strategies for Summer Stress Management:

- 1. Adequate Ventilation:** Proper ventilation is crucial for maintaining optimal air quality and temperature within poultry houses. During summer, ensure adequate airflow by utilizing fans and ventilation systems to reduce heat buildup and humidity levels. Good ventilation promotes air exchange, dissipates heat, and prevents the buildup of harmful gases like ammonia, which can exacerbate respiratory issues in birds.
- 2. Access to Clean Water:** Water is essential for regulating body temperature and maintaining hydration levels in poultry, especially during hot weather. Ensure birds have continuous access to clean, cool water by regularly monitoring water quality and availability. Consider installing misters or drip systems to provide additional cooling for birds, encouraging them to drink more frequently and stay hydrated.
- 3. Shade and Cooling Systems:** Offering shade is vital for protecting birds from direct sunlight and minimizing heat stress. Utilize natural shading from trees or install artificial shade structures within poultry yards or housing areas. Additionally, consider implementing cooling systems such as evaporative cooling pads or foggers to lower ambient temperatures and create a more comfortable environment for birds.
- 4. Nutritional Management:** Adjusting the diet of poultry during summer can help alleviate heat stress and maintain optimal performance. Consider increasing the protein content of feed to support metabolic functions and compensate for reduced feed intake during hot weather. Additionally, supplementing feed with electrolytes and vitamins can help replenish essential nutrients lost through panting and increased water consumption.
- 5. Monitoring and Early Detection:** Regularly monitor bird behaviour, feed consumption, and environmental conditions to identify signs of heat stress early on. Symptoms such as panting, wing spreading, lethargy, and decreased egg production are indicators of heat stress and require immediate attention. Implementing a proactive approach to monitoring allows for prompt intervention and implementation of stress management strategies.

Conclusion:

Summer stress management is essential for ensuring the health, welfare, and productivity of poultry during hot weather conditions. By implementing proactive measures such as adequate ventilation, access to clean water, shade provision, nutritional adjustments, and vigilant monitoring, poultry farmers can minimize the adverse effects of heat stress on their flock and maintain optimal performance throughout the summer months. Effective management practices not only improve bird welfare but also contribute to the overall sustainability and profitability of poultry operations.



Keeping flocks healthy, productive and profitable through gut management

Wouter Van Der Veken, Global Product Manager Probiotics, Huvepharma

The relationship between a healthy gut and optimal performance is undeniable and managing the gut efficiently can contribute to a greater overall production profitability. As such, the gut and its microbiota can be seen as the motor of performance, which has to be fed, maintained and protected throughout the production cycle. In recent years the use of alternative feed additives to support exactly this has increased.

This ties in with the rise of probiotics: beneficial micro-organisms incorporated into feed or drinking water to balance and enhance the gut microbiota, resulting in a health and/or performance benefit.

The current probiotic market offers multiple options and there are plenty of products to choose from. However, three questions should be considered before the right choice can be made.

- First of all, what is the intended benefit? Some probiotics are more focused on digestion, whilst others eliminate pathogens more effectively. Keeping the intended benefit in mind when choosing a probiotic is essential, as probiotics also have their limitations.
- Secondly, is the probiotic stable and, as such, can it be used in standard feed processing? There are great differences in stability amongst probiotic products, most noticeably between spore formers and nonspore formers. It is this spore-forming capacity which makes a probiotic more adept to deal with feed processing, whilst it also protects the micro-organism throughout the digestive process until it reaches its location of action.
- Thirdly, are multiple probiotics used in the same product or not? Multi-strain products inherently introduce a certain aspect of competition, especially if the strains used are part of the same genus (Bacillus for example). Due to their similarities they are expected to compete for similar requirements, such as nutrients, potentially diminishing the intended effect.



Products of choice

With regard to these three questions and their answers, spore-forming and single strain probiotics are often the preferred products of choice. B-Act, with spores of *Bacillus licheniformis* (DSM 28710) as an active component, is a good example.

It ensures healthy, productive and profitable flocks by supporting the birds' gut microflora, both directly and indirectly. The micro-organism has genes coding for multiple digestive enzymes and as such improves digestibility and availability of nutrients, whilst it also produces potent bioactive substances aimed at pathogen control. In particular, *Clostridium perfringens*, the pathogen responsible for the development of necrotic enteritis and a major player in dysbacteriosis (two major production diseases in poultry), is actively and efficiently controlled by B-Act.

The combination of these two modes of action results in healthier, more productive birds, leading to a better profitability in the end. To put this into numbers a statistical analysis was done on 11 recent performance studies, looking at general improvements in feed conversion rates (FCR) and final body weights (BW).

On average, B-Act supplementation led to 3% heavier birds compared to control flocks, whilst the FCR dropped with similar percentages. These numbers were even higher for flocks under a necrotic enteritis challenge, where adding B-Act to the feed or drinking water (WSP formulation) improved technical performance greatly.

Compared to the challenged control flocks, an average FCR improvement of 13% was achieved for challenged birds supplemented with B-Act, with higher BW of up to 26%. As such, supporting a healthy gut leads to productive and profitable poultry. With an average return on investment (ROI) of 8.3, B-Act offers an interesting solution to achieve this. The above confirms the interest in probiotics as alternative feed additives, combining economics with health standards in the most rewarding way.

To know more, please contact Huvepharma technical team

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Ectoparasites of Broiler Breeder Birds

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Ectoparasites are external organisms that feed on the outside of poultry, causing significant issues in breeder operations. These pests can increase floor egg numbers because hens avoid nests with parasites and can also lead to skin lesions, infections, and disease transmission. Implementing a robust sanitation program and targeted pesticide use is crucial for preventing and controlling ectoparasites. The shift to larger commercial poultry operations has amplified concerns regarding external parasites. These pests directly threaten the economic value of birds by impeding growth, vitality, plumage, and egg production. Severe infestations can reduce egg production by up to 30% and make birds more susceptible to other parasites and diseases, potentially leading to mortality.

Avian lice

Avian lice are small, wingless insects, typically ranging from 1 to 6 mm in length, with a flattened appearance and elongated abdomen in most cases. They have chewing mouthparts and feed on a variety of materials such as dry skin scales, scab tissue, feather parts, and blood when they puncture the host's skin or feather quills. While they do not have the ability to fly, they are adept at crawling and can move quickly across the host's body or between birds in close proximity.

The two most common species of lice affecting poultry are the chicken body louse (*Menacanthus stramineus*) and the shaft louse (*Menapon gallinae*). The chicken body louse is particularly widespread and can be found in both intensive commercial flocks and smaller backyard flocks. It is around 3 to 3.5 mm long, and its eggs are usually attached to the base of feathers. This species primarily infests areas with sparser feather coverage, such as the vent, breast, and thigh regions, and feeds on feathers and blood by chewing on pin feathers.

On the other hand, the shaft louse (*Menapon gallinae*) infests feather shafts and is less commonly found on chickens compared to the chicken body louse. Other louse species that may infest poultry include the chicken wing louse (*Lipeurus caponis*), the chicken head louse (*Cuclotogaster heterographus*), the fluff louse (*Goniocotes gallinae*), the large chicken louse (*Goniodes gigas*), the brown chicken louse (*Goniodes dissimilis*), *Menacanthus cornutus*, *Uchida pallidula*, or *Oxylipeurus dentatus*.

Lice eggs, known as nits, are typically cemented to the base of feathers. They take around 4 to 7 days to hatch and undergo several molts before reaching adulthood, which usually occurs within 10 to 15 days. An adult louse can lay



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anywhere from 50 to 300 eggs during its approximately 3-week lifespan, contributing to rapid infestation growth if left unchecked.

Lice are usually introduced to a farm through infested equipment (eg, crates or egg flats) or by galliform birds. Lice are best controlled on caged chickens or turkeys by spraying with insecticides. Eggs are not killed, so insecticide treatment should be repeated after 10 days. Birds on the floor are more easily treated by scattering insecticidal dust on the litter or by providing dustboxes containing sand and an insecticidal dust, such as diatomaceous earth or sulfur dust.

Because lice can transfer between bird species in close contact, they can infest other domestic and caged birds, although some species are usually host-specific. Additionally, lice may hitch a ride on louse flies (Hippoboscidae) for transportation to new bird hosts. It's important to note that certain louse species of geese and swans can act as vectors for filarial nematodes, adding to the complexity of managing lice infestations in poultry operations.

Symptoms

Heavy populations of the chicken body louse decrease reproductive potential in males, egg production in females, and weight gain in growing chickens. Areas of skin irritation are also sites for secondary bacterial infections. Other species of lice are not highly pathogenic to mature birds but may be fatal to chicks. Examination of birds, particularly around the vent and under the wings, reveals eggs or moving lice on the skin or feathers.

Life cycle of lice

Lice lay eggs on the bird (not under the skin as with mites). The life cycle of a louse takes around 7 days from hatching to a visible louse which can be easily detected on a bird. The lice chomp down to the layer immediately under the main protective skin layer and in those areas of the bird where they are comfortable. A louse found on the back of a head can be a different species to one found under the tail feathers. The process of skin munching and foraging damages the underlying tissues. The result is an inflammatory response can result in dried, crusty fluid loss. Birds become irritated and preen and worry

the areas where they are itching. This breaks the feather shafts and results in the typical symptoms – bald birds with rough feathers. These birds are unable to keep warm and production drops are inevitable in colder weather.

Prevention and Control

External parasites are mostly spread by bird to bird contact. Wild birds and rodents may also be responsible for parasites entering the flock. Once detected, it is highly likely that all birds and housing are infested. Prevention and early detection are the best ways to deal with mites and lice. Regularly check birds for signs of mite and lice and check common hiding places such as under perches and in cracks. Once mites and lice are in your flock, they can be difficult to control.

Mites

There are several species of mites that infect poultry. The Northern Fowl mite is usually located around the vent. Therefore, they are often found on eggs and may be detected by staff handling eggs. Scaly leg and depilating mites infest the legs and feet and base of the feathers, respectively.

If environmental conditions are good (temperature and humidity) some mites can live apart from birds for several weeks. Therefore, even with downtime, mites can survive to infect a new flock. Infestations tend to be worse in cool

weather and on young birds.

Wild birds are known carriers of mites. Prevent nesting of wild birds on or around poultry houses. Mites can be carried into the house by equipment and egg flats. They live in cracks, crevices, nest boxes and walls (nest boxes and slats offer ideal habitats) during the day and feed at night. Depending on the infesting species, infestations can cause pale combs and wattles, crusty skin on the legs, and birds pulling out their feathers.

Mites are wingless, very small (just visible without magnification) and may look like dark, moving specks. Bird mites (avian mites) are parasitic arthropods in the acari (tick/spider) family. The red mite (*Dermanyssus gallinae*) and the tropical fowl mite (*Ornithonyssus bursa*) are two main species that infest chickens, turkeys, pigeons, canaries, and various wild birds worldwide. These bloodsucking mites will also bite people. Chicken mites are nocturnal feeders that hide during the day under manure, on roosts, and in cracks and crevices of the chicken house, where they deposit eggs. Populations develop rapidly during the warmer months and more slowly in cold weather.

The bird mite life cycle consists of egg, larva, nymph, and mature adult. They can complete this cycle in about 7 days, depending on the environment. Heavy infestations of either chicken mites or tropical fowl mites decrease reproductive potential in males, egg production in females, and weight gain in young birds; they can also cause anemia and death

Bed bugs

Bed bug behavior is similar to mites. They live in cracks and crevices during the day and feed at night. Bed bugs can survive for months apart from the birds so downtime will not alleviate a bed bug issue. Inspect cracks, crevices, and eggs for bedbugs which will appear as black spots.

Cimex lectularius (bedbug) is a common bloodsucking parasite of people, but it can also feed on many other warm-blooded animals, including poultry. Bedbugs spend most of their time off the host in cracks and crevices, traveling to the host to feed at night. Because of this life history, it is rare in modern



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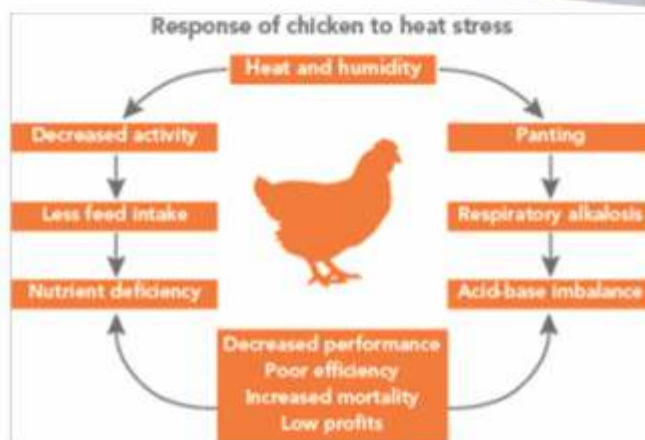
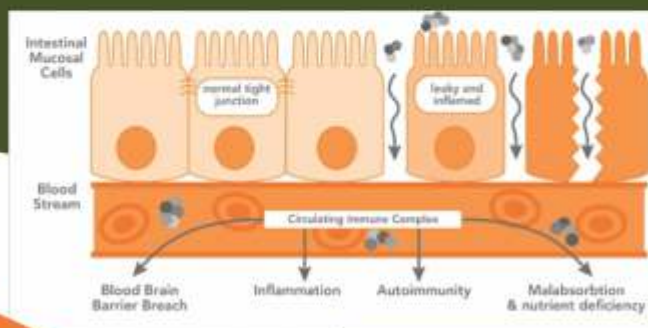
FOR PREVENTING AND AMELIORATING CONDITIONS INVOLVING DIFFERENT TYPES OF STRESS

Heat stress occurs when ambient temperature exceeds the upper critical temperature, and bird needs to make extra efforts to release excess heat from the body, but this also causes loss of water, acids and minerals, leading to alkalosis, disturbed electrolyte balance, and dehydration. During severe heat stress, feed intake usually declines in poultry.

ARVIS: Help birds effectively handle heat stress and other types of stress.



In case of chronic heat stress, the integrity of the epithelial cells of the gut wall is threatened. The functionality of the close junctions decreases and this leads to the so-called 'leaky gut syndrome': The risk of inflammation is then imminent, because toxins and pathogens have more easy access to blood. Also, digestion and absorption of nutrients is hampered when the gut wall is damaged.



KEY BENEFITS

Efficiently controls stress associated with various painful conditions like de-beaking and vaccination

MODE OF ACTION

Physiologic methyl radical donor involved in enzymatic trans-methylation reactions and present in all living organisms. Arvis also possesses anti-inflammatory activity and has been used in treatment of acute and chronic inflammatory conditions.

