

CCP raids Pakistan Poultry Association

AVN Report

LAHORE - For their suspected involvement in the cartelisation and anti-competitive activities in the poultry sector, the Pakistan Poultry Association (PPA) has been raided by the Competition Commission of Pakistan (CCP) in Lahore.

The CCP carried out a search and inspection raid of the Pakistan Poultry Association for their suspected involvement in the cartelisation and anti-competitive activities in the poultry sector. The raid is part of an investigation into the alleged violation of Section 4 of the Competition Act, 2010, and the CCP has exercised its power under Section 24 of the Act. According to the undertaking, the occupiers of the premises of PPA extended full cooperation and gave access to the print and electronic



record as two different teams of CCP entered and searched the premises. Several pieces of information have been impounded, which may provide evidence about the price-fixing of day-old chick, broiler, and eggs. The information includes the minutes of the meetings of PPA and computer-

stored information of the representatives of PPA. CCP started the inquiry as it noticed the drastic increase in prices of various poultry products, including broiler chicken, table eggs, and day-old broiler chicks. Chicken prices reached Rs. 325 per kg (live chicken rate), rising

110 per cent from March 2020 to March 2021 as noticed by the CCP. Egg prices also touched a peak of Rs. 197.76 per dozen in December 2020, rising by 42 per cent from March 2020 to March 2021.

The CCP came to know that PPA has been involved in the communication of egg prices. Furthermore, posts regarding the collective rates of eggs and the "Muttahida" plan of action with strict adherence on different social media platforms indicated that PPA's platform is being used for price-fixing, which is a prima facie contravention of section 4 of the Act.

On the other hand, the day-old broiler chicks also experienced a rise of 386 per cent between March 2020 and May 2021, which CCP

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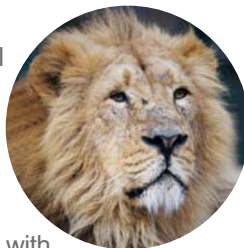
Zoo lion dies of 'natural causes' in Karachi

AVN Report

KARACHI - A zoo lion reportedly died of 'natural causes' on Tuesday afternoon, sources told Dawn.

The big cat had been in the zoo since 2017 following its rescue along with another lion from a circus being organised in the city.

Upon contact, zoo officials said the 19-year-old Asiatic lion had died of a heart failure as its post-mortem examination showed high fat deposits in its coronary arteries. "He had survived longer than its average lifespan (in the wild), which is stated to be between 16 to 18 years. At this age, animals can develop any problem just like humans," zoo director Saif Abbas said, while appreciating the zoo staff for providing good care to animals. About accumulation of fat in coronary arteries' suggesting that the animal was suffering from obesity that could have been prevented, he



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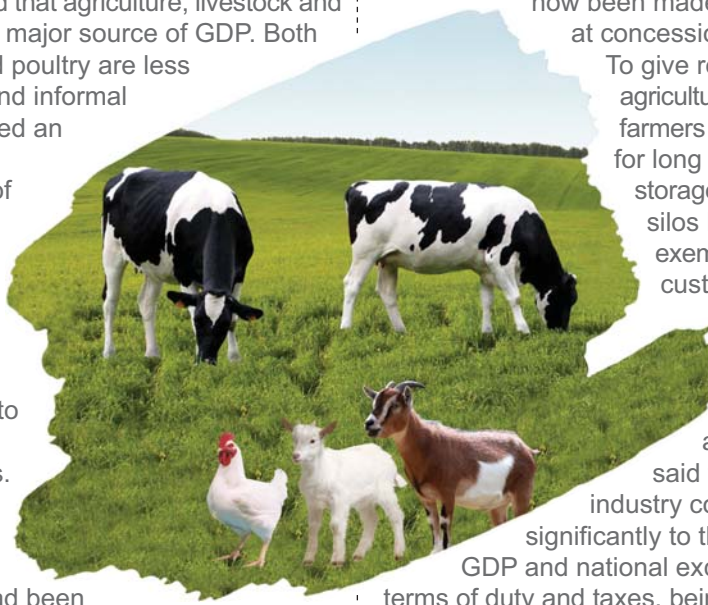
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Govt announces multiple relief measures for livestock, poultry and agricultural

AVN Report

ISLAMABAD - Minister for Finance Shaukat Tarin has said that agriculture, livestock and poultry are a major source of GDP. Both livestock and poultry are less organised, and informal sectors formed an essential component of food supply. In his budget speech, he said that the government was striving to strengthen these sectors. He also said that multiple relief measures had been taken for the livestock and poultry sectors and the agricultural sector in the budget. Vaccines for the veterinary medicines had been exempted from customs duties, he said, adding that concessions in tariff had been given to several feed additives, which



were considered one of the most basic requirements of the dairy sector and had now been made importable at concessionary rates. To give relief to the agricultural sector and farmers of the country for long term grain storage, mechanical silos had been exempted from the customs duties fulfilling the demand from this sector, he added. He said that the auto industry contributed significantly to the country's GDP and national exchequer in terms of duty and taxes, being the largest contributor. He said that vehicles up to 850cc were being exempted. In contrast, relief to the existing manufacturing industry and new models was also provided by removing ACD

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Poultry sector demands tax relief on inputs to keep prices down