COMPOSITION

s-AMe, Vitamin K3, Chromium Polypicolonilate and Betaine.

INCLUSION LEVELS

0.5 g per liter of water 500 g/MT of feed

PRESENTATION

5 Kg and 25 Kg poly-coated paper bags

SHELF LIFE

3 years from the date of manufacture

caged-laying operations. Bedbugs require a more complex environment (eg, nestboxes) and may become problematic in furnished-cage or cage-free layer facilities, breeding houses, pigeon lofts, etc.



Adult bedbugs are dorsoventrally flattened, dark brown, and about the size of an apple seed. Nymphs are smaller and lighter brown. Bedbug eggs are laid in cracks and crevices and hatch after 4–12 days. The five nymphal instars all blood feed and last 3–10 days each. The entire cycle (egg to adult) requires 24–128 days depending on temperature (30°C is optimal). Bedbugs can survive for weeks to months without feeding. Infestations cause irritation and blood loss to birds. They have not been found to vector any diseases.

If attacked by large numbers of bedbugs, birds may become irritable and anemic. Bites are usually followed by swelling and itching due to injection of saliva into the wound.

Signs of bedbug infestation on poultry include: bug fecal droppings on eggs and nest boxes, breast and leg skin lesions, egg production will be reduced and increased feed consumption

Control is best accomplished by thoroughly cleaning the houses,

reducing hiding places for the bedbugs, using heat treatments, and/or fumigating the houses.

Fleas and ticks

These parasites are occasionally found in breeder operations. Most pesticides that are used to treat other ectoparasites are also effective against fleas and ticks.

The fowl tick, *Argas persicus*, is found worldwide in tropical and subtropical countries and is the vector of *Borrelia anserina* (avian spirochetosis) and the rickettsia *Aegyptianella pullorum*, which causes fowl disease (aegyptianellosis). In the USA, the *Argas persicus* complex has been divided to include *A. miniatus*, *A. sanchezi*, and *A. radiatus* in addition to *A. persicus*. These ticks are particularly active in poultry houses during warm, dry weather. All stages may be found hiding in cracks and crevices during the day. Larvae can be found on the birds because they remain attached and feed for 2–7 days. Nymphs and adults feed at night for 15–30 minutes. Nymphs feed and molt several times before reaching the adult stage. Adults feed repeatedly, most commonly under the wings, and the females lay as many as 500 eggs after each feeding. Adult females may live >4 years without a blood meal.



Fowl tick infestation can lead to anemia (most important), weight loss, depression, toxemia, and paralysis. Egg production decreases. Red spots can be seen on the skin where the ticks have fed. Because the ticks are nocturnal, the birds may show some uneasiness when roosting. Death is rare, but production may be severely depressed. Fowl ticks are rarely found in commercial cage-layer operations but may be found in cage-free housing, including breeder, pasture, or small-scale flocks.

After houses are cleaned, walls, ceilings, cracks, and crevices should be treated thoroughly with acaricides using a high-

pressure sprayer. Cracks and crevices should be filled in.

The **sticktight flea**, *Echidnophaga gallinacea*, is an occasional poultry pest in temperate areas and a major poultry pest in the subtropical and tropical New World. These fleas may be common in backyard poultry flocks or areas where birds spend a lot of time outdoors or interface with wildlife. Adult fleas are dark brown and laterally flattened. Adult fleas embed in the skin of their host for days or weeks. On chickens, they prefer to attach to the wattles, comb, or face. Without detaching from the host, females lay their eggs, which fall into the litter or soil. Larvae hatch and live on host blood excreted by adult fleas and organic material in the litter or soil. The larvae develop best in sandy, well-drained litter. Larvae pupate and later emerge as adults, which then search for a host. This whole cycle takes about 1–2 months.

Hosts of the adult flea include chickens, turkeys, pigeons, pheasants, quail, people, and many other mammals. Fleas cause irritation, restlessness, and blood loss that results in anemia and death, particularly in young birds.

The most important flea control measures are to remove infested litter and to dust the litter surface with carbaryl, coumaphos, malathion, or pyrethroids to kill immature fleas. Insect growth regulators such as methoprene are also effective. Sticktight fleas can be controlled by topical application of insecticides

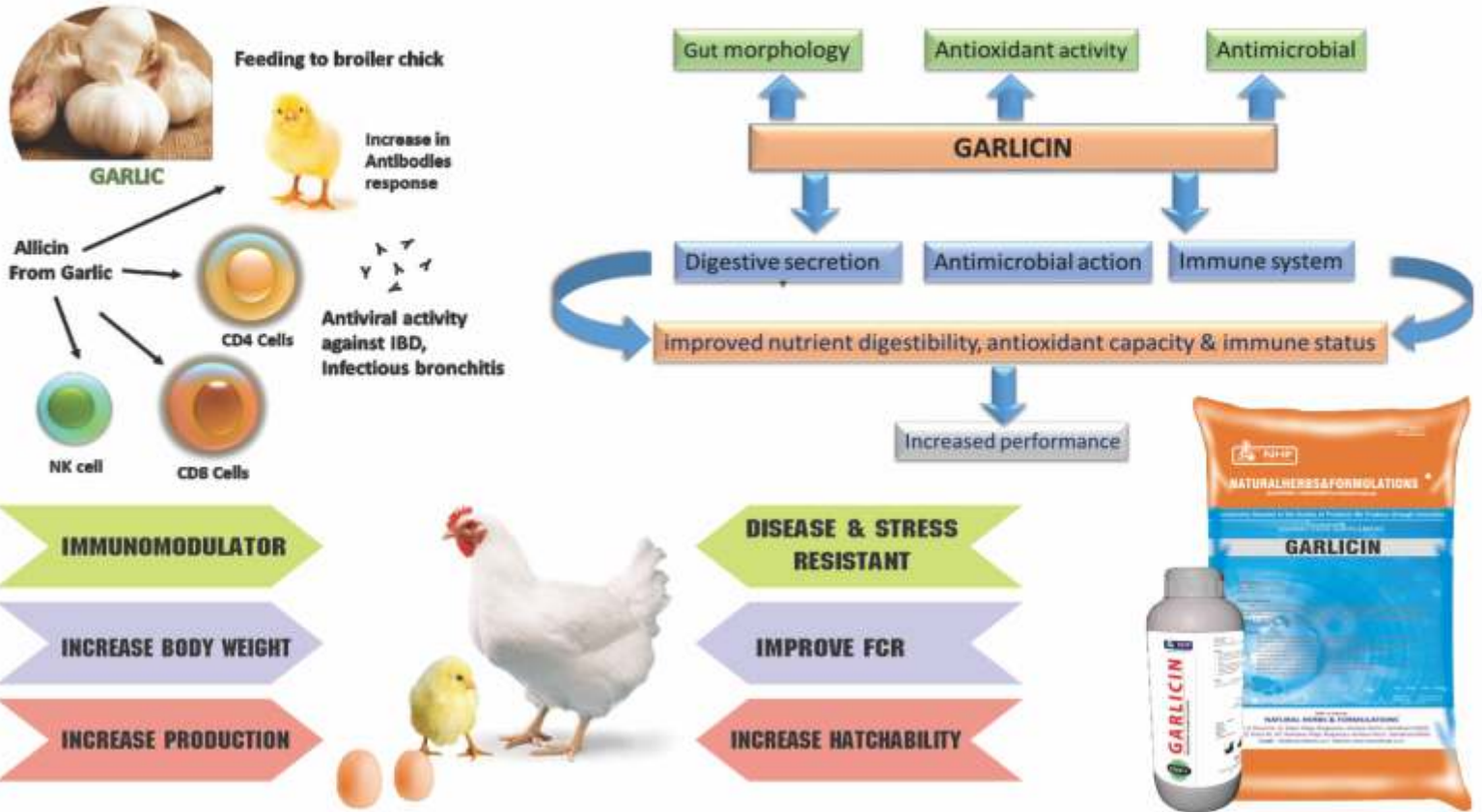
Conclusion

Controlling ectoparasites in broiler breeder birds involves implementing integrated pest management strategies, including: Regular cleaning and disinfection of poultry houses, Proper waste management to reduce organic debris that can harbor parasites, Use of approved acaricides and insecticides for treating infestations, Monitoring bird health and behavior for early detection of ectoparasite problems, Implementing biosecurity measures to prevent the introduction and spread of parasites.

It's crucial for poultry producers to work closely with veterinarians and follow recommended protocols for parasite control to maintain the health and productivity of broiler breeder flocks.

GARLICIN Antiviral & AGP Replacer

FUNCTIONAL IMPACT OF GARLICIN



T₃-100 Natural egg yolk Coloring enhancer & AGP Replacer



- ❖ Kill the Harmful pathogen by antimicrobial mechanism
- ❖ Boost immune system
- ❖ T₃ 100 is also use as Flavoring & coloring agent



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Managing Summer Stress in Poultry Farming: Strategies for Success

Introduction

Summer brings with it challenges for poultry farmers, particularly in managing the stress experienced by their birds. Heat stress can have detrimental effects on poultry health, welfare, and productivity, leading to decreased feed intake, reduced egg production, and increased mortality rates. To mitigate these risks, effective management strategies are essential. This article explores various approaches to managing summer stress in poultry farming, offering insights into best practices for ensuring the well-being and performance of birds during hot weather conditions.

”

Understanding Summer Stress in Poultry

Poultry are highly susceptible to heat stress due to their limited ability to dissipate excess body heat. When temperatures rise above their comfort zone, birds experience physiological and behavioral responses, including increased respiration rate, reduced feed consumption, and altered water intake patterns. Prolonged exposure to high temperatures can lead to heat-related illnesses such as heat stroke and dehydration, negatively impacting their health and productivity. Understanding the physiological mechanisms behind summer stress in poultry is crucial for effective management.

Poultry generate metabolic heat through normal processes, but high humidity levels can impede evaporation, exacerbating heat stress. Heat stress-induced respiratory distress is a common consequence, leading to respiratory alkalosis, which can disrupt acid-base balance and impair oxygen delivery to tissues. Heat stress accelerates water loss, predisposing birds to dehydration and electrolyte imbalances, increasing the risk of heat-related morbidity and mortality.

Heat stress disrupts normal metabolic processes, impacting nutrient utilization, energy metabolism, and hormone regulation. Elevated temperatures alter feed intake patterns, leading to nutrient deficiencies and the release of stress hormones.

Genetic predisposition plays a

significant role in determining heat tolerance in poultry breeds and strains. Selective breeding programs have been employed to enhance heat tolerance traits. Environmental factors like housing design, insulation, ventilation, and microclimate management also influence the susceptibility of poultry to heat stress. By understanding these factors, farmers can implement targeted management practices to mitigate heat stress and promote the health and welfare of their flocks.

Key Management Strategies

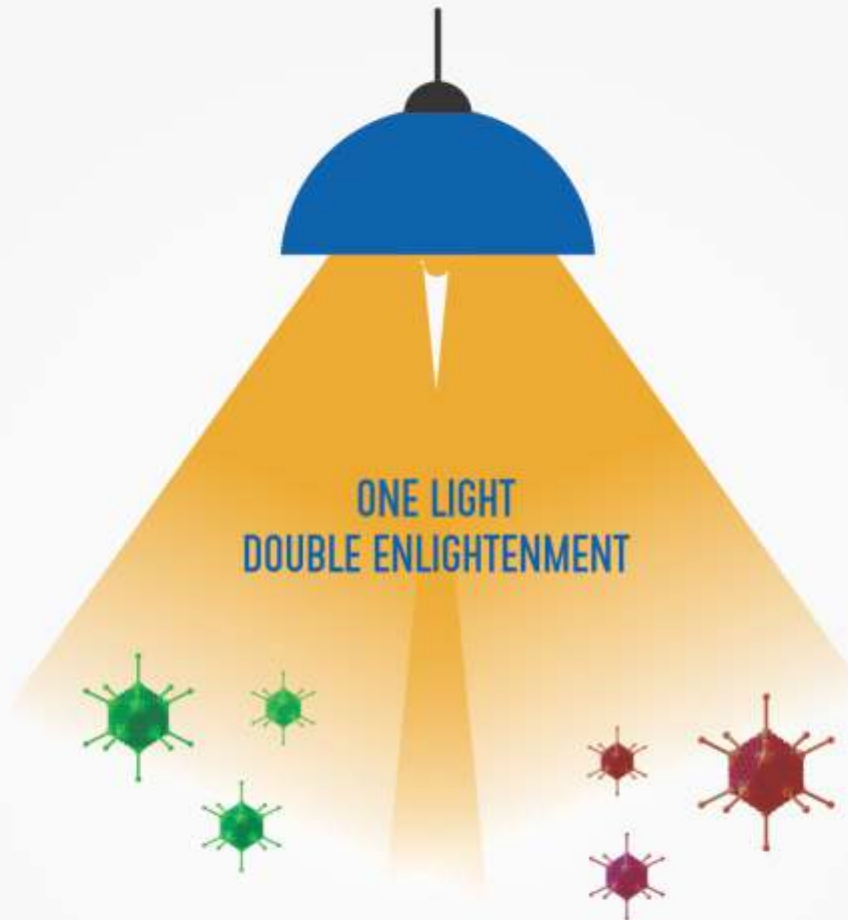
Optimizing Ventilation: Optimal ventilation is crucial for maintaining optimal air quality and temperature in poultry houses during hot weather. It involves ensuring proper functioning of ventilation systems, maximizing airflow, and minimizing heat buildup and humidity levels. Key considerations include well-designed ventilation systems, selecting fans with adequate capacity, and adjusting inlet vents or louvers to regulate airflow and maintain environmental conditions.

In addition to mechanical ventilation systems, natural ventilation strategies can be used to enhance airflow management. Utilizing ridge vents, side curtains, or chimney stacks can promote passive air exchange, while proper building orientation and design features can minimize solar heat gain. Regular monitoring of indoor air quality parameters is essential for assessing ventilation effectiveness and identifying potential issues.



VH HEPA

IBH / HPS VACCINE INACTIVATED



Coercive Power To Control Different Fowl Adenovirus Serotypes

Vaccination - Strategies

- PDRC survey showed that FAdV serotype 4 & 11 are majorly prevalent in India.
- Ventri's IBH/HPS vaccine is found to be protective against the prevalent serotypes.
- On proper vaccination of breeders with Ventri's vaccine there is transfer of maternal antibodies to the progeny chicks providing protection against disease.