AVN Report

ISLAMABAD - Central Chairman of Pakistan Poultry Association (PPA) Khalil Sattar recently demanded tax reduction on poultry inputs to avoid fluctuation in the price of poultry items and keep the poultry prices down for the consumers. "Prolonged prevalence of COVID-19, disruption in the global and local supply chain including import of poultry grandparents, market speculation, taxes and duties on poultry feed ingredients are the major contributors to price hike of local poultry items," he said. The global supply chain of the poultry industry also impacts the poultry prices in Pakistan for being linked with the global supply chain and importing inputs from especially European Union and the Middle East," Khalil Sattar told APP here. PA chief said that in budget 2021-22, the government had provided tax relaxation on the nine poultry items from three per cent to nine per cent for facilitating the



poultry sector. However, besides the pandemic, the poultry sector had also suffered huge losses due to other multiple factors during the past few years. Replying to a question, he said that in this budget, sales tax was increased by 10 to 15 per cent on 53 poultry inputs and 15 per cent on different medicines, which could lead to a price hike soon. Moreover, different levies have also been increased on the raw material used in the poultry sector. He proposed that the sales

tax on poultry items, especially chickens and eggs, must be lowered at zero per cent for curtailing the price hike. Khalil Sattar said that Pakistan's exports are negligible due to tough competition abroad and the rising cost of raw material. Chairman PPA said the country imported most of its raw material, including feed ingredients such as soybean and other chemicals and vitamins. "Our main global and regional competitors such as China, India, Brazil, Argentina and many others are enjoying government protection and have a comparative advantage," he said. "Pakistan's government wants to enhance exports for which the poultry sector needs to be facilitated. At least we should be given duty drawbacks to minimise our input cost", he added.



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KP allocates Rs13bn for agriculture sector development in FY22

AVN Report

PESHAWAR - The Khyber Pakhtunkhwa (KP) government has allocated more than Rs13 billion for agriculture, livestock and fisheries in the province for the upcoming fiscal year (FY22) to help boost production in the province.



In this regard, Provincial Minister for Agriculture Mohibullah Khan said that the PTI government had included such projects in the development programme of the next financial year, which could generate more employment opportunities and increase the provincial revenue. Mohibullah added that the KP government would implement 12 projects worth Rs 800 million under the PM emergency programme, promote olive cultivation in the tribal districts and eradicate poverty through rural poultry farms. "This is why the establishment of trout fish villages in Malakand and Hazara divisions have also been included in the development program for the next financial year," the minister said. Mohibullah said that it would increase the production of trout fish in the province and supply trout to other parts of the country, and thousands of people will be employed locally. He said that the provincial government had undertaken important projects in FY22, such as water conservation in rain-fed areas, increase in wheat production and establishment of dairy farms and seed industry. Meanwhile, in another tax relief package, the provincial government has also proposed reducing and rationalising sales tax on 31 different services. According to a press release issued by Khyber Pakhtunkhwa Revenue Authority (KPRA), sales tax on ten different services have been brought down to only 1 per cent for FY22. In this regard, KP Chief Minister Mahmood Khan and KP Minister Finance Taimur Khan Jhagra issued special directives for reducing tax rates in certain sectors associated with services. The provincial assembly will legislate the proposed changes in the ongoing budget session. "On the directives of Chief Minister Mahmood Khan, we are taking special measures to compensate the business community affected by the pandemic. The tax relief for the second consecutive year is one of the measures the provincial government is taking to mitigate the impacts of the pandemic on the businesses, particularly related to the services sector," said Finance Minister Taimur Khan Jhagra. According to details, the sectors inserted in the 1pc tax slab includes print media advertisements, property dealers, agriculture cold storage and warehouse, industrial

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by **Dr Hammad Ahmed Hashmi**
DVM, MBA, MSc(Hons),
CMILT(UK), Dip BE(UK)
NSM (Companion Animal Products),
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Poultry can be defined as domestic fowls, including chickens, turkeys, geese and ducks, raised for meat or eggs, and the word is also used for the flesh of these birds used as food. The poultry sector generates employment (direct/indirect) and income for about 1.5 million people. The agricultural sector is indispensable to the country's economic growth, food security, employment generation and poverty alleviation particularly, at the rural level. It contributes 19.2 per cent to the GDP and employs around 38.5 per cent of the labour force. More than 65-70 per cent of the population depends on agriculture for its livelihood. Regarding Poultry production, 1,809000 Tonnes of Poultry meat has been produced so far during FY 2020-21. Pakistan is now placed at the 11th position among the largest poultry producers globally and has ample space for further improvement. (Pakistan Economic Survey 2020-21). Salients of the Poultry Industry are enumerated below:

- Presently turnover of the Pakistan Poultry Industry is about 750 Billion rupees.
- The poultry sector generates employment and income for about 1.5 million people.
- The poultry sector is one of the most organized branches of the agro-based sector of Pakistan. Its growth rate is 10-12% per annum.
- At present, over 190 billion rupees worth of agricultural products and by-products of agriculture are being used in poultry feeds.
- There are over 20000 poultry farms spread deep into the rural areas across the country. The capacity of farms ranges from 5,000 to 500,000 broilers.
- Marketing channels of broilers and eggs are predominantly in the unorganized sector.
- 40-45% of the total meat consumption is being procured from poultry products.
- Poultry Slaughterhouses, Processing/Value Addition in organized sector is 5-6%
- Annually we are producing 18,000 million table eggs.
- Annually we are producing 2,250 million kilograms of chicken meat.
- In our country, per capita, consumption of meat is only 7-kilo grams and 65-70 eggs annually.

At the same time, the developed world is consuming about 40-kilo grams of meat and over 300 eggs per capita per year.

- As per the World Health Organization standard, the daily requirement of animal protein for a person is 27 grams, whereas the public is consuming 17 grams only. Therefore we are already consuming less animal protein as per required standards.

1. Infectious Coryza. Infectious Coryza is a disease of poultry that has significant economic value for the farmers, especially in Pakistan; its significance is manifold. This is an acute respiratory disease of chickens caused by the bacterium *Avibacterium paragallinarum*. The clinical appearance of the disease includes:

- Depression.
- A serous nasal discharge.
- Sporadically minor facial inflammation in the mild form of the disease.

In severe form, severe inflammation of one or both infraorbital sinuses with oedema of the surrounding tissue. Intermandibular space and wattles of corks do swell as a course of the disease. The swelling can cause closure of one eye or both of them.

Diagnosis is based on PCR assay, bacterial culture, or typical clinical signs in susceptible chickens following inoculation with nasal exudate from an infected bird. Early antibiotic treatment may help infected birds recover. Prevention is based on sound management practices, including appropriate biosecurity measures and vaccination with serovars present in the local population

Infectious **coryza**, typically referred to as **coryza**, is a specific respiratory disease of **chickens** caused by the bacteria *Avibacterium paragallinarum*. We should not confuse this disease with the term "**coryza**", historically used by old-time **poultry producers** for any respiratory disease of **poultry**.

Infectious coryza is an acute respiratory disease of chickens characterized by decreased activity, nasal discharge, sneezing, and facial swelling worldwide. The disease affects only chickens; reports in quail and pheasants likely describe a similar disease caused by a different bacterium. In countries such as the US, the disease is seen primarily in pullets and laying hens and occasionally in broilers. It is most prevalent in commercial flocks in California and

the southeastern states, although flocks in the northeast have experienced notable outbreaks. In lower- and middle-income countries, the disease often is seen in very young chicks (e.g., three weeks old). Inadequate biosecurity practices and environmental factors may contribute. Infectious coryza is not a zoonotic disease and thus lacks public health importance.

a. Etiology of Infectious Coryza in Chickens

The causative bacterium of infectious coryza is *Avibacterium paragallinarum*, a gram-negative, pleomorphic, nonmotile, catalase-negative, microaerophilic rod that




Figure 1: Photomicrograph of Avibacterium paragallinarum (Courtesy of Dr E Soriano Vargas)

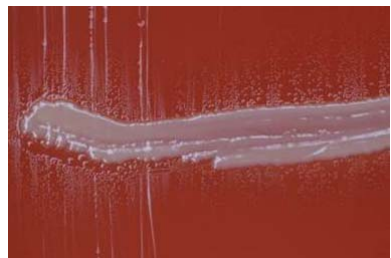


Figure 2: Photomicrograph of satellite colonies of A paragallinarum (Courtesy by Dr E Soriano Vargas)

requires nicotinamide adenine dinucleotide (V-factor) for culture. When cultured on blood agar with a staphylococcal nurse colony that excretes the V-factor, the satellite colonies appear as dewdrop shapes, growing adjacent to the nurse colony. V-factor-independent *A paragallinarum* have been reported in South Africa and Mexico. The most commonly used serotyping scheme is the Page scheme, which groups *A paragallinarum* isolates into three serovars (A, B, and C) that correlate with immunotype specificity.

b. Epidemiology and Transmission of Infectious Coryza in Chickens

Chronically ill or healthy carrier birds are the reservoir of infection for *A paragallinarum*. Chickens of all ages are susceptible; however, susceptibility increases with age. The incubation period is 1-3 days with a typical disease duration of 2-3 weeks. Duration of illness may be longer in the presence of concurrent diseases such as mycoplasmosis. Infected flocks are a constant

threat to uninfected flocks. Transmission is by direct contact, airborne droplets, and contamination of drinking water. Transmission does not occur via eggs. "All-in/all-out" management has essentially eradicated infectious coryza from many commercial poultry operations in the US. Such programs move all animals of the same age at the same time. This flow allows birds in the same enclosures to be exposed to any pathogen(s) simultaneously. Facilities are disinfected before new next group of new animals are added. Commercial farms without such flow and multiple-age flocks may continue to see outbreaks of the disease. Molecular techniques such as restriction endonuclease analysis and ribotyping have been used to trace outbreaks of infectious coryza.

c. Clinical Findings of Infectious Coryza in Chickens

In the mildest form of infectious coryza, the only signs may be listlessness, a serous nasal discharge and occasionally slight facial swelling. With increased



Figure 3L Courtesy of Dr Jean Sander

severity, extreme swelling of one or both infraorbital sinuses with oedema of the surrounding tissues may prevent the eyes from fully opening. In adult birds, especially males, oedema may extend to the intermandibular space and wattles. The swelling usually abates in 10-14 days; however, it can persist for months if a secondary infection occurs. There may be varying degrees of rales depending on the extent of infection. In Argentina, a form of the disease involving bacteremia has been reported, likely due to concurrent infections. Egg production may be delayed in young pullets and severely reduced in producing hens. Affected birds may have diarrhoea and feed, and water consumption usually is decreased during acute stages of the disease.

d. Lesions

Histopathologic features of infectious coryza

In acute cases, only the infraorbital sinuses may be involved and contain copious, greyish, semifluid

Continued on Page 18

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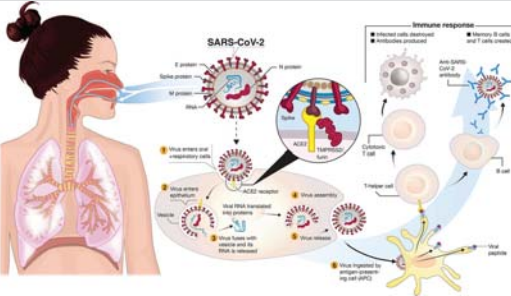
Animal Health Division



Ivermectin against COVID-19: A breakthrough

by Muhammad Hamza Tariq, Muhammad Kasib Khan, Muhammad Adnan Sabir Mughal, Muhammad Nadeem
Department of Parasitology, University of Agriculture, Faisalabad

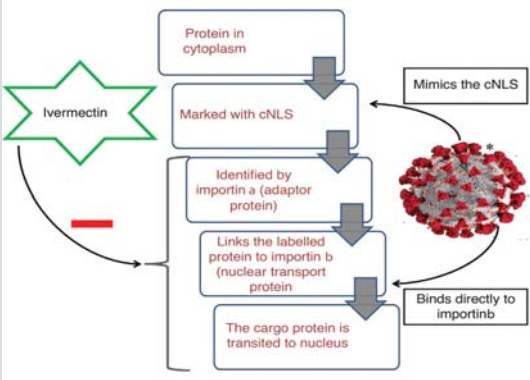
Firstly, the coronavirus outbreak was seen in China, Wuhan city of Hubei province. The first case of the virus was observed in December 2019, and then it was named after 2019-nCoV or novel coronavirus or COVID 19; World Health Organization suggested the name. The major host for spreading the virus was a bat and considered to be a reservoir of coronavirus. The gastrointestinal and respiratory systems caused the major symptoms. Mostly SARS CoV and MERS CoV were considered to be extremely pathogenic. COVID 19 has reached 150 countries in the world, and WHO declared the disease a worldwide pandemic.