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Email: ventri.biologicals@venkys.com

Continuous Service Of Poultry Industry

Maintaining ventilation equipment and infrastructure in good working condition through routine inspection, maintenance, and cleaning is essential. Regular cleaning and replacement of air filters, fan blades, and ductwork prevent airflow obstruction and ensure optimal performance. Developing contingency plans for managing ventilation disruptions or power outages during extreme weather events or emergencies is also essential.

By implementing proactive ventilation management strategies, farmers can mitigate the impact of summer heat stress and create a comfortable, healthy environment for their birds. Regular monitoring, maintenance, and adaptation are essential for optimizing ventilation performance and safeguarding flock welfare and productivity.

Providing Adequate Water

Supply: Access to clean, cool water is crucial for poultry to prevent dehydration and regulate body temperature. To ensure adequate water supply, poultry farmers should regularly test water quality, use potable water sources, and implement water treatment protocols. Multiple water sources should be distributed throughout the poultry house or outdoor range, and drinkers or troughs should be spaced appropriately to accommodate different flock sizes and breeds.

Water temperature plays a critical role in reducing heat stress and maintaining bird comfort. Installing water cooling systems, such as drip lines, misters, or evaporative pads, can help birds regulate body temperature more effectively. Optimizing water flow rate and pressure is essential for consistent water delivery and minimizing competition among birds. Water

management practices should be implemented to minimize contamination, evaporation, and wastage.

During heat stress, poultry can supplement water with electrolytes, vitamins, or organic acids to support hydration, electrolyte balance, and immune function. Regular monitoring of water consumption, availability, and quality is essential to assess hydration status and identify potential issues. Regular inspections of waterers, drinkers, and plumbing systems can detect leaks, blockages, or malfunctions.

By prioritizing water quality, availability, accessibility, cooling, management, supplementation, and maintenance, poultry farmers can effectively mitigate heat stress and promote hydration, health, and performance in their flocks during the summer months.

Shade and Cooling Systems: To ensure optimal conditions for poultry during hot weather, it is essential to provide shaded areas and use cooling systems like fans, foggers, or sprinklers. Natural shade sources like trees, shrubs, or buildings can be used to create shaded areas within outdoor poultry ranges or pasture-based systems. Artificial shade structures like shade cloths, awnings, or canopies can supplement natural shade and enhance coverage.

Evaporative cooling systems like cooling pads, wet walls, or fogging systems can reduce ambient temperatures and enhance thermal comfort for poultry housed in enclosed facilities. Misting or sprinkler systems can provide localized cooling and humidity control, while ventilation fans and air circulation devices can enhance airflow and heat dissipation. Reflective roofing materials or

coatings on poultry house roofs can reduce solar heat absorption and minimize radiant heat transfer. Thermal insulation materials can also improve energy efficiency and thermal comfort for birds.

Monitoring environmental conditions regularly is crucial for assessing the effectiveness of shade and cooling systems. Environmental monitoring sensors or meters can track temperature fluctuations and make informed adjustments to cooling settings and strategies as needed. Regular inspection, cleaning, and maintenance of shade structures, cooling pads, misting systems, and ventilation equipment are essential for optimal performance and reliability. By integrating these strategies into poultry management practices, farmers can effectively mitigate heat stress and create a comfortable, thermally regulated environment for their birds during summer months.

Dietary Management: During hot weather, poultry farming requires dietary management to meet the increased nutritional needs of birds. This includes modifying feed composition, supplementing diets with electrolytes and vitamins, and adjusting feeding schedules to encourage consumption during cooler periods.

Nutrient density and composition should be adjusted to meet metabolic demands and nutritional requirements, while energy content should be increased to maintain energy balance. Protein levels should be increased to support muscle maintenance, immune function, and feather quality. Essential amino acids, vitamins, and minerals should be maintained for growth, metabolism, and overall health.

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replenish electrolyte losses through panting, sweating, and urination, minimizing the risk of dehydration and electrolyte imbalances. Water-soluble vitamins, such as vitamin C, vitamin E, and B-complex vitamins, can be supplemented to support antioxidant defense mechanisms, immune function, and stress adaptation in heat-stressed birds.

Monitoring water intake patterns and adjusting dietary formulations can compensate for variations in hydration status and fluid requirements. Feed additives or nutraceuticals with potential heat stress mitigation properties can enhance resilience and performance during hot weather.

Feed management practices should coincide with cooler periods of the day to encourage consumption and minimize heat stress effects on feed intake and digestion. Regular inspection of feed ingredients for contamination, pests, or deterioration is essential to maintain feed freshness and nutritional integrity.

By implementing targeted dietary management strategies, farmers can mitigate the impact of heat stress and support optimal performance, health, and welfare in their flocks.

Managing Stocking Density: To manage stocking density in poultry houses during hot weather, it is crucial to consider factors such as bird size, breed, behavior, and environmental conditions. Overcrowding can exacerbate heat stress by limiting air movement and increasing competition for resources. To optimize comfort and welfare, it is essential to determine appropriate space allowances based on these factors. Optimizing ventilation and airflow within the poultry house is also crucial to

maintain air quality and minimize heat buildup.

Managing microclimates within the poultry house is essential to minimize temperature differentials and heat stress hotspots. Installing shade structures, cooling systems, and insulation materials can create thermally regulated zones and provide refuge from direct sunlight and heat exposure. Monitoring environmental conditions and implementing targeted interventions can help mitigate heat stress risks.

Addressing social dynamics and behavior within the flock is essential to assess the impact of stocking density on bird welfare and performance. Implementing enrichment activities, environmental enrichment, and behavioral management strategies can reduce stress and promote positive social interactions. Providing sufficient feeding and watering space is also crucial to accommodate all birds without overcrowding.

Managing stocking density is essential to minimize the risk of disease transmission, spread, and outbreaks within the flock. Implementing biosecurity measures, vaccination programs, and hygiene protocols can prevent disease introduction and control transmission. Regularly monitoring stocking density, bird behavior, performance indicators, and environmental conditions helps assess the effectiveness of management practices. Maintaining open communication with poultry health professionals, veterinarians, and industry experts is essential for achieving optimal stocking density levels.

Monitoring and Early Detection: To effectively manage heat stress in poultry farming, it is crucial to

regularly monitor environmental conditions, bird behavior, and physiological parameters. This includes using automated monitoring systems or handheld devices to track key parameters, such as temperature, humidity, air quality, and ventilation rates. Observing flock behavior for signs of heat stress, such as increased panting, wing spreading, lethargy, and decreased activity, and intervening promptly to prevent adverse outcomes.

Utilizing physiological monitoring techniques to assess bird health and stress responses associated with heat stress is also essential. Measurements of parameters such as respiratory rate, body temperature, water intake, feed consumption, and weight gain can be collected non-invasively and tracked over time. Heat stress scoring systems can be developed to objectively evaluate the severity of heat stress and its impact on poultry welfare.

Educating farm personnel on recognizing early warning signs and symptoms of heat stress is essential. Training staff to identify visual cues, behavioral changes, and physiological indicators of heat stress can facilitate timely intervention and prevent escalation of heat stress-related problems.

Maintaining detailed records of environmental conditions, bird behavior, health status, and management interventions related to heat stress management is essential. Collaborating with poultry health professionals, veterinarians, extension specialists, and industry experts can enhance heat stress monitoring and management practices. Participating in industry workshops, seminars, and training programs can stay informed about advances in heat stress

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Xcelsio comes with a more concentrated cocktail of bacteriophage and is fortified with more Bacillus subtilis. This new and improved formulation, created specifically for use in

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Each of our bacteriophages is painstakingly selected using our proprietary Bacterophage F technology to target and eliminate specific bacteria; leaving other beneficial bacteria completely unharmed. This natural surgical strike on disease-causing bacteria is the safest, non-toxic, and most effective prophylactic alternative to antibiotic growth promoters.

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Natural Feed Additive



BENEFITS TO THE FLOCK

Natural:
No Toxins, No Residues, No Side-effects, No Withdrawal Time.

Surgical:
Targets and eliminates specific bacteria, even those resistant to antibiotics

Protective:
Maintains gut bio-balance by retaining beneficial bacteria

Probiotic:
Enriched with Bacillus Subtilis.

Flexible:
Compatible with all Performance Enhancers, Growth Promoters, Acidifiers, Anti-Oxidants, Minerals & Enzymes

BACTERIA IT CONTROLS

Salmonella
Typhimurium Gallinarum Choleraesuis, Derby, Dublin, Enteritidis, Pullorum

E. Coli
F4 (K88), F5 (K99), F6 (987P), F18, F41

Clostridium Perfringens
Type A, C, B, D, E

Staphylococcus Aureus

FOR USE IN
BROILERS, LAYERS
& BREEDERS

management and emerging technologies.

Heat Stress Emergency Plan: A heat stress management plan is a crucial component of poultry farm management, providing guidelines and procedures for responding effectively to extreme heat events or emergencies that threaten bird welfare, health, and productivity. It involves conducting a comprehensive risk assessment to identify potential heat stress hazards, vulnerabilities, and critical control points within the poultry production system. This includes evaluating environmental conditions, facility infrastructure, bird physiology, management practices, and emergency response capabilities.

A well-designed plan minimizes the impact of heat stress and ensures rapid intervention to mitigate risks and safeguard the flock. A comprehensive risk assessment is conducted to identify potential heat stress hazards, vulnerabilities, and critical control points within the poultry production system. A

list of emergency contacts is compiled, and clear communication protocols are established for alerting relevant stakeholders in the event of a heat stress emergency.

Treatment trigger points for activating the heat stress emergency plan are defined based on predetermined temperature thresholds, heat index values, or environmental conditions indicative of heightened risk. An emergency response team is designated, with specific roles and responsibilities assigned to monitor environmental conditions, assess bird welfare, activate cooling systems, administer emergency treatments, and communicate with stakeholders.

Contingency plans for implementing emergency cooling measures are developed, considering alternative strategies such as emergency water spraying, temporary shade structures, or portable cooling units. Bird evacuation protocols are established, and monitoring and evaluation mechanisms are implemented to assess the

effectiveness of the heat stress emergency plan. Regular training, communication, and collaboration are essential for maintaining readiness and effectiveness in managing heat stress emergencies in poultry farming operations.

Conclusion

Effective management of summer stress is paramount for ensuring the health, welfare, and productivity of poultry in hot weather conditions. By implementing proactive strategies such as optimizing ventilation, providing adequate water supply, offering shade and cooling systems, adjusting dietary management, managing stocking density, monitoring environmental conditions, and having a heat stress emergency plan in place, poultry farmers can minimize the impact of heat stress and maintain optimal conditions for their birds. Through careful planning and attention to detail, poultry producers can navigate the challenges of summer weather and sustainably manage their operations for success.





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1,08,236 broiler chickens

Safe | Performance booster | Anti-infective | Anti-inflammatory

40 - 70 points[#]

Improvement in cFCR

Upto 70 g

Improvement in BWT in open shed

Upto 120 g

Improvement in BWT in EC shed

Upto 30%

Improvement in livability vis-à-vis antibiotic control



*1 FCR point represent third/last decimal point of 1000

*Majority of field trials were conducted at same farm with multiple sheds in integrations across various geographical locations and at different time of the year. Some of the integrators were generous in sharing complete production indices while others communicated the summary of the trial results. In the field trials, Improval™ MS was compared with antibiotic/probiotic/antibiotic + probiotic/probiotic + prebiotic control. Detailed reports available on request.



Nutritional Strategies to Fight Heat Stress in Poultry during Summer



Agriculturist Md sahidur Rahman Miah

Poultry Specialist

Farm operation-Breeder & Commercial(Broiler & layer), Animal Husbandry, MBA, PGD (HRM), PGD (Project Management), AGM-farms, Kazi farms Ltd, Bangladesh

Vitamins, electrolytes and essential oils help to keep your farm profitable during Summer time .

High temperatures have a major impact on poultry farming. When they are coupled with high humidity, the combination is critical for the health and productivity of the animals.

Poultry are homeotherm animals, which means that they are able to maintain a constant body temperature by regulating metabolic heat production and heat loss. In the 'thermoneutral zone' (20-24°C) birds are able to control their heat loss: body temperature is held constant, feed intake is maximized and FCR is optimum. **But as temperatures increase, birds are not able to control their body temperature and it starts rising above 41°C.**

Fully feathered broilers (about five weeks of age), layers and breeders are the most sensitive to heat stress. Males are the most susceptible because they produce more endogenous heat.

Heat Stress Index (HSI) is the sum of environmental temperature (when it is above 27°C) and relative humidity. This index is useful to determine the onset of heat stress, that starts when the index is higher than 105.

Affected birds show signs such as:

- **Fast panting** (from normal breathing of 25 breaths/minute

to 250 breaths/minute). Panting causes respiratory alkalosis as blood carbon dioxide levels diminish due to hyperventilation. Respiratory alkalosis leads to an excess of bicarbonate in blood, which is eliminated through urine, eliminating also other important ions such as Na⁺, Ca²⁺, Mg²⁺, K⁺ and water.

- Birds lift their wings away from their bodies.
- **Loss of appetite:** At an environmental temperature of 28°C, feed intake is depressed by 12%. For every degree above 32°C, the bird further reduces its feed intake by 5%.
- **Increase in water intake:** bird increases its water intake by 4% for every 0.5°C above 21°C.
- Metabolic (serious acid-base balance disorders, ascites), digestive (wet droppings), skeletal (bone problems due to metabolic imbalance) and respiratory disorders. In many trials and farm experiences, **phyto-active ingredients have proved to be useful in digestive problems due to hot weather**, as you can find in this link.
- Rise in cannibalism.
- Raise of mortality.
- Lethargy.
- Drop in productivity: In broilers, FCR worsens by 10-12% and growth slows down by 5-10%. In layers and breeders, laying rate



declines, eggshell quality worsens, replacement pullets are lighter, lay later and lay fewer eggs. In breeders, fertility is reduced, due to less mating, poorer semen quality and female infertility.

Nutritional strategies to cope with heat stress

- Supplementing feed with energy (by increasing the percentage of vegetable oils or fats) helps to avoid productivity losses. This practice is useful in hens and in broilers, but, in the case of broilers, the resulting meat could be fatter, so it is necessary to be cautious.
- Levels of lysine and methionine should be increased.
- In breeders and layers, **administration of calcium should be increased by 4-5%**. Moreover, partially replacing salt by sodium bicarbonate helps to maintain eggshell quality.