COVID 19 affected millions of people worldwide as the virus can increase and be hindered in the primarily infected tissues. Globally people are affected with severe illness, serious respiratory problems, pneumonia, and no treatment available. Mainly the treatment was done by the supportive care of the patient through ventilation, oxygenation, and fluid therapy. A combination of the different drugs,

such as antivirals and corticosteroids, and interferon inhalation was done. Different types of drugs are recommended worldwide in which Kaletra plays an important role in the inhibition of viral infections, and it was used in the early COVID patients. Patients were also treated with glucocorticoids to reduce lung injury. But it was a controversial issue on glucocorticoids that it was not used without clinical trials. Ivermectin is the derivative of avermectin B1, and a macrocyclic lactone produces by an actinomycete, Streptomyces avermitilis. Avermectin is a potent anti-parasitic agent. It is proved to be the most successful therapeutic drug in veterinary medicine and significantly in public health programs. It is used to treat and control parasitic diseases in both humans and livestock. In several trials around the world, ivermectin is used in the control of malaria by killing mosquitoes. Ivermectin is used in the five neglected tropical diseases in a single oral dose with rapid clearance and a half-life of about 3-5 hours. Ivermectin is used as a semisynthetic anthelmintic agent. It has a high affinity for glutamate chloride ion channels found in microfilaria and invertebrate muscle in nerve cells. This binding increases the permeability of the cell membrane to chloride ions, resulting in hyperpolarization of the cell and, as a result, the death of parasites. Ivermectin may also function as an agonist of the neurotransmitter gamma-aminobutyric acid (GABA), affecting GABA-mediated neurosynaptic communication in the central nervous system. As no drug therapy shows significant results in the COVID treatment, although ivermectin shows remarkable results in the SARS-CoV 2 treatment. Ivermectin, in-vitro shows the

inhibit replication of the SARS-CoV 2, but in vivo efficacy has not been adequately reported. Different drugs use severe adverse effects such as hydroxychloroquine (myopathy, irreversible retinal damage, neuropathy) or with ritonavir + lopinavir combination (hypercholesteremia, hypertriglyceridemia) shown in the patients as compared to ivermectin treated patients, and adverse effects were not revealed. Different drug regimens are suggested with the ivermectin but may be cost-effective and may cause a shortage of drugs worldwide.



Different trials were conducted in different countries, showing that ivermectin shows quite good results in the treatment. Patients with respiratory disorders are cured and show fewer symptoms when treated with ivermectin. It is proposed that five-day therapy of ivermectin may decrease the risk of COVID at the smaller level, but larger trials have to be done. Considering the flaws and benefits, clinical trials with ivermectin in COVID-19 patients are required to determine whether this treatment can have a good effect on those patients who have already experienced issues resulting from this infection.

The role of veterinarian in one health

by Javeria Zulfiqar
KBCMA College of Veterinary and Animal Sciences,
Narowal Sub Campus UVAS, Lahore

A veterinarian's classical view as a person well qualified to practice veterinary medicine has led most people to think that their clinical practices are related to the prevention, cure or alleviation of pain and treatment of injuries in animals, especially domestic animals. These roles are very important; the contemporary roles undertaken by veterinarians go far beyond these more visible tasks. This is the reason why there is a need for far greater awareness in the public eye. It must be recognized that as the world becomes intricately inter-connected and more complex. Over the years, veterinary professionals have worked in animal and human health and well-being, biomedical research, food quality, food safety, food security, environment, ethics, epidemiology, microbiology,

pathology, pathology, physiology, and physiology. They have played an important role in developing pharmaceuticals, treatments, vaccines, and toxins; as teachers, trainers, and policymakers. They are also involved in wildlife conservation efforts and the protection of the environment and biodiversity. As the challenges increase, veterinarians have found ways to adapt so that their knowledge and training make them multi-faceted professionals. It helps societies to keep their animals healthy and productive. Not surprisingly, becoming a veterinarian is a great career choice. In this regard, farm-based veterinary professionals should advise farmers and



livestock owners or livestock system operators on appropriate procedures for managing herd health according to local and regional agro-environmental contexts. It extends beyond the treatment or prevention of animal diseases, such as strengthening biosecurity, program-free pests or vaccinations, and housing, nutrition, sanitation, and environmental hygiene. Many veterinarians are working with Intergovernmental and Non-Governmental Organizations to improve African Swine Fever, Rabies, Brucellosis, Infectious Bovine, Foot and Mouth Disease, Rift Valley Fever, and African Diseases as well as Information Systems, Field Investigation

methods, laboratory networks and quality. There are also active processes to create control, risk and hazard analysis and mitigation, vaccine and treatment provisions, and rapid response to emergencies and humanitarian crises. When zoonotic diseases strike any geographical location, veterinary professionals are the first to inform governments, veterinary surgeons, the media, civil society organizations and charities, action and consumer groups, and the public about veterinary issues. It has long been recognized that early response to animal diseases resulting from epidemics is extremely beneficial for future generations. To this end, veterinary scientists, scholars, and professors are leading providers of veterinary news, research, and information, including medical and scientific advances in the wider veterinary community and other disciplines interested in science.