Treatments through drinking water are more effective than through feed because during hot periods birds eat less but do not reduce their water intake. The following additives are key during hot periods:

- **Electrolytes:** Electrolytes supplementation need to be increased due to acid-base imbalance derived from heat stress. Birds lose more electrolytes through feces and this loss needs to be compensated in order to maintain health and productivity.
- **Vitamin C:** supplementation with vitamin C can reduce the negative consequences related to a rise in plasmatic corticosterone. Corticosterone is the main hormone related to stress in poultry. Heat stress can cause up to fivefold increase in plasma concentrations of corticosteroids. **Supplementing with vitamin C limits the increase of body temperature, stimulates growth in broilers, improves the quality of the carcass and it is related with increased laying rate, stronger eggshell and healthier day-one-chicks.**
- **Vitamin E:** all studies show an immunosuppressing effect of heat stress on broilers and hens. **Supplementing with**

vitamin E has shown to make the birds more resistant to disease and increase feed intake during heat stress.

- **Refreshing essential oils:** essential oils with a fresh taste, such as eucalyptus, provide a cool sensation caused by the stimulation of oral mucosa sensory cold receptors, giving the birds a very pleasant sensation of 'freshness'. Thanks to this refreshing sensation, **feed intake recovers, productivity increases and mortality drops.** It has also been shown that **behavior related to heat stress, such as wing lifting and panting, is ameliorated with the addition of refreshing essential oils to drinking water.**

Useful management tips

- Avoid any circumstance that causes excessive bird density.
- Outside the house, spraying the roofs of with water. Roofs can also be covered with insulating materials such as hay, canes, straw, etc.
- Use curtains to protect the birds from direct hot winds.
- Use internal nebulizers to spray mists of cool water. Fresh essential oils can be added to the water for a better refreshing effect.
- Provide cool drinking water. Flush the water system often to water does not get too hot.



ICAR-DMAPR Organises Industry Interface Meet

ICAR-Directorate of Medicinal and Aromatic Plant Research, Anand organised an Industry Interface Meet jointly in collaboration with the IP&TM Unit, ICAR today.

The Chief Guest Dr. Trilochan Mohapatra, Chairperson, Protection of Plant Varieties and Farmers Rights Authority, New Delhi, and former Secretary (DARE) & DG (ICAR) emphasized the need for collaborations between research organizations and industry for the growth of the herbal sector in the country. He opined that there is a need for mainstream agricultural production of medicinal plants to improve the yield and quality of raw drugs. Dr. Mohapatra urged for a holistic approach in developing the value chain of medicinal plants in the country.



Dr. Manish Das, Director, ICAR-DMAPR, Anand, highlighted the various achievements of the directorate in innovation and technology development. He emphasized the need for innovative technologies for the promotion of medicinal and aromatic plants in the country.



Dr. S. N. Gupta, Vice-Chancellor, Maganbhai Adenwala Mahagujarat University, Nadiad, briefed about the principle of Ayurveda and the concept of how herbal industries and farmers can flourish in terms of business and money without diluting the principle and idea of Ayurveda.

Dr. M. K. Jhala, Director, Research, Anand Agricultural University, Anand, emphasized the present scenario of the herbal market, and current research trends and shared information on some of the salient achievements of AAU, Anand in medicinal plants.

Dr. Kaushik Banerjee, Director, ICAR-National Research Center Grapes, Pune highlighted the issues relating to authentication, adulteration, and possible contamination of herbal products both in raw and processed form that can affect the trade and export ultimately affecting business.

Shri. Somainder Singh, General Manager, NABARD, Gujarat delivered a lecture on the Role of NABARD in the promotion of start-ups and small businesses in Gujarat Shri Singh described the various schemes supported by NABARD for the benefit of Startups.

A technology booklet 2.0, three leaflets, an institute newsletter, an ashwagandha photobook, and a folder were released during the programme. DMAPR herbs, a mobile application of the institute was launched during the program. A panel discussion was held, wherein progressive farmers and start-ups emphasized marketing strategy and availability of quality planting material for the promotion of MAPs in the country. An exhibition was also arranged during the event where various incubators and others exhibited their licensed technologies/products.

A total of 70 delegates from different industries, startups, entrepreneurs, farmers, and others participated in the industry-Interface meet 2.0.



भारतीय कृषि अनुसंधान परिषद
INDIAN COUNCIL OF AGRICULTURAL RESEARCH
Ministry of Agriculture and Farmers Welfare

(Source: ICAR-Directorate of Medicinal and Aromatic Plants Research, Anand, Gujarat)

Saife Vetmed India Drew Wide Acclaim at Kisan Mela in Pantnagar

Saife Vetmed India, a leading provider of innovative veterinary solutions, proudly announces its successful participation at the Kisan Mela organized by GB Pant University from March 9th to 12th, 2024. The event showcased Saife Vetmed India's product range received widespread acclaim for their innovation and effectiveness in addressing dairy industry challenges.

Saife Vetmed India's products garnered significant attention from attendees, particularly in the dairy sector. Among the standout offerings were:

- 1. Novadip:** A revolutionary solution for leaky teat problem, dry cow therapy and mastitis control. Novadip emerged as the highlight of Saife Vetmed India's product portfolio. Its innovative formulation and remarkable efficacy captured the interest of dairy farmers seeking effective solutions for these common issues.
- 2. Celmanax:** Designed to combat calf scours issues, Celmanax attracted considerable attention for its efficacy and reliability. Dairy farmers recognized its potential to address this prevalent concern, highlighting its importance in maintaining calf health.
- 3. Oregostim:** Serving as an appetizer, Oregostim gained traction for its ability to enhance feed

intake and promote overall animal health. Its multifaceted benefits resonated not only with dairy farmers but also with agriculturalists and households seeking effective nutritional supplements for their livestock.

- 4. Flyend:** A comprehensive solution for fly control, Flyend drew widespread interest from dairy farmers, agriculturists, and household individuals alike. Its effectiveness in managing fly infestations was acknowledged as a crucial component of maintaining animal welfare and hygiene standards.

For more information about Saife Vetmed India and its range of veterinary solutions, visit [www.saifvetmed.com] or contact our dairy executive at enc4u@saifvetmed.com/8882861086.

About Saife Vetmed India

Saife Vetmed Pvt. Ltd. is a decade old veterinary company from India, known for its innovative and quality assured products. Manufacturing, Marketing and Exports are the key features of Saife. It caters to a wide idea of products ranging from Healthcare Products, Feed Supplements and Biosecurity for Poultry, Ruminant, Equine and Aqua.



Unveiling Success: Indian Herbs Specialities organized Spectacular One-Day Technical Seminar at Namakkal, Tamil Nadu on March 15, 2024



The Spectacular One-Day Technical Seminar organized by INDIAN HERBS in Nala Hotel, Namakkal, Tamil Nadu, on March 15, 2024, was a resounding success, leaving an indelible mark on the attendees and organizers alike. The event served as a beacon of knowledge and innovation in the realm of layer farming, offering a platform for industry stakeholders to converge, exchange ideas, and glean insights from leading experts.

The seminar's thematic focus on 'Layer nutrition and management' addressed crucial aspects vital for the sustainable growth and productivity of layer farming operations. Through a meticulously curated program, participants were exposed to practical knowledge and cutting-edge research, empowering them to enhance their practices and optimize their outcomes.

The esteemed presence of Dr. D. Chandrasekaran and Dr. Abhijit Mishra, distinguished poultry nutritionists, as the 'Guests of Honour', elevated the seminar to a prestigious platform. Their profound expertise and rich experience lent credibility to the discussions, enriching the audience with invaluable perspectives and best practices.

Key highlights of the seminar included insightful sessions on mitigating 'Summer Stress

Management', delivered by Dr. D. Chandrasekaran, and gaining 'Practical Insights into Layer Nutrition', elucidated by Dr. Abhijit Mishra. These sessions were complemented by Dr. Shivi Maini's presentation on 'Novel Phylogenics for Summer Stress Mitigation in Layers', offering innovative solutions to prevalent challenges in layer farming.

Furthermore, the active participation of over 100 top layer farmers, integrators, feedmillers, and patrons underscored the event's significance and relevance within the poultry community. The vibrant exchange of ideas, experiences, and best practices fostered a collaborative spirit, nurturing a conducive environment for collective learning and growth.

The enthusiastic engagement of the Tamil Nadu Sales team, led by Mr. Paramartha Roy, National Sales Manager, and comprising Mr. Balu, Mr. Ramesh, and Mr. Senthil, further exemplified INDIAN HERBS dedication to fostering strong customer relationships and providing unwavering support to the farming community.

In essence, the Spectacular One-Day Technical Seminar not only served as a platform for knowledge dissemination but also as a catalyst for fostering innovation, collaboration, and sustainable growth within the layer farming ecosystem. It epitomizes INDIAN HERBS commitment to driving positive change and empowering stakeholders across the agricultural value chain.



World Veterinary Association and Brooke launch world's first Essential Veterinary Medicines List (EVML) for Food Producing Animals

The World Veterinary Association (WVA) and global animal welfare organisation Brooke have launched the first-ever global list of essential veterinary medicines for food producing animals. The list will help to improve access to safe and effective medicines and vaccines for veterinarians around the world and act as a valuable tool to help respond to the global threat of Antimicrobial Resistance (AMR) and to support pandemic prevention preparedness plans under development.

The list contains core medicines and vaccines, selected for their relevance, efficacy and cost effectiveness by expert working groups. The phase 1 of this important project provides the essential medicinal needs of equids, large ruminants, pigs, goats and sheep. Phase 2 has started and focuses on poultry, rabbits, while phase 3 will follow with the inclusion of aquaculture and bees.

Dr Olatunji Nasir, WVA's Pharmaceutical Stewardship Working Group Chair, said 'The EVML will help veterinarians and authorities in making better choices of medicines, biologics and vaccines supply, fitting to local needs. As veterinarians we are gatekeepers of the next pandemic because of the profound roles we play in the control of zoonoses, this is a responsibility that we share with authorities and agencies in our various jurisdictions. Together, we stamp our feet in the one-health pathway.'

Dr Shereene Williams, Brooke's Senior Manager of Global Animal Health, added 'We are incredibly proud to have led the development of the EVML alongside the WVA. This

list is the product of global veterinary expertise and collaboration and is a critical first step in ensuring all animals around the globe have access to medicines and vaccines to keep them healthy and minimise their pain and suffering.'

Animal health, which is deeply interconnected with human and environmental health, is dependent on access to safe and effective veterinary medicines. However, in many regions around the world, these are not readily available. The World Health Organization (WHO) estimates that around two billion people have no access to essential medicines and it is believed the issue is even worse within animal populations. In a survey of veterinarians conducted by the founders of the list, 80% of respondents felt that challenges in accessing veterinary medicines restricts veterinarians' ability to address animal health and welfare.

WVA and Brooke's EVML list gives regulatory authorities and governments a blueprint for countries or regions to develop their own tailored lists, considering the pathogens and diseases specific to

their region. This will help ensure that medicines and therapeutics are more readily available to all veterinary professionals and help prevent future pandemics of zoonotic diseases like COVID-19 and avian influenza. The list is a valuable tool in reducing the growing threat of AMR and adheres to World Organisation for Animal Health (WOAH) recommendations on prudent antimicrobial use.

As with the WHO's Model Lists of Essential Medicines, the EVML for food producing animals will be a free-to-access resource regularly updated on a calendared basis, seeking global contributions to ensure its continued relevance and effectiveness.

The list can be viewed here worldvet.org/evml/

About World Veterinary Association

The WVA is the voice and unity of the global veterinary profession. Our key priority areas are Animal Welfare, Pharmaceutical Stewardship, Veterinary Education and One Health. We promote them through advocacy, education, and partnership.



COMPAC-EC®

The Thermo-modulator

Compac EC is a comprehensive combination of various bio-active nutrients for thermoregulatory, antipyretic, antioxidant, osmoregulatory, immunomodulatory action. It also modulates nutrient uptake in the gut which effectively overcomes heat stress and its further consequences.

COMPOSITION

Advanced nutrient combination of various osmoregulators, thermoregulators and bio-active compounds.

OSMOREGULATORS

- Betaine
- Sodium Salicylate
- Potassium Chloride
- Magnesium Sulphate
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NUTRIENTS

- Vitamin C
- Vitamin E
- Selenium
- L-Arginine

BIOACTIVE COMPOUNDS

- Withania somnifera
- Emblica officinalis

BENEFITS

- Improves immunity and vaccine response.
- Reduces the mortality caused by various stress conditions like heat stress in summer.
- Reduces wet litter conditions caused by excessive water intake during heat stress in the summer.
- Improves feed intake, body weight, feed conversion ratio, and carcass quality in broiler birds.
- Improves fertility and semen quality in breeders.
- Enhances egg production, egg mass and egg quality.

INDICATIONS

- For optimising the production performance of the birds in all seasons.
- Stress conditions of various origins like debeaking, Shifting and vaccination.
- Stress of managerial or environmental origin.
- During depressed growth and performance.
- Immunosuppression of various origins.
- As a supportive aid during disease outbreaks.

Reduced nutrient uptake

Depressed growth & development

Compromised immunity

Increased disease incidences

Impaired productivity



USAGE

COMPAC-EC can be used in feed or water.

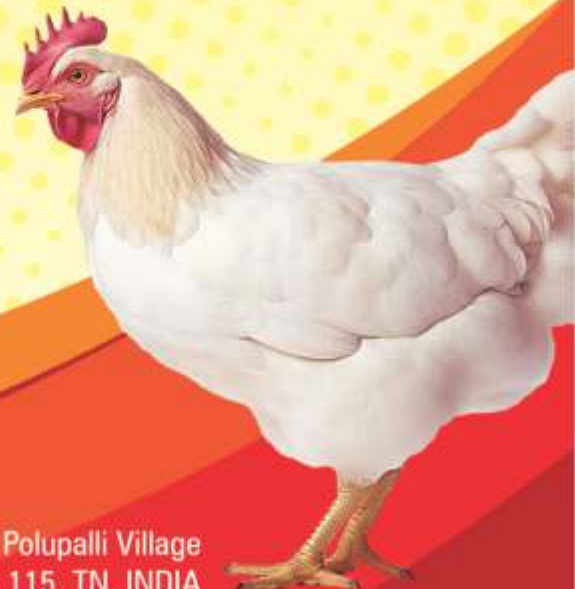
In feed : 250 to 500g/MT

In drinking water : 1 g/L

Or as recommended by poultry health specialist.

PACK SIZE

Available in 25 kg (5 kg * 5)



For Further Details


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Poultry Federation of India and USAPEEC Unite to Promote Poultry Protein Consumption

kilogramme of ideal body weight, there is a clear need to close this gap.

The signing ceremony was attended by esteemed representatives from both organisations, including Greg Tyler, President and CEO of the USA Poultry and Egg Export Council, Clay M. Hamilton, Agricultural

contribute to better health and well-being."