Continued on Page 16

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جنوبی ایشیا کی سب سے بڑی پولٹری نمائش "انٹرنیشنل پولٹری ایکسپو 2021"
تمام افراد اور اداروں کیلئے ایک شاندار موقع جس میں:

تین روزہ انٹرنیشنل

پولٹری ایکسپو

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☆ پولٹری انڈسٹری کو درپیش مسائل اور ان کے حل کیلئے انڈسٹری کے ماہرین اور پیشہ ور افراد کے خصوصی لیکچرز نیز ویسٹین، دواء ساز کمپنیوں گریڈ پیرنٹ پروجیکٹ اور پولٹری
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☆ پولٹری انڈسٹری سے وابستہ افراد کیلئے اپنی مصنوعات کی تشہیر کیلئے بے شمار مواقع مثلاً سوینرز، آئی ٹیکس گائیڈ، آئی ٹیکس کیٹلوگ، میں اشتہار لگوانے کی سہولت
جس کی پبلی کیشن اور تقسیم وسیع سطح پر ہوگی۔

☆ انٹرنیشنل پولٹری ایکسپو میں شرکاء کی سہولت کیلئے انتہائی مناسب رجسٹریشن فیس صرف 1000 روپے۔

☆ ملک کے تمام ویٹرنری کالج اور یونیورسٹیوں کے طالب علموں کیلئے رجسٹریشن فیس صرف 500 روپے۔

☆ ایکسپو سنٹر میں اسٹالز و ایکسپو ہالز کے اندر اور باہر پر اپنی مصنوعات کی نمائش کے ساتھ ساتھ قد آور بینرز سے بھی تشہیر کا موقع۔

☆ فارمرز حضرات پولٹری کے شعبہ سے وابستہ ماہرین، ویٹرنری ڈاکٹرز، فیلڈلز، ادویہ ساز کمپنیوں اور پولٹری ایکو پمنٹ
درآمد کرنے اور بنانے والے ملکی وغیر ملکی اداروں کے مابین سودمند کاروباری مواقع پیدا ہونگے۔



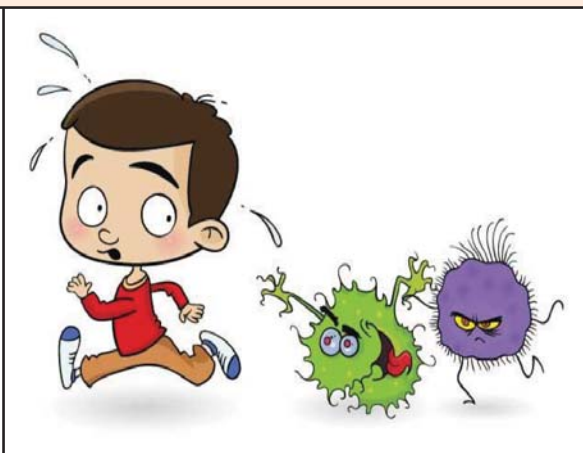
Pakistan Poultry Association

Poultry House: 24-R Johar Town Lahore

Tel: +92 42 35956022, 5956023 Fax: +92 42 35956024 Mobile: +92 300 4378496
Email: ppapunjab@gmail.com, ppapunjab@msn.com Web: pakistanpoultry.org

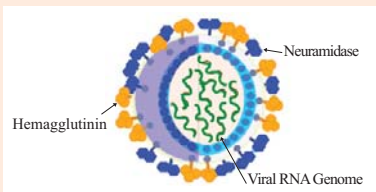
AVIAN INFLUENZA

A vast viral infection and its public health significance



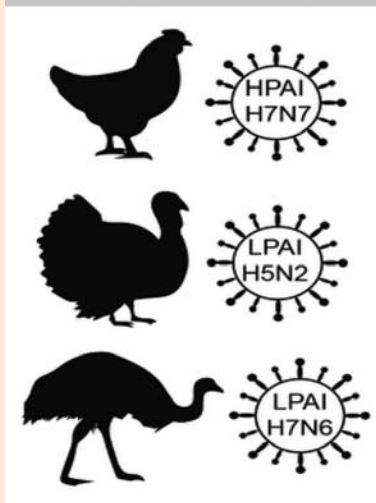
by Dr Maria Jamil,
Dr Muhammad Kashif Saleemi
Department of Pathology, Faculty of
veterinary science, University of
Agriculture, Faisalabad

Avian influenza (AI) is commonly known as "bird flu". It is a viral infection characterized by high mortality. The virus affects the digestive, respiratory, and nervous systems. Avian influenza virus infects the chicken along with a wide range of domestic and wild birds. AI virus isolated from ≥ 90 species of free-living birds. Migratory birds especially ducks have yielded more viruses than any other group. In naturally infected birds the incubation period of AI is 3 days and up to 14 days in a flock. Avian influenza is not a novel infection, in 1878 AI was discovered in Italy as a fowl plague. AI is an enveloped 8 segmented single-stranded RNA virus. Its surface is covered by 2 types of glycoproteins i.e. haemagglutinin (HA) and neuraminidase (NA). AI is categorized on the bases of HA and NA surface protein. At present, there are 16 distinct HA and 9 distinct NA. Each virus having 1 HA and NA subtypes. Therefore, there may be 144 subtypes. Each subtype varies in its disease-producing capability, ability to infect several species, and transmissibility. Although AI viruses may exist in several subtypes, the H5N1 subtype caused most outbreaks followed by H7N7, H7N3, and H5N2. Highly pathogenic AI viruses (HPAI) morbidity and mortality rates are high ranges 50-90% and may reach 100% in the certain flock. Human avian influenza viruses have a higher occurrence of antigenic deviation in the surface glycoproteins due to shift and drift phenomena.



Antigenic drift: in mammalian influenza virus arises due to point mutation in NA and HA genes which leads to minor antigenic alteration in coding protein. **Antigenic Shift** arises from genetic reassortment between the gene segments of 2 influenza viruses that effect the same cell. This leads to the formation of noval NA and HA antigens. Through several studies, it has been recognized that antigenic subtyping is not an indicator of high pathogenicity. Only H5N7 is highly pathogenic. While H1-H4, H6, and H8-15 AI virus are low pathogenic for birds

Avian influenza virus currently causing outbreaks in Victoria



Transmission:

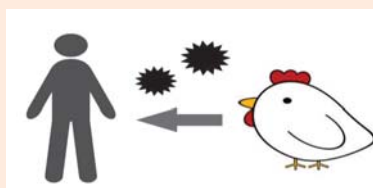
Avian influenza virus is secreted from mouth, nares conjunctiva, and cloaca of infected birds into the atmosphere. This is because the virus grows in respiratory, reproductive, kidney, and intestinal organs.

Virus spread through direct

contact among infected and susceptible birds or indirect contact by fine droplets suspended in air or exposure to virus-contaminated fomites. Only horizontal transmission occurs. Migratory birds are the natural reservoir for the low pathogenic virus. Mildly pathogenic avian influenza viruses are sustained in wild birds living in or near water. Highly pathogenic AI viruses do not have a recognized wild bird reservoir. Highly pathogenic AI virus arise from mildly pathogenic AI viruses arise from mildly pathogenic AI viruses by mutation in the haemagglutinin (HA) surface protein.



The world has experienced more than 25 reported outbreaks in poultry mainly by H5N1 subtype, or even by H7N3 or H7N7, and others. The first time in 1977 in human H5N1 outbreak occur in Hong Kong, resulting in the hospitalization of 18 people and 6 deaths. Patients that died had severe bilateral pneumonia. Since 2003 only about 164 people have died from H5N1 strains of the virus worldwide.



In general influenza virus show host species adaptation, and transmission usually occurs among individuals of the same species or rarely inter-species spread to closely interrelated species. Only on very rare cases, avian influenza viruses have

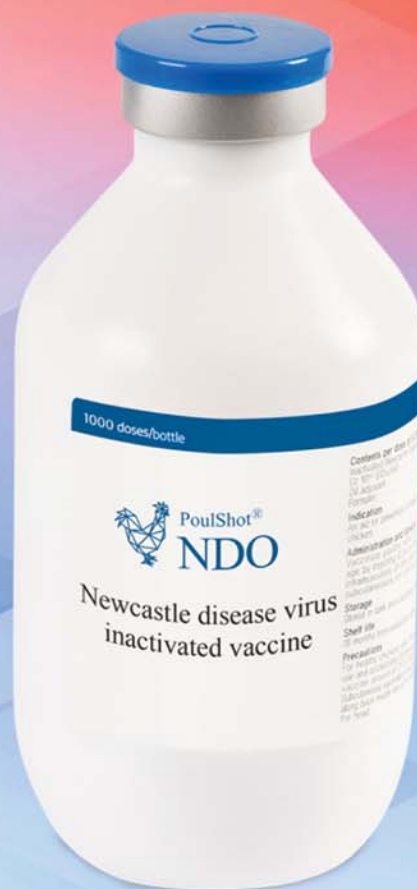
shown inter-species transmissibility to humans. Therefore, compared to hundreds of millions of human infection through human-adapted influenza viruses which happen every year, the transmission of avian influenza viruses to humans are rare. Currently, it has been shown that AI viruses have a preferential binding for alpha 2,3 galactose linkage receptors present on the avian respiratory epithelium. On the other hand, human influenza viruses preferentially bind to alpha 2,6 galactose linkage receptors. The avian respiratory epithelium has primarily 2,3 linkage, the human respiratory epithelium has 2,6 linkage, and swine respiratory epithelium has a mixture of alpha 2,3 linkage and alpha 2,6 linkage. This accounts for the slightly greater number of reports of swine influenza viruses than avian influenza virus transmission to humans.

This finding explains why avian influenza viruses are not easily transmitted to a human. While the fact that 164 people have died worldwide from avian influenza H5N1 indicates that, though extremely rare, the virus may infect humans. Currently, it has been found that humans do have some alpha 2,3 galactose linkage in the alveoli, but these are located deep into the lung. This is the reason why the avian influenza virus is not easily transmitted to humans unless humans come in very close contact with poultry over a prolonged period. However, the major threat posed by avian influenza viruses to humans may come from the genetic reassortment of gene segments among avian and human influenza viruses. Waterfowl, mainly duck and other aquatic birds are the primary reservoir of all influenza virus gene.



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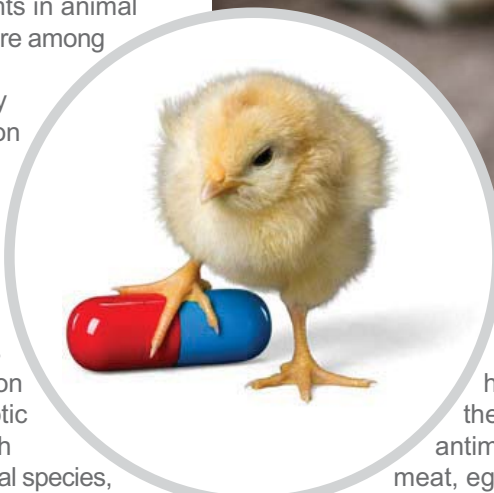