The collaborative approach includes a variety of initiatives, such as educational programmes, research and development, market expansion, and nutritional awareness campaigns. By combining their expertise, both organisations hope to raise awareness about the nutritional benefits of poultry products.

This collaboration represents a shared commitment to improving the nutritional landscape and promoting a healthier, protein-rich future.



OVO Farm Launches Second Flagship Egg Retail Store, KENKO AGSTRA, in Bhubaneswar

OVO Farm, known for its commitment to delivering high-quality and nutritious eggs, is pleased to announce the grand opening of its second flagship egg retail store, KENKO AGSTRA, in Surya Nagar (near Venus and Governor House Square), Bhubaneswar. This store is Odisha's second exclusive egg retail outlet, following the success of KENKO AGSTRA in Nayapalli, Bhubaneswar.

The unique 700-square-foot egg

The Poultry Federation of India (PFI) and the United States Poultry and Eggs Export Council (USAPEEC) have signed a Memorandum of Understanding (MoU), which marks a significant step forward in combating protein deficiency by promoting poultry protein knowledge and consumption.

Protein deficiency is a major concern, as highlighted by the Indian Council of Medical Research (ICMR), which emphasises the importance of adequate protein intake for good health. Despite these recommendations, India's average dietary protein consumption remains below optimal levels, contributing to health issues. With an average intake of around 0.6g per

Minister Counsellor for Agricultural Affairs, USDA, and Ramesh Khatri, Chairman, Sanjeev Gupta, Vice President (HQ), Ricky Thaper, Treasurer, and Parveen Kumar, Vice-President, North Zone of the Poultry Federation of India. Their speeches emphasised the importance of this collaboration in meeting critical nutritional needs and promoting international cooperation in the poultry industry.

Greg Tyler, President of USAPEEC, stated, "We are thrilled to collaborate with the Poultry Federation of India to address India's protein deficiency." By leveraging our collective expertise and resources, we hope to raise awareness about the nutritional benefits of poultry products and



store aims to provide egg enthusiasts in Bhubaneswar with a diverse selection of high-quality eggs, including high-protein eggs, brown eggs, and selenium-rich eggs sourced directly from OVO Farm's advanced and fully automated technology facility. The facility not only ensures high quality, but also adheres to strict hygiene standards throughout the egg production process.

Customers can use cutting-edge Blockchain technology to trace the origin of the eggs by scanning the QR code on the pack, ensuring transparency and authenticity with every purchase.

To commemorate the store's opening, KENKO AGSTRA is offering special discounts to egg lovers in Surya Nagar. Customers can get a flat 30% discount on all KENKO AGSTRA products until April 16, 2024. In addition, purchases of 20 cartons or more qualify for a Rs. 5 per carton discount. To access free delivery services, call +91 8093191422 or use WhatsApp. In addition to eggs, the store sells milk, cookies, bread, juices, and other breakfast staples.

Soumendra Mishra, the founder of OVO Farm, and the Kenko Agstra Team attended the store's inauguration ceremony. Speaking about the opening of the KENKO Agstra Store, he stated, "Kenko Agstra is our flagship store, with the goal of providing people with fresh, high-quality eggs sourced directly from our farm. We are dedicated to innovative and sustainable farming practices and look forward to expanding our presence in every neighbourhood of Bhubaneswar and other cities throughout India."

The Surya Nagar store will offer three main egg categories - Hi Pro, Immuno, and Brown - in packs of six, ten, and twenty eggs, catering

directly to customers with nutritious and fresh egg options sourced from OVO Farm's facilities, as well as other food essentials such as milk, bread, cookies, sauces, dips, and other healthy products.

OVO Farm's blockchain technology tracks eggs from farm to consumer, providing information such as farm location, laying date, and processing history via QR codes on the packaging.

OVO Farm has over two decades of experience in egg farming and produces one million eggs per day across three units in Balangir, making it a reliable source of high-quality eggs and providing employment for 300+ people.

Aside from the exclusive store, KENKO products are sold through a variety of retail channels in Bhubaneswar and Kolkata, including general trade retail units, modern trade stores, and e-commerce platforms.

OVO Farm's eggs are well-known for their export quality and have been exported all over the world, including to Middle Eastern countries and Africa. It should be noted that the FIFA World Cup in Qatar imported eggs from OVO Farm to meet its sudden demand.

Mitsui to Double Down on India's



Poultry Industry with Investment in Sneha Farms Pvt. Ltd.

Mitsui & Co., Ltd. ("Mitsui", Head Office: Tokyo, President and CEO: Kenichi Horii) has decided to invest in Sneha Farms Pvt. Ltd. ("Sneha"), one of India's largest grill producers. Following the investment, the company will become a Mitsui-associated company.

With the country's GDP per capita reaching US\$2,400, chicken consumption is poised to grow significantly. India has a sizable non-vegetarian population and has demonstrated consistent economic growth and development. Sneha is a chicken supplier based in Hyderabad, the capital of Telangana. Its fully integrated operations include feed manufacturing, grill production, meat processing and packing, transportation, and retail. It is one of India's largest companies in terms of production volume. Sneha's collaboration with Mitsui aims to increase its market share in India, with plans to double production over the next five years. Sneha also plans to enter the market for high-value food

products, such as frozen and chilled ready-to-eat meals, on a large scale.

Mitsui will continue to contribute to the stable supply of chicken and other protein sources, for which demand is expected to rise.

Chicken has the highest feed efficiency and lowest environmental impact of any livestock product. It is subject to few religious restrictions, and demand is expected to rise globally. Mitsui has spent many years developing an integrated chicken production business, particularly in the Japanese market, through its group companies, which include its subsidiary Prifoods Co., Ltd. Mitsui is expanding its overseas business by leveraging the knowledge gained from its activities in Japan. It invested in Zalar Holding S.A. ("Zalar Holding"), the largest grill company in Morocco and Senegal, in 2018 and will invest in Wadi Poultry S.A.E., Egypt's largest grill producer, in 2024.

Meanwhile, in the marine products sector, Mitsui is expanding prawn farming and processing, which provide high protein and low fat with a short production cycle, much like chicken. In 2019, it invested in Vietnam's Minh Phu Seafood Joint Stock Company, the world's largest shrimp producer and processor, and plans to invest in Industrial Pesquera Santa Priscila, the world's largest shrimp farming company, by 2024.

Mitsui has identified "Wellness Ecosystem Creation" as a key strategic initiative in its Medium-Term Management Plan 2026. Mitsui aims to improve the quality of today's increasingly diverse consumer lifestyles by providing nutritious food. Mitsui's investment aims to increase the added value of its food and nutrition business

cluster, improve health and well-being through food, and thus contribute to the realisation of richer and brighter lives for people.

Livestock Advancements Highlighted at Pashu Palan Mela by Guru Angad Dev Veterinary University



The Pashu Palan Mela at the Guru Angad Dev Veterinary & Animal Sciences University kicked off on Thursday. State Agriculture Minister Gurmeet Singh Khuddian kicked off the two-day event, which will end on Friday.

The university displayed its top-of-the-line breeds of cattle, buffaloes, goats, and poultry for livestock farmers. The subject experts gave talks on various aspects of livestock, poultry, and fish farming, as well as the mechanisms and procedures for dealing with common problems.

Models of integrated livestock farming for increasing farmer profitability and mitigating

environmental impact were displayed. Farmers were given live demonstrations on a variety of topics, as well as the sale of milk testing kits, mastitis diagnosis kits, teat dip practice and acaricide drug application.

Various carp fish, ornamental fish, azolla, and duckweed cultivation, as well as the integration of fish farming with other livestock farming, piqued farmers' interest, particularly in saline water fishery. Value-added products such as milk, meat, and fish were also displayed on sale stalls.

A bamboo-made poultry shed for backyard poultry rearing was introduced at the mela.

Khuddian noted that animal husbandry was making an increasing contribution to the economy and society. He encouraged farmers to approach universities for assistance in improving production and income. He applauded Vet Varsity's efforts to reach farmers' doorsteps through extension services.

Dr. Inderjeet Singh, vice-chancellor, stated that the mela will be held under the theme "Pashuan Vich Desi Upchaar, Ghat Laagat Vadh Paidavaar" (Homemade therapy for animals with fewer inputs and

higher profit). To that end, a theme-based stall selling ethno-veterinary remedies was set up at the mela. Dr Singh encouraged farmers to pursue livestock careers using scientific knowledge and technology.

A large number of livestock farmers visited the animal nutrition department's stall to purchase the area-specific mineral mixture, mineral mixture for pigs bypass fat, and uromin lick prepared by the university, which were sold at a low cost to the farmers. Different university-trained self-help groups display, exhibit, and sell their value-added products. This has elicited enthusiastic responses from aspiring farmers and visiting rural youth.

Godrej Tyson Foods Showcases Diverse Product Portfolio at Aahar 2024



Godrej Tyson Foods Ltd., a joint venture between Godrej Agrovet Limited and Tyson Foods, USA, made a strong presence at the 38th edition of Aahar - The International Food and Hospitality Fair in New

Delhi. The company's showcase focused on its extensive product portfolio, anchored by consumer favourite brands 'Real Good Chicken' and 'Godrej Yummiez,' reinforcing the company's position as a key player in the Hospitality, Restaurant, and Catering (HoReCa) segment.

As a frozen food industry leader, the company offers a diverse range of over 50 frozen vegetarian and non-vegetarian ready-to-cook products under the brand. The exhibit featured notable additions such as easy-to-cook Crispy Fried Chicken, Crispy Chicken Bites, nutritious Millets Patty, and delectable Crispy Potato Starz, as well as a variety of Real Good Chicken processed poultry products. These offerings exemplify GTFL's efforts to launch products that meet changing consumer preferences.

The showcase highlighted GTFL's operational capabilities, particularly in the Quick Service Restaurant

(QSR) and Business-to-Business (B2B) segments. The collaboration, which leverages the company's strong supply chain expertise and Tyson's vertically integrated poultry processing capabilities, addresses

India's growing demand for high-quality poultry. The company's primary focus remains on meeting the diverse needs of QSRs, hotels, restaurants, and cafés.

The company, as a responsible corporate entity, offers high-quality, safe, and cost-effective frozen food products through its prestigious brands. The company's unwavering commitment to providing world-class standards tailored to local tastes highlights its critical role in supporting India's thriving food industry, quick-service restaurants, and modern retailers.

Abhay Parnerkar, CEO of Godrej Tyson Foods Ltd., stated, "The 38th edition of AAHAR provided us with a platform to showcase our extensive portfolio and the innovation we have achieved in the ready-to-cook category." With our well-known brands, Real Good Chicken and Yummiez, we have consistently delivered high-quality food products to both the B2B and B2C sectors. As we plan to expand our retail and HoReCa footprint in FY25, AAHAR 2024 will allow us to have effective conversations with domestic and international customers."

IVRI Introduces Innovative Vaccine to Control Infectious Bursal Disease in Poultry Farming

The Indian Veterinary Research Institute (IVRI) announced Wednesday that it has developed a vaccine to combat the feared infectious bursal disease in poultry chickens, which is causing massive losses for poultry farmers. It is the country's first vaccine developed

using recombinant DNA technology and will soon be available to farmers.

IVRI is a pioneering veterinary research institute affiliated with the Indian Council of Agricultural Research (ICAR). The institute's main goal is to develop technologies and vaccines that will benefit the country's veterinary sector.

Bursal or Gumboro disease is caused by an infection with a specific type of virus that weakens the chickens' immune system, making them susceptible to other diseases. "The infection is contagious, and even if a single bird in the poultry farm becomes infected, it spreads throughout the flock, rendering the flock useless for poultry farmers," said Dr. Sohini Dey, the vaccine project's lead investigator. Bursal disease is one of the top five infections that cause the most damage to poultry birds, she added.

"The infection's main disadvantage is that it weakens the bird's immune system. In such circumstances, if the bird becomes infected with another disease, no other vaccine will help," explained Dey, who has been researching the disease for more than ten years. "The vaccine is fit to be used in a day-old bird, thus ensuring maximum protection from infection," she went on to say.

Dey's team of investigators, which included Drs. C. Madhan Mohan and R. Saravanan, received a boost in 2016 when their project was funded by the Department of Biotechnology, Government of India, as part of the Make in India initiative. The team was able to develop the vaccine, SVP - Gumboro Vac, in 2019, but it took several years to complete the remaining tests before it was released to the market. On

Wednesday, IVRI Bareilly transferred the vaccine technology to Hester Biosciences Ltd., a private company that is the country's second largest poultry vaccine manufacturer.

Dr. Triveni Dutt, Director of IVRI, stated, "This is a significant achievement for the institute." We are hopeful that the vaccine will revolutionise poultry farming and increase profitability for our farmers."

Tyson Foods and Signify Collaborate to Introduce Optient: Way to Greener, Healthier Poultry Production



Signify, the world leader in lighting, has introduced Optient, a revolutionary lighting solution aimed at improving animal health and productivity that is set to transform the poultry industry. Optient, developed in collaboration with Tyson Foods, one of the world's largest food companies and the industry's leading poultry producer, provides poultry farmers with numerous distinct advantages. Benefits range from improved animal welfare and feed conversion to lower energy consumption.

Drawing inspiration from nature and science, Optient employs non-uniform or gradient lighting to replicate the diverse lighting environments found in the wild, promoting natural chicken behaviour, keeping flocks calm and stress-free, and resulting in improved animal welfare. Optient can reduce energy consumption by up to 70% by using energy-efficient LED technology, making it a more environmentally friendly option for poultry farmers.

Jeffrey Lewis, General Manager of Signify's agriculture division, stated of the product's development, "Optient is a revolutionary system." Designed with poultry welfare in mind, it creates lighting gradients across the barn floor, allowing the birds to select their preferred light intensity, resulting in a happier and healthier flock. Our engineers, scientists, and account managers collaborated to develop this solution to address Tyson Foods' need for responsible and sustainable farming. It is a game changer in animal-lighting technology, promoting bird welfare while increasing farmer efficiency. "Optient is poised to revolutionise the way poultry is raised and will benefit many more across the industry globally."

Optient's design is the result of extensive research and development by Signify's Once team, which was informed by a series of studies conducted by then-Associate Professor Karen Christensen at the University of Arkansas. When given a choice of light intensities, the researchers discovered that chickens preferred to eat in bright light before moving to dimmer areas to feel safer and rest.