Antibiotic use in poultry production

by **Zulqarnain Baqar, Nazim Hussain, Mehvish Mumtaz**

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An increase in antibiotic resistance development and spread has become a major concern. No major new types of antibiotics have been created in recent decades, and virtually all of the known antibiotics are losing their activity in the face of pathogens. There have also been increases in multi-drug resistant bacteria. More than 60% of the antibiotics produced worldwide are known to be used for therapeutic or non-therapeutic purposes in animal production. The use and propagation of resistant bacteria was linked to the use of antimicrobial agents in animal production. Poultry products are among the world's most consumed products but many of the key antibiotics in poultry production are used in many countries; the safety of these (due to antimicrobial waste) and increasing opportunities for development and propagation of microbial resistance in poultry settings are threatened. This extension article throws light on antibiotic usage in poultry farming; with specific focus on some bacterial species, their economic importance to poultry farming and reports of resistances of isolated species from poultry settings (farms and poultry products) to essential antibiotics. Antibiotic resistance (AR) which is defined as the ability of an organism to resist the killing effects of an antibiotic to which it was normally susceptible and it has become an issue of global interest. This microbial resistance is not a new phenomenon since all microorganisms have an inherent capacity to resist some antibiotics. However, the rapid surge in the development and spread of AR is the main cause for concern. In recent years, enough evidence highlighting a link between excessive use of antimicrobial agents and antimicrobial resistance from animals as a contributing factor to the overall burden of AR has emerged. The extent of usage is expected to increase markedly over coming years due to intensification of farming practices in most of the developing countries. The main reasons for the use of antibiotics in food-producing animals include prevention of infections, treatment of infections, promotion of growth and improvement in production in the farm animals. Poultry is one of the most widespread food industries worldwide. Chicken is the most commonly farmed species, with over 90 billion tons of chicken meat produced per year. A large diversity of antimicrobials, are used to raise poultry in most countries. A large number of such antimicrobials are considered to be essential in human medicine. The indiscriminate use of such essential antimicrobials in animal production is likely to accelerate the development of AR in pathogens, as well as in commensal organisms. This would result in treatment failures, economic losses



and could act as source of gene pool for transmission to humans. In addition, there are also human health concerns about the presence of antimicrobial residues in meat, eggs and other animal products. Generally, when an antibiotic is used in any setting, it eliminates the susceptible bacterial strains leaving behind those with traits that can resist the drug. These resistant bacteria then multiply and become the dominating population and as such, are able to transfer (both horizontally and vertically) the genes responsible for their resistance to other bacteria. Resistant bacteria can be transferred from poultry products to humans via consuming or handling meat contaminated with pathogens. Once these pathogens are in the human system, they could colonize the intestines and the resistant genes could be shared or transferred to the endogenous intestinal flora, jeopardizing future treatments of infections caused by such organisms. Antimicrobials' use in animal production dates as far back as the 1910 when due to shortage of meat products, workers carried out protests and riots across America. Scientists at that time started looking for means of producing more meat at relatively cheaper costs, resulting in the use of antibiotics and other antimicrobial agents. With the global threat of antibiotic resistance and increasing treatment failures, the non-therapeutic use of antibiotics in animal production has been banned in some countries. Sweden is known to be the first country to ban the use of antimicrobials for non-therapeutic purposes between 1986 (for growth promotion) and 1988 (for prophylaxis). This move was followed by Denmark, The Netherlands, United Kingdom and other European Union countries. These countries also moved a step further and banned the use of all essential antibiotics as prophylactic agents in 2011. Several other countries have withdrawn

the use of some classes of antibiotics or set up structures that regulate the use of selected antibiotics in animal production. Despite these developments, it is currently estimated that over 60% of all antibiotics produced are used in livestock production, including poultry. The use of antibiotics in poultry and livestock production is favorable to farmers and the economy as well because it has generally improved poultry performance effectively and economically but at the same time, the likely dissemination of antibiotic resistant strains of pathogenic and non-pathogenic organisms into the environment and their further transmission to humans via the food chain could also lead to serious consequences on public health. Bacteria counteract the actions of antibiotics by four well-known mechanisms, namely; enzyme modification, alteration in target binding sites, efflux activity and decreased permeability of bacterial membrane. This expression of resistance towards antibiotics by bacteria could either be intrinsic or acquired. Intrinsic resistance is due to inherent properties within the bacteria chromosome such as mutations in genes and chromosomally inducible enzyme production, whereas acquired resistance could be due to the transmission of resistance genes from the environment and/or horizontally transfer from other bacteria. Several bacterial species are the major causes of infections in poultry and other animal husbandry. Most of these infections are linked to foodborne outbreaks, live animal contact, poor hygiene, and environmental exposure. With the emergence of antimicrobial resistance, the pathogenicity and virulence of these organisms have increased and treatment options are diminishing and also more expensive. Multidrug resistant bacteria have been found in poultry, poultry products, carcasses, litter and fecal matter of birds and these pose a risk to both handlers, consumers and a threat to global and public health. The above information also calls for increased surveillance measures and monitoring of antibiotic usage in both animal husbandry and humans throughout the world.



PER DOSE CONCENTRATION

Infectious bronchitis virus (M41 strain)..... ≥ 105.8 EID50
Infectious bronchitis virus (KM91 strain)..... ≥ 106.1 EID50
Newcastle disease virus (LaSota strain)..... ≥ 108.4 EID50
Infectious bursal disease virus (CAG strain)... ≥ 106.4 EID50



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Senate committee takes PPA to task over unprecedented hike in chicken prices

AVN Report

ISLAMABAD - The Senate Standing Committee on Finance came hard on the Pakistan Poultry Association (PPA) for an unprecedented increase in chicken prices and suggested that the federal government further lower the duty to import the feed.



The finance committee, led by its Chairman Senator Talha Mahmood, was briefed on Friday by PPA representatives. The committee also rejected a proposal to exempt political parties from filing tax returns and recommend reducing car prices up to 850cc, medicines, and chicken meat. The government exempted nine items in the budget 2021-22. However, the association blamed that sales tax was increased from 10 per cent to 17pc on 54 items. In budget FY22, sales tax has been increased to 17pc on importing hatching eggs imported from the United States. PPA said this would increase the price of hatching eggs. The committee recommends the Federal Board of Revenue review this duty on hatching eggs.