Professor Karen Christensen, MSc, PhD, and current Senior Director of Animal Welfare at Tyson Foods,

stated, "In today's world, food companies must keep up with population growth and increased food demand, particularly in animal protein, while keeping animal welfare and climate risks and opportunities in mind. It is critical to engage supply chain partners like Signify who can deliver innovative solutions to reduce our greenhouse gas emissions while also improving animal welfare and bringing high-quality animal protein to our customers in a sustainable and cost-effective manner."

Christensen adds, "Our research has shown that poultry prefer brighter light intensities when young, and a gradient of light intensities as they age. This gives the birds some control over their surroundings and choices. Gradient lighting is the future of broiler farming because it provides the birds with a choice of lighting environments. This, in turn, allows the chickens to exhibit more natural behaviours and promotes healthy growth throughout their lives on the farm."

Signify has been conducting commercial trials of the gradient system, with promising results, and a full scientific report on the benefits of Optient will be released as more data is gathered and analysed.

About Signify

Signify (Euronext: LIGHT) is the world leader in lighting for professionals and consumers and lighting for the Internet of Things.

About Optient

More information on Optient is available on Once by Signify's website as well as further detail on the science behind light gradients for poultry. Dr. Gabrielle House, Poultry Scientist at Signify, recently presented on gradient lighting during the 2024 International

Production and Processing Expo (IPPE) Tradeshow.

About Tyson Foods, Inc.

Tyson Foods, Inc. (NYSE: TSN) is a world-class food company and recognized leader in protein. Founded in 1935 by John W. Tyson, it has grown under four generations of family leadership. Tyson Foods is dedicated to bringing high-quality food to every table in the world, safely, sustainably, and affordably, now and for future generations.

World Organisation for Animal Health to Lead Quadripartite Secretariat, Strengthening Global One Health Efforts

The World Organisation for Animal Health (WOAH) will chair the Quadripartite rotating Secretariat for the upcoming year, succeeding the United Nations Environment Programme (UNEP), reaffirming its

strong commitment to advancing animal health efforts through collaborative One Health initiatives.

In March 2022, WOA, the World Health Organisation (WHO), the Food and Agriculture Organisation of the United Nations (FAO), and UNEP formed the Quadripartite Collaboration on One Health to strengthen their commitment to advancing One Health principles. This collaboration seeks to address the complex interconnections between animal health, human health, and the environment, leveraging shared expertise to combat emerging diseases, zoonotic infections, foodborne illnesses, and environmental issues.

WOAH formally assumed its role as future chair of the Quadripartite Secretariat during the Second Quadripartite Executive Annual Meeting, which took place from February 29 to March 6, 2024, at the United Nations Office in Nairobi, reinforcing its commitment to combating zoonotic animal diseases such as rabies and vector-borne diseases through a comprehensive approach.

"We stand prepared to move forward with our strategic priorities centred around implementing the



One Health Joint Plan of Actions, resource mobilisation, capacity building, engagement in political forums and One Health governance, and taking action against important neglected zoonotic diseases."

Monique Eloit, Director-General of the World Organisation for Animal Health

At the forefront of WOA's leadership is our unwavering commitment to combating rabies, a preventable but lethal disease that continues to affect vulnerable communities around the world. Overall, the Organization's strategic priorities for the term aim to drive impactful initiatives that resonate across national, regional, and global levels:

1. Implemented the One Health Joint Plan of Actions (OH JPA) nationally. WOA will prioritise the implementation of the OH JPA in selected countries through resource mobilisation, regional coordination mechanisms, the integration of existing operational tools, and communication and advocacy activities, emphasising the critical role of the animal health sector in protecting everyone's health.
2. Framework for Monitoring and Evaluating the OH JPA. For the first five years, the Quadripartite will create a monitoring and evaluation framework that includes targets and indicators relevant to facilitating reporting on OH JPA progress as well as overall advocacy.
3. Established a One Health Learning Coordination task force. To strengthen One Health collaborative capacity, WOA will advocate for the formation of a One Health

Learning Coordination task force. WOA's goal is to build capacity and drive innovation in One Health efforts by providing access to resources and fostering lifelong learning for its workforce.

4. One Health on the global political agenda. WOA and its quadripartite partners will work to ensure that One Health principles are incorporated into global political discussions and agreements. This includes advocating for One Health inclusion in pandemic accord negotiations, coordinating with key stakeholders, and organising One Health-related briefings for countries. In addition, the Quadripartite will actively participate in political forums such as the G20 and G7 to raise awareness and mobilise support for comprehensive One Health governance mechanisms, fostering intersectoral collaboration to effectively address future health emergencies.
5. Health action against zoonotic diseases: rabies as a model. WOA will support efforts to control and eliminate endemic zoonoses, neglected tropical diseases, and vector-borne diseases, with a particular emphasis on preventing human deaths from dog-mediated rabies. Using the FAO, WHO, and WOA strategic plan Zero by 30, OH JPA rabies activities will put the One Health approach into action in the countries with the highest rabies burden. This includes promoting the development of national control plans while taking wildlife surveillance into

account, facilitating access to the WOA vaccine bank for dog vaccination (both sheepdogs in contact with wildlife and free-roaming dogs), and encouraging stakeholder and community communication.

As chair of the Quadripartite Secretariat, WOA reaffirms its commitment to advancing One Health principles and operationalizing them to ensure a safer and healthier future for all.

Virbac Expands Footprint in Japan with Acquisition of Sasaeah



Virbac announces that it has signed a definitive agreement with ORIX Corporation to acquire its animal health subsidiary Sasaeah for approximately €280 million.

Sasaeah was formed by the merger of two legacy animal health providers (Fujita Pharmaceutical Co. Ltd. and Kyoto Biken Laboratories Inc.) and is managed by ORIX Corporation. It generates approximately €75 million in annual revenue, with vaccines accounting for 50%. With a strong presence in Japan, Sasaeah develops, manufactures, and markets a diverse range of veterinary products for farm and companion animals.

Upon completion, this strategic acquisition will provide Virbac with a leadership position in the Japanese farm animal vaccines

market, particularly in the cattle segment, as well as a diverse portfolio of pharmaceutical products for all major species. Virbac will benefit from Sasaeah's local manufacturing sites in Japan and Vietnam, as well as its R&D capabilities and over 500 dedicated and skilled employees. Virbac will be propelled as a leading animal health player in Japan, with the potential to expand these capabilities throughout Asia.

Sébastien Huron, CEO of the Virbac group, stated, "Japan is an important market in the global animal health industry." This acquisition is perfectly aligned with our company's vision for 2030, which emphasises geographic expansion in major markets, the growth of our vaccines segment, and the reinforcement of our key species. We are honoured to welcome the talented Sasaeah team to the Virbac family. Together, we hope to shape the future of animal health in Japan."

ORIX Corporation's managing executive officer, Seiichi Miyake, added, "After investing in Kyoto Biken Laboratories and Fujita Pharmaceutical, ORIX successfully integrated the capabilities of both companies to establish Sasaeah as one of Japan's leading animal health groups." ORIX anticipates further improvements in Sasaeah's product quality and supply capability, which will benefit from Virbac's world-class R&D, manufacturing, and quality expertise. ORIX believes that the combination of Sasaeah and Virbac will help the development of veterinary medicine."

The transaction is not subject to regulatory approval, and it is expected to close in early April 2024.

Belgium Adopts Dutch Protocol for Salmonella Verification in Poultry

Belgium has joined a pilot project to assess the accuracy of Salmonella testing in poultry flocks. The European Commission granted the Netherlands permission to investigate the extent to which initial positive Salmonella results can be confirmed during verification tests.

According to Animal Health Care Flanders (DGZ), Belgium is following the protocol from the Dutch trial in order to achieve comparable outcomes. A confirmation test may no longer be performed in European countries such as Belgium starting in 2020 due to a stricter interpretation of the regulations. Previously, this could be requested if a flock tested positive for one of the target serotypes in laying or breeding birds. A confirmatory test can now only be performed if the positive result of the control sample is deemed unreliable.

Past verification testing consistently revealed no Salmonella during additional sampling. The Dutch study is looking to see if the initial results were false positives and whether the second test results are reliable. The goal is to gain greater certainty about the presence or absence of Salmonella. The poultry industry has advocated for the reintroduction of verification testing due to the significant impact that a positive finding and associated control measures can have.

Under certain conditions, poultry

farmers in the Netherlands who find specific types of Salmonella and have not given antibiotics to the affected flock are eligible to participate in the project. Additional samples will be collected and tested; if the results are negative, the suspicion of Salmonella will be lifted. If the results are positive, standard procedures will be followed.

If the farmer agrees to participate, an NVWA inspector will visit the site and collect samples from the suspected area as well as all other houses in the company. The first sampling occurs immediately following the report, and the second sampling takes place 14 days later. Wageningen Bioveterinary Research (WBVR) examines samples for Salmonella.

In Belgium, if a specific type of Salmonella is discovered on a farm, a local control unit of the Federal Agency for the Safety of the Food Chain (FASFC) will notify the poultry farmer about the project and the terms of participation. After agreeing to participate in the initial investigation, a DGZ officer will sample all stables at the site, which will be repeated two weeks later. The company veterinarian collects samples, which are then sent to the DGZ laboratory.

World Veterinary Day 2024 Celebrates Veterinarians as Essential Health Workers

According to the announcement for World Veterinary Day 2024, protecting and improving the health of people and communities

WORLD VETERINARY DAY 2024



Veterinarians
are essential health workers
27th April 2024

is just as important as helping animals. The World Veterinary Association (WVA) and Health for Animals have announced that this year's theme is "Veterinarians are essential health workers." The 2024 World Veterinary Day, which will be held on April 27, is an opportunity to recognise veterinarians' contributions to the health of animals, people, and the environment.

"Veterinarians' competencies must be regarded as an essential and integral part of health at large," according to this year's award announcement. "The application of veterinary science contributes not only to animal health and well-being but also to human's physical, mental and social wellbeing." The WVA established World Veterinary Day in 2000 as an annual celebration of the veterinary profession, which takes place on the last Saturday in April.

Since 2019, the WVA has collaborated with Health for Animals, the global animal health industry association, on the World Veterinary Day Award. The winner of the World Veterinary Day Award will receive \$5,000 for effectively promoting the annual theme. This can include local campaigns, public education seminars, media campaigns, new research, and other initiatives.

The AVMA received the award in 2021 for the theme "Veterinarian response to the COVID-19 crisis"

after creating an online COVID-19 resource centre that was accessible to veterinarians worldwide. Find out more about World Veterinary Day 2024 and the World Veterinary Day Award on the WVA website.

FAO Urges Multilateral Action to Tackle Climate Change, Biodiversity Loss, and Pollution



Maria Helena Semedo, Deputy Director-General of the Food and Agriculture Organisation of the United Nations (FAO), highlighted the importance of transforming agrifood systems to address the triple planetary crisis of climate change, biodiversity loss, and pollution. She emphasized the need for increased collaboration between the public and private sectors, empowering stakeholders, implementing holistic approaches, and optimizing multilateral environmental agreements. Semedo spoke at various events during the sixth session of the United Nations Environment Assembly (UNEA) in Nairobi, focusing on ecosystem restoration, private sector engagement, and the impact of land degradation, climate change, and biodiversity loss on food security. Semedo emphasized the role of the private sector in accelerating

innovation and responding to planetary challenges. She discussed FAO's efforts to assist private sector actors in integrating sustainable agrifood practices, climate action, and social responsibility principles into their business strategies. Collaboration with the private sector was seen as crucial for generating geospatial and quality data to address issues like land degradation, climate change, and biodiversity loss.

At a UNEA high-level side event, Semedo discussed the interconnected nature of climate change, biodiversity loss, land degradation, and drought, particularly in vulnerable communities. She highlighted the potential of agrifood systems in addressing these challenges through the climate-biodiversity-land-food-water nexus. Semedo praised initiatives like Africa's Great Green Wall for promoting climate action, biodiversity conservation, food security, and livelihoods.

Semedo also stressed the importance of coherence, synergies, and coordination among multilateral environmental agreements and international organizations to accelerate the implementation of agreements like the Paris Agreement and the Global Biodiversity Framework. Leveraging existing resolutions, codes, and standards could enhance the impact of limited financial resources and aid in achieving commitments on the ground.

Furthermore, Semedo participated in a high-level meeting of the Quadripartite - FAO, UNEP, WHO, and WOA - which focused on sustaining One Health implementation through increased resource mobilization and political will. The meeting highlighted the importance of an inter-sectoral

approach to address health, environmental, and animal welfare issues.

In discussions with the Presidents of the upcoming UN COPs on desertification, biodiversity, and climate, Semedo advocated for incorporating food system transformation as a common theme across the meetings. She emphasized FAO's commitment to hosting and leading multilateral instruments on environmental, pollution, plant health, and food safety issues, highlighting the importance of empowering stakeholders, investing in actions that address environmental issues and food security, and promoting policy coherence at various levels.

Overall, Semedo's engagements underscored the critical need for transforming agrifood systems to be more efficient, inclusive, resilient, and sustainable in the face of global environmental challenges. Collaboration, innovation, and multilateral cooperation were identified as key elements in addressing the triple planetary crisis and achieving sustainable development goals.

Evonik Vland Biotech Joint Venture Commences Operations, Focused on Gut Health Solutions for Livestock

Evonik Vland Biotech, a joint venture between Evonik China and Shandong Vland Biotech, began operations in Binzhou, China, on January 1, 2024. The venture aims



to expand the market presence of products like probiotics for livestock gut health in Greater China and develop new solutions. The official opening took place in Qingdao on March 14. This partnership is crucial for Evonik's strategy to offer biosolutions for the feed industry, focusing on animal gut health. The joint venture leverages the strengths of both parent companies to deliver innovative products and solutions with a customer-centric approach.

Evonik's biotech platform emphasizes developing biosolutions for a healthy life, blending chemistry, biotechnology, pharmacology, and data science. The company is exploring new horizons, such as skin applications, to complement its existing Care Solutions portfolio. The collaboration with Vland has been ongoing for nearly a decade, leading to a strong foundation for further growth and innovation. The joint venture is situated at the Vland Biotech Park in Qingdao and utilizes Vland's production facilities in Huimin, positioning itself as an innovative solution provider with a focus on quality, speed, and customer proximity.

The joint venture's scope extends beyond Greater China, with Evonik set to distribute its portfolio globally. This move complements Evonik's existing gut health portfolio with new components for formulated products, enhancing

solutions for gut health. Probiotics like Ecobiol®, Fecinor®, GutPlus®, and GutCare® are key products in Evonik's Animal Nutrition business line, aiding in maintaining gut microbial balance and boosting animal resilience. Evonik holds a majority stake of 55% in Evonik Vland Biotech (Shandong) Co., Ltd., reflecting its commitment to the partnership with Vland.

Evonik, a global leader in specialty chemicals, operates in over 100 countries and focuses on creating innovative, sustainable solutions for customers. In 2023, the company generated sales of €15.3 billion and an adjusted EBITDA of €1.66 billion. Evonik's mission goes beyond chemistry, aiming to improve life today and in the future through the collaborative efforts of its 33,000 employees.

The establishment of Evonik Vland Biotech marks a significant milestone in the collaboration between Evonik and Vland to enhance the animal nutrition industry with innovative biosolutions. The joint venture's focus on gut health solutions, leveraging the expertise of both parent companies, underscores its commitment to delivering effective and efficient products to customers in China and globally. Evonik's strategic partnership with Vland aligns with its vision of providing sustainable solutions and driving growth in the feed industry.

Mastercard Foundation and Partners Invest in Key Agriculture Value Chains



The Mastercard Foundation and its partners have announced plans to invest in four major value chains: rice, soybeans, poultry, and tomatoes. The investment is expected to result in a significant increase in production and value added for these commodities.

Mastercard's Harnessing Agricultural Productivity and Prosperity for Youth (HAPPY) programme is assisting Agri-Impact in collaborating with Kwame Nkrumah University of Science and Technology (KNUST) to leverage the university's expertise and E-Learning infrastructure to transform and create positive outcomes in these key and selected value chains.

Over the course of the programme, the initiative aims to increase production by 180,000 metric tonnes per year for each value chain, generating a projected revenue of \$200 million each year, and reducing imports by 10%. The four-year HAPPY programme aims to empower young people through technology and innovation. Its primary goal is to provide dignified employment opportunities for 326,000 young people, with a focus on women and people with physical disabilities.

The initiative aims to increase production, productivity, value

addition, market access, enterprise development, and address policy issues related to youth participation in agriculture by leveraging industry expertise across each value chain.

At the partnership ceremony, Dan Aquaye, Group Chief Executive Officer (CEO) of Agri-Impact, emphasised ICT's transformative potential in agriculture, highlighting its role in providing real-time information and data for informed decision-making.

Julie Asante-Dartey, Deputy Group CEO for Agri-Impact, reiterated that the initiative's goal is to empower farmers by providing them with the knowledge and resources they need to successfully integrate ICT into agriculture. This integration is expected to increase profitability and competitiveness across the agricultural value chain.

Professor Ben Banful, Provost of KNUST's College of Agriculture and Natural Resources, expressed the university's commitment to the program's success, promising to collaborate with all stakeholders to achieve the goals.

Merck Animal Health Receives Positive Opinion for NOBILIS MULTRIVA™ Vaccine in Europe

Merck Animal Health, a division of Merck & Co., Inc., Rahway, N.J., USA, announced that the European Medicines Agency's Committee for Veterinary Medicinal Products (CVMP)



issued a positive opinion for the NOBILIS MULTRIVA™ RT+IBm+ND+Gm+REOm+EDS vaccine to be administered intramuscularly in chickens from eight weeks of age to protect against diseases caused by avian metapneumovirus, also known as Turkey R. If the European Commission (EC) approves this recommendation, it will be the first vaccine from the Nobilis Multiriva™ platform, which is designed to meet the needs of modern layers and breeders.

NOBILIS MULTRIVA™ RT+IBm+ND+Gm+REOm+EDS combines proven protection with a convenient small dose volume of 0.3 ml, allowing for a new 2000 dose presentation. This reduces waste, uses less refrigerator space, and optimises the vaccination process. Based on the CVMP's recommendation, the EC is expected to make a decision on marketing authorization in the European Union (EU) in the second quarter of 2024.

About Merck Animal Health

Merck, a global leader in animal health, uses cutting-edge science to save and improve lives worldwide. As a division of Merck & Co., Inc., Merck Animal Health offers a wide range of veterinary pharmaceuticals, vaccines, and health management solutions, as well as connected technology for identification, traceability, and monitoring products. The company is dedicated to preserving and improving the health, well-being, and performance of animals and their caretakers. Merck Animal Health invests in dynamic R&D resources and a modern global supply chain. The company is present in over 50 countries and offers its products in 150 markets. For more information, visit www.merck-animal-health.com.

Improving Poultry Quality: Novel Imaging Technique Targets Muscle Myopathy



Yuzhen Lu, an assistant professor in Biosystems and Agricultural Engineering, is developing a new imaging-based method for detecting muscle myopathy in poultry production. In food systems, consumers drive many of the changes that producers make to their production methods. This shift can be observed in both food and animal production, and poultry production is no exception. Breast meat, also known as white meat, is generally regarded as healthier and more appealing to consumers. To increase the amount of meat per bird, producers have been selecting birds with larger breasts. This meets consumer demands but introduces new challenges.

One of the challenges is the prevalence of muscle myopathy, a change in muscle texture that reduces meat quality. Muscle myopathy, such as woody breast and white striping, is having a significant economic impact on producers. Identifying muscle myopathy has traditionally been done by skilled personnel on production lines during processing, which is labor-intensive and subject to human evaluation error.

Yuzhen Lu, Ph.D., is an assistant professor of Biosystems and Agricultural Engineering who has been working on a new imaging-based method for detecting muscle myopathy that is non-destructive, objective, and automated. The goal is to maintain a high-quality product, provide quick and accurate identification of muscle myopathy, and save money for poultry processors.

"The poultry processing industry is operating on small margins," Lu said. "This industry is notorious for its high labour turnover rate. Processors are under increasing pressure to reduce labour dependence and costs while producing higher-quality products in order to remain competitive and profitable."

Lu's research focuses on the use of optical imaging technology and deep learning in artificial intelligence (AI) systems to assist processors in identifying myopathies and improving quality control. Optical imaging technology employs cameras to inspect the meat for flaws. The deep learning aspect occurs when the system uses all of the historical knowledge and images provided by developers to effectively identify muscle myopathy. As the system identifies more defects, its detection speed and accuracy will improve.

"AI models are data-hungry and computationally intensive." According to Lu. "But with dedicated hardware and optimised model architectures, they can be readily used for online meat inspection at video frame rates."

Identifying muscle myopathy in poultry is critical because the meat is condemned and removed from the production line before it can be purchased by consumers.

Consumers expect high-quality products when they shop at grocery stores, and grocery stores will not buy from producers who send low-quality products.

Lu's work on poultry meat imaging was previously supported by USDA-NIFA-AFRI. He is currently working with the Michigan Alliance for Animal Agriculture to develop a light scattering imaging technique for evaluating woody breasts.

Hendrix Genetics Receives Grant from Bill & Melinda Gates Foundation to Support Small-Scale Poultry Farmers in Africa



The Bill & Melinda Gates Foundation has awarded Hendrix Genetics a multi-year grant to support rural agriculture, local communities, and small-scale poultry farmers in Africa. Hendrix Genetics will co-invest significant resources under the grant to not only develop poultry breeds tailored for Africa, but also deliver the animals to small-scale farmers in an efficient manner. Hendrix Genetics will collaborate with other poultry value chain players to ensure that small-scale farmers in Africa have access to affordable,

high-quality genetics.

This programme has the potential to significantly impact the lives of small-scale African farmers by transforming the poultry value chain. This programme builds on the groundwork laid by us and our partners for reaching small-scale farmers. We will accelerate the genetic improvement of parent stock.

This includes expanding our testing of birds in African conditions, which will allow us to better breed chickens that are adapted to local conditions such as climate, housing systems, and feed. We will also look into the possibility of establishing a grandparent facility in Africa so that Africa can secure access to parent stock. Through collaboration with partners, we hope to improve the efficiency of the poultry value chain, resulting in more affordable chickens for small-scale farmers.

SASSO, Hendrix Genetics' traditional poultry brand, has played an important role in this programme. SASSO currently supplies hundreds of thousands of parent stock to African partners each year, benefiting millions of small-scale farmers who produce billions of table eggs and millions of meat chickens. Expanding the market and improving genetic performance will increase the impact of these dual-purpose chickens on the lives of many Africans.

The program's success is dependent on the long-term link between each component of the value chain. At the start of the value chain, African distribution companies use parent stock birds to raise day-old chicks. The day-old chicks are sold to mother units, who raise them into 4-week-old teen chicks. Teenage chicks are then sold to small-scale farmers.

Throughout the programme, systems will be created to assist the local parent stock farm in improving performance at each link in the chain. These activities will help small-scale farmers afford higher-quality poultry. Furthermore, genetic improvement of dual-purpose breeds will increase the productivity and robustness of chickens under local conditions, providing additional food security and income to small-scale farmers.

Dr. Naomi Duijvesteijn, Programme Manager at Hendrix Genetics, will lead the project, coordinating the various activities to achieve the ambitious targets set with the Bill & Melinda Gates Foundation to ensure an impactful and effective programme.

Cambridge Technologies and Merck Animal Health Join Forces to Launch Advanced Poultry Vaccines in the U.S.



Merck Animal Health announced that it has signed an agreement with Cambridge Technologies, an independent custom vaccine company based in Worthington, Minnesota, to sell and market its innovative autogenous poultry vaccines in the United States.

Cambridge Technologies develops custom vaccine solutions using cutting-edge molecular diagnostic and manufacturing techniques to assist veterinarians and poultry



producers in managing emerging disease challenges. Cambridge will contribute its production expertise and distribution, while Merck Animal Health will provide its extensive customer base.

"Merck Animal Health is constantly looking for new ways to provide value to our customers and improve animal health," said Jim Tate, Merck Animal Health's executive director of the Integrated Livestock business in North America. "For this agreement, we are linking together the reach of our Merck Animal Health sales and marketing teams to offer our customers the diagnostic expertise of Cambridge research scientists to provide flock-specific biologics with customised options."

Cambridge Technologies' vaccines are developed and manufactured at a USDA-licensed 37,000-square-foot facility with cutting-edge fermentation suites. "The Cambridge team has extensive experience in diagnostics, R&D, quality control, technical support, regulatory affairs, and commercial and custom vaccine production," said Jon Mahlberg, Cambridge Technologies' COO. "Our vaccines



are scientifically designed to meet the customer's specific needs, and we are excited to combine our capabilities with those of Merck Animal Health to meet the unique needs of poultry customers."

The production of the first vaccine batches is currently planned.

Ceva's Modular Gender Sorting Equipment to Redefine Efficiency and Precision in Broiler Production

Ceva Santé Animale (Ceva), a hatchery technology leader, is pleased to announce the launch of its new automatic day-old-chick gender sorting equipment for broilers. This marks a significant milestone in the poultry hatchery industry.

Recognising the need for a more efficient and cost-effective solution, Ceva has created modular and compact Gender Sorting equipment for day-old broilers, which promises to streamline production and improve operational efficiency in hatcheries around the world.

By automating the gender sorting process, hatcheries can standardise production and eliminate the need for skilled professionals, lowering labour costs and increasing overall productivity. The use of this advanced machine not only ensures faster and more precise sorting, but it also significantly improves the welfare of day-old chicks. The improved efficiency of gender separation allows broiler males and females to be reared separately on the farm, resulting in better performance and more appropriate



feeding programmes that meet their different needs.

Ceva has prioritised hatchery innovation to help poultry

producers address global challenges such as labour scarcity and ensure sustainable production.



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Women Farmers Take Center Stage in ICAR-RCER's Empowerment Programme in Purulia

ICAR-Research Complex for Eastern Region, Patna, in collaboration with Vivekananda Vikas Kendra, Kalimati, Purulia, organised a capacity building-cum-farmer-scientist interaction programme as part of the Institute's flagship extension programme 'PRAYAS' under the Tribal Sub-Plan at Hatnad, a village in the Ayodhya hills in Purulia, West Bengal, from March 13th to 15th, 2024. Purulia's plateau region faces significant challenges, including water scarcity, a lack of high-quality seed and planting materials, and low farmer skill and capacity. During an interaction programme, farmers shared their perspectives with scientists and resource persons, who were also joined by ATMA representatives.



Dr. Anup Das, Director of ICAR RC-ER in Patna, briefed the farmers on the TSP Programme and its purpose. He emphasised low-

water-demanding components such as mushrooms, animal husbandry (particularly poultry farming), fruits and multipurpose trees, and millet to improve farmers' livelihoods, year-round income, and employment opportunities. Dr. Das also stated that the village has been implementing an integrated farming system to empower farmers, particularly women, for three years. The system provides training and resources to help people improve their livelihoods. The village also encourages vermicomposting as a soil amendment and backyard poultry farming for income. Farmers are encouraged to grow fruits in their backyards for both nutritional value and income. Pulses are suggested as a low-cost protein source that also improves soil health.

Dr. Arun Kumar Singh, Head of the Farming Systems Research Centre for the Hill and Plateau Region in Ranchi, encouraged farmers to grow tomatoes during the rainy season to get better market prices. He emphasised that vegetables such as brinjal, sponge guard, ridge guard, bottle guard, pumpkin, and ash guard are ideal for this region. There is a need for a year-round vegetable cultivation sequence for increased income and nutrition. Sh. A Bhattacharjee, Secretary of

Vivekanand Vikas Kendra, Kalamati, Purulia, was also present at the event.

Approximately 62 women farmers were given high-quality chicks and starter feeds. The programme also provided farmers with customised poultry cages (16 in total) and two mushroom production houses (made from locally sourced materials). Participating farmers were also given plastic fencing nets, poultry drinkers, feeders, mixi grinders for badi making, sprayers, weighing balances, vegetable seeds (tomatoes, sponge gourds, brinjal, beans, okra, etc.), mushroom packaging materials, mushroom spawn, poultry and cattle medicines, and so on.

The programme drew over 250 farmers, the vast majority of whom were women.

Krishi Vigyan Kendra-Namsai Conducts Animal Health and Vaccination Camp

Krishi Vigyan Kendra-Namsai organised a series of awareness-cum-animal health and vaccination camps in various villages throughout the Namsai district to ensure better health coverage for



farm animals and poultry birds against seasonal diseases. Today's programme was held in Satghoria village, Lekang Circle.

Dr. B. K. D Borah, SMS, Animal Science, discussed the importance of regular deworming and vaccination of farm animals in terms of production and productivity. He also emphasised taking the necessary biological precautions to avoid seasonal diseases.

During the programme, farm women were given hands-on training on poultry vaccination and encouraged to vaccinate their birds on a regular basis.

The programme benefited approximately 210 farm animals and 500 birds from 42 farm households.

European Poultry Industry Set to Benefit from DSM-Firmenich's ProAct 360™ Protease



DSM-firmenich, the leading innovator in health, nutrition, and beauty, and its alliance partner Novonesis are delighted to announce the EU regulatory approval of the innovative feed protease, ProAct 360™. To remain profitable in today's highly competitive market, European poultry producers must deal with a variety of challenges, including fluctuating ingredient prices, genetic evolution, intestinal health concerns, welfare requirements, and sustainability

demands. The effective management of protein uptake is critical to overcoming these challenges.

ProAct 360™ has received EU-wide approval and is now available to feed and poultry producers for use in fattening poultry and chickens for laying and breeding.

ProAct 360™, the only second-generation protease developed for the feed industry, is a new enzyme technology that benefits the poultry industry by improving feed efficiency, affordability, and sustainability. ProAct 360™ accelerates protein breakdown in feed ingredients, improves amino acid digestibility, and reduces anti-nutritional factors, resulting in a more consistent response and higher ROI.

ProAct 360™ optimises protein absorption in the small intestine, allowing for lower-protein diets with less soybean meal. This significantly reduces the environmental impact of poultry production while also helping to improve intestinal health and animal welfare.

ProAct 360™ is a comprehensive solution for protein management in poultry production, offering value-added digital services such as raw material analysis and a sustainability calculator to help poultry operations make more informed decisions.

Adam Smith, Feed Optimisation Marketing & Business Development Manager at dsm-firmenich Animal Nutrition & Health, comments: "The issue of EU regulatory approval for ProAct 360™ promises significant benefits for poultry farmers in this region and underlines the dsm-firmenich | Novonesis alliance's commitment to providing value-adding, sustainable solutions for the global feed and animal protein



industry."

ProAct 360™ launched in Latin America in June 2021 and the US in November 2022.

About dsm-firmenich

As innovators in nutrition, health, and beauty, dsm-firmenich reinvents, manufactures, and combines vital nutrients, flavors, and fragrances for the world's growing population to thrive. With our comprehensive range of solutions, with natural and renewable ingredients and renowned science and technology capabilities, we work to create what is essential for life, desirable for consumers, and more sustainable for the planet. dsm-firmenich is a Swiss-Dutch company, listed on the Euronext Amsterdam, with operations in almost 60 countries and revenues of more than €12 billion. With a diverse, worldwide team of nearly 30,000 employees, we bring progress to life™ every day, everywhere, for billions of people.

FSSAI Unveils Anti-Microbial Resistance Action Plan at 43rd CAC Meeting

During today's 43rd CAC meeting in Coimbatore, Tamil Nadu, the Food Safety and Standards Authority of India (FSSAI) unveiled its Anti-Microbial Resistance (AMR) action plan.

During the meeting, discussions

focused on raising farmer awareness about the responsible use of antibiotics in livestock, aquaculture, poultry, and other areas, as part of FSSAI's responsibilities under the AMR National Action Plan-II. Plans to monitor antimicrobial susceptibility in food matrix to ensure consumer safety were also discussed.

The Commissioners of Food Safety of States and Union Territories were directed to work diligently towards the goal of developing 100 'Healthy and Hygienic Food Streets'.

The significance of surveillance sampling was also highlighted during the discussion. The states were directed to develop surveillance plans and hold regular meetings with state labs and officials.

The need for clean markets and the establishment of health clubs in both state and central government schools, as well as the development of app-based models and literature in regional languages, were discussed in order to encourage the younger generation.

States/UTs were encouraged to take steps to raise awareness about the importance and benefits of fortified rice. Regular sampling of Fortified Rice Kernel (FRK) and strict compliance with the FSS (Fortification of Foods) Regulation, 2018 were also emphasised.

A Guidance Document for Training of Food Handlers in University, College, and Hostel Canteens was also unveiled during the meeting to strengthen the food safety infrastructure. This initiative aims to train approximately 11 lakh food handlers who work in university, college, and hostel canteens over the next two years.

Shri Uma Shankar Dhyani, Executive Director (HR & Finance), FSSAI, and Ms. Inoshi Sharma, Executive Director (Compliance Strategy),

FSSAI, were among the more than 50 officials who attended the meeting, which also included Commissioners of Food Safety (CFS), representatives from States and UTs, other FSSAI officials, nodal ministries, and members representing the Food Industry, Consumers, Agriculture, laboratories, and research bodies.

Alltech's 25th Anniversary in Thailand Highlights Commitment to Sustainability and Growth

Alltech recently celebrated its 25th anniversary in Thailand, highlighting its commitment to the country's agriculture sector. Despite entering the Thai market during a financial crisis in 1998, Alltech recognized the market's potential and now has over 50 team members dedicated to serving Thailand's agriculture industry. The company has invested in local production facilities and warehouses to meet the growing demand in both Thailand and Southeast Asia.

Dr. Mark Lyons, the president and CEO of Alltech, emphasized the company's dedication to working together for a sustainable future, citing Thailand as a prime example of their efforts. Alltech has been instrumental in advancing efficient and sustainable nutrition production in Thailand, contributing to the nation's rapid growth in the agricultural industry.

Over the past 25 years, Thailand's agricultural sector has focused on enhancing efficiency, advancing aquaculture and livestock production, adding value to

agricultural products, and ensuring food security. Alltech has built strong relationships and strategic partnerships within the local industry, enabling both the company and its customers to thrive in the evolving agri-food landscape.

Alltech recently finalized agreements with Thai Wah Public Co. and the Dairy Farming Promotion Organization of Thailand to collaborate on reducing carbon emissions in Asian agri-food through precision nutrition, digital farming, waste management, and carbon footprint assessments. These partnerships demonstrate Alltech's commitment to sustainable farming practices in Thailand.

Alltech Thailand remains dedicated to providing smarter and sustainable solutions to its customers, including feed mills, integrators, and animal farms. The company continues to invest in local production while leveraging its global network and knowledge to benefit its customers. Through seminars and workshops, Alltech educates its customers, keeping them informed about the latest agri-food research and technologies.

Alltech's commitment to supporting the agri-food sector in providing nutrition for all while revitalizing the planet's natural resources is shared by its 5,000 colleagues worldwide. Jonathan Forrest Wilson, president of Alltech Asia-Pacific, reaffirmed the company's dedication to forging long-term partnerships and contributing to Thailand's thriving business landscape.

Alltech's 25th anniversary celebration in Thailand underscores its enduring commitment to the country's agriculture sector, sustainable farming practices, and long-term partnerships with local industry players.

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Publishing Month: January Article Deadline : 28th, Dec. 2023 Advertising Deadline : 30th, Dec. 2023 Focus : Opportunities and Challenges	Publishing Month: February Article Deadline : 28th, Jan. 2024 Advertising Deadline : 30th, Jan. 2024 Focus : Budget	Publishing Month: March Article Deadline : 26th, Feb. 2024 Advertising Deadline : 28th, Feb. 2024 Focus : Disease Prevention	Publishing Month: April Article Deadline : 28th, March 2024 Advertising Deadline : 30th, March 2024 Focus : Summer Stress Management
Publishing Month: May Article Deadline : 28th, April 2024 Advertising Deadline : 30th, April 2024 Focus : Cold Chain	Publishing Month: June Article Deadline : 28th, May 2024 Advertising Deadline : 30th, May 2024 Focus : Nutrition	Publishing Month: July Article Deadline : 28th, June 2024 Advertising Deadline : 30th, June 2024 Focus : Biosecurity	Publishing Month: August Article Deadline : 28th, July 2024 Advertising Deadline : 30th, July 2024 Focus : Sustainability
Publishing Month: September Article Deadline : 28th, August 2024 Advertising Deadline : 30th, August 2024 Focus : Egg Production & Processing	Publishing Month: October Article Deadline : 28th, September 2024 Advertising Deadline : 30th, September 2024 Focus : Processing & Packaging	Publishing Month: November Article Deadline : 28th, October 2024 Advertising Deadline : 30th, October 2024 Focus : Winter Stress	Publishing Month: December Article Deadline : 28th, November 2024 Advertising Deadline : 30th, November 2024 Focus : Food Safety

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Daily and Monthly

Prices of March 2024

Name Of Zone / Day	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Average	
NECC SUGGESTED EGG PRICES																																	
Ahmedabad	510	510	515	518	518	518	518	518	518	475	465	465	465	465	450	455	458	460	463	465	465	465	465	445	445	445	445	445	435	435	435	472.71	
Ajmer	465	475	477	477	477	452	442	435	435	430	425	425	425	420	425	428	428	428	430	430	430	415	400	400	400	400	395	390	390	390	390	426.74	
Barwala	450	455	457	457	440	432	432	432	432	420	420	420	420	412	417	422	422	422	425	425	425	403	403	403	403	403	403	390	390	390	390	420.55	
Bengaluru (CC)	520	520	520	520	520	520	520	520	520	490	465	465	465	465	445	445	450	460	470	470	470	470	470	450	450	440	440	440	440	440	440	474.84	
Brahmapur (OD)	470	470	470	470	470	460	460	460	450	450	450	450	450	435	435	435	440	440	443	443	443	443	443	443	423	423	423	423	423	423	423	444.87	
Chennai (CC)	530	530	530	530	530	530	530	530	530	530	510	490	490	490	470	470	470	470	485	485	485	485	485	465	465	465	465	465	465	465	465	493.71	
Chittoor	523	523	523	523	523	523	523	523	523	523	503	483	483	483	463	463	463	463	478	478	478	478	478	458	458	458	458	458	458	458	458	486.71	
Delhi (CC)	490	485	485	485	485	480	475	470	460	460	460	448	445	445	440	445	450	450	450	450	450	450	450	440	440	440	440	425	425	412	412	412	452.06
E.Godavari	460	460	463	463	463	463	463	463	463	433	433	433	433	433	418	420	420	420	423	425	425	425	425	425	400	400	400	400	400	400	400	430.71	
Hospet	480	480	480	480	480	480	480	480	480	450	425	425	425	425	405	405	410	420	430	430	430	430	430	410	410	400	400	400	400	400	400	434.84	
Hyderabad	460	463	466	469	469	469	469	469	430	410	410	410	410	390	395	400	405	410	415	415	415	415	395	395	395	395	395	375	375	375	375	417.39	
Jabalpur	490	490	493	493	470	470	470	460	440	430	430	430	430	430	415	420	430	430	430	430	425	430	430	420	420	420	420	420	420	405	405	438.58	
Kolkata (WB)	505	500	505	505	505	505	495	495	490	490	490	490	490	480	470	472	480	483	488	500	500	500	500	480	460	460	460	445	445	445	445	483.16	
Ludhiana	450	450	453	453	453	453	430	430	430	430	430	415	415	415	415	418	421	421	421	422	422	422	422	412	400	400	400	400	400	400	400	421.97	
Mumbai (CC)	530	530	530	535	535	535	535	535	520	500	490	480	480	480	470	470	470	475	480	485	485	485	485	485	465	465	465	455	455	455	445	490.65	
Mysuru	520	520	520	520	520	520	520	520	520	490	465	465	465	465	445	445	450	460	472	472	472	472	472	450	450	440	440	440	440	440	440	475.16	
Namakkal	480	480	480	480	480	480	480	480	480	460	440	440	440	420	420	420	420	425	430	430	430	430	410	410	410	410	410	410	410	415	415	439.52	
Pune	540	530	530	530	530	530	530	530	520	500	480	470	470	470	460	465	470	475	480	485	485	485	485	485	465	465	465	455	445	445	445	487.74	
Raipur	470	470	470	470	470	470	445	445	435	425	420	420	420	420	400	405	418	421	421	423	425	424	424	424	424	410	410	410	410	410	410	430.10	
Surat	530	530	530	535	535	535	530	525	520	500	480	480	480	480	460	460	460	465	465	470	470	470	470	460	460	460	460	455	445	445	445	484.19	
Vijayawada	460	460	463	463	463	463	463	463	463	433	433	433	433	433	418	420	420	420	423	425	425	425	425	425	400	400	400	400	400	400	400	430.71	
Vizag	500	500	500	500	500	500	500	475	475	475	475	450	450	450	425	425	425	425	430	430	435	435	415	415	415	415	415	415	415	415	415	448.87	
W.Godavari	460	460	463	463	463	463	463	463	463	433	433	433	433	433	418	420	420	420	423	425	425	425	425	425	400	400	400	400	400	400	400	430.71	
Warangal	462	465	468	471	471	471	471	471	471	432	412	412	412	412	392	397	402	407	412	417	417	417	417	397	397	397	397	397	377	377	377	419.39	
Prevailing Prices																																	
Allahabad (CC)	519	514	514	514	514	505	500	495	490	481	476	467	462	452	452	462	467	467	467	457	457	457	457	457	457	457	448	443	443	438	438	471.84	
Bhopal	485	485	490	490	490	480	470	470	460	440	440	430	430	430	440	415	425	435	435	435	435	435	425	425	425	415	415	415	415	410	410	441.94	
Indore (CC)	500	505	505	500	500	490	475	470	460	460	460	440	440	440	410	440	440	445	445	445	440	435	430	430	430	420	420	420	420	420	420	450.16	
Kanpur (CC)	519	510	510	510	510	510	500	490	490	490	476	467	467	467	467	467	467	467	467	467	467	467	467	467	467	452	452	438	438	429	429	473.90	
Luknow (CC)	533	533	533	533	533	533	524	517	517	500	500	483	483	483	483	483	483	483	483	483	483	483	483	483	483	483	477	477	473	473	467	467	495.23
Muzaffurpur (CC)	510	510	515	515	505	495	495	495	495	495	480	480	480	470	475	480	483	483	486	486	486	486	465	465	465	465	465	455	455	455	455	482.26	
Nagpur	490	490	495	495	500	485	485	460	450	450	445	435	435	435	435	435	440	440	450	450	450	450	430	440	440	430	430	430	420	420	420	450.32	
Patna	510	510	515	515	505	495	495	495	495	495	480	480	480	470	475	480	483	483	486	486	486	486	465	465	465	465	465	455	455	455	455	482.26	
Ranchi (CC)	514	505	505	505	505	505	495	495	476	476	476	476	476	476	471	476	476	476	476	476	481	481	481	467	467	467	467	452	452	448	448	478.94	
Varanasi (CC)	523	523	523	523	523	510	500	500	500	500	490	477	477	477	477	483	483	483	483	483	483	483	483	473	473	473	463	453	453	453	453	486.48	

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Chick Feeding Tray



Mini Chick Feeder



Feeder with Cone Extension and Grill



Jambo Male Parent



Male Parent



Jumbo Feeder with Cone Extension



Female Parent Feeder



Male Parent Feeder



Jumbo Female Parent Feeder



Pan Feeding



Chain Feeding

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