The association further said that sales tax hike would increase poultry feed prices by Rs2,500 to Rs3,000 per tonne. Senator Kamil Ali Agha held PPA responsible for the recent hike in poultry prices. He said chicken meat is out of poor people's reach, adding that even marriage halls were closed due to the COVID-19 pandemic. Representatives of the association linked the price hike with the decline in production. "If demand did not increase, then why did the prices went up," Senator Agha questioned the logic of the association. "We sympathise with the poultry association, but these people do not sympathise with the poor," he commented.

The committee rejected the 17pc sales tax on poultry feed.

Officials of the Engineering Development Board (EDB) informed the committee that the price of 660 cc vehicle was over Rs1.6 million in Pakistan. Car prices and taxes are low in India.

The committee was informed that localisation in small vehicles was at 65pc while the total price of a small car carried 40pc from tax. The proposed reduction in taxes on vehicles up to 850 cc will reduce the cost of the vehicle. Large vehicles have 55pc

localisation, the EDB officials.

The automobile association assured EDB that it would reduce the price of vehicles in line with the cut in taxes. Furthermore, it was approved that the committee implements the Ministry of Industry and Production localisation programme.

FBR officials informed the committee that tax breaks on donations to charities are being scrapped. As a result, donors will be taxed by FBR officials. The committee rejected the proposal to tax the donations.

The committee sought details from the FBR on the tax exemption for the Fauji Foundation. "Why is the Fauji Foundation being given tax exemption?" Senator Mohsin Aziz inquired from FBR officials.

Details of the foundation and tax exemption should be given to the committee, he further said.

The Drug Regulatory Authority of Pakistan (DRAP) representatives informed the committee that reducing drug prices is the federal government's prerogative as it can only recommend. However, DRAP defended the increase in drug prices.

Senator Talha Mahmood said that 300-400pc had increased medicine prices. According to director DRAP, the price of a tablet has gone up from 6 paise to 32 paise. He further said that at 32 paise, the price was said to have been increased by 400pc.

Senator Mahmood said that a reduction in taxes should also reduce the prices of medicines. However, the pharmaceutical sector is unwilling to reduce the prices of medicines in place of tax relief.

The committee also rejected a proposal to exempt political parties from filing tax returns. Instead, it recommended removing political parties from the tax exemption schedule.

The dairy association representative informed the committee that a 17pc sales tax on dry powder milk would increase milk price up to Rs200 per litre. However, Senator Mahmood said that no food items, including dry milk, should be taxed.

The committee recommended a five-year tax exemption to Larkana Industrial Area and approved a proposal to abolish tax exemption for bagasse and biomass power plants. The committee, however, rejected the proposal to abolish tax exemption on medical allowance of government employees.

DMG کی جانب سے سیمینارز کا انعقاد

لاہور: ڈائریسیفائیڈ مارکیٹنگ گروپ نے پنجاب کے مختلف شہروں میں

فارمرز اور ویٹیرین کے ساتھ Iodocleanse, Nutriplex, FRA C12 پر شاندار سیمینارز کا انعقاد کیا۔

ان سیمینارز میں DMG کے جنرل مینجریلز ایڈ مارکیٹنگ ڈاکٹر محمد سلیمان صاحب، نیشنل سیلز مینجریلز ڈاکٹر صدام طارق گوئندل صاحب اور ٹیکنو کمرشل آفیسر حافظ محمد عبدالوہاب صاحب نے بھرپور شرکت کی۔



سیمینارز پنجاب کے مختلف شہروں میں فیصل آباد، ٹوبہ ٹیک سنگھ، بٹوہ رے والہ اور ساہیوال میں منعقد کئے گئے۔ فیصل آباد اور ساہیوال میں ویٹیرین کے درمیان سیمینارز کئے گئے۔ جبکہ ٹوبہ ٹیک سنگھ اور بٹوہ رے والہ میں فارمرز کے درمیان سیمینارز کا انعقاد کیا گیا جس میں ٹوبہ ٹیک سنگھ اور بٹوہ رے والہ کے فارمر حضرات تشریف لائے۔

ان سیمینارز میں فارمرز اور ویٹیرین حضرات نے ڈاکٹر محمد سلیمان جنرل مینجریلز ایڈ مارکیٹنگ، ڈاکٹر صدام طارق گوئندل نیشنل سیلز مینجریلز اور ٹیکنو کمرشل آفیسر ڈاکٹر حافظ عبدالوہاب صاحب کی کاوشوں کو سراہا۔

ان سیمینارز میں DMG کی پراڈکٹس Iodocleanse, Nutriplex, FRA C12 پر بات کی گئی جس میں ان پراڈکٹس کے حوالے سے جدید سائنسی ریفرنسز پر بات ہوئی۔

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SB ADLEK
(WATER SOLUBLE POWDER)

SB CIPRIN 20
(LIQUID)

SB TOLCOX
(POULTRY COCCIDIOSIS)

SB S3
(ORAL POWDER)

SB TYLAN 10%
(FEED PREMIX)

SB COMBI F.T
(ORAL DRENCH)

SB FLUKINEX
(ORAL DRENCH)

SB LEVONEX
(ORAL SOLUTION)

SB TIAMULIN 45% O/P
TIAMULIN HYDROGEN FUMARATE

SB AMOXYTIN O/P
AMOXICILLIN TRIHYDRATE
COLOSTINE SULPHATE

SB EXITIL
ALBENDAZOLE 12.5%

SB PIPRAZINE
(POWDER)

SB HELMIN
(SUSPENSION)

SB AMPROL 50
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China reports first human case of H10N3 bird flu

AVN Report

BEIJING - According to China's National Health Commission (NHC), a 41-year-old male in the eastern province of Jiangsu has been verified as the first human case of bird flu infection with the H10N3 strain.



According to the NHC, the individual, a Zhenjiang resident, was admitted to the hospital on 28th April after acquiring a fever and other symptoms. On 28th May, he was diagnosed with the H10N3 avian influenza virus, according to the report, which did not specify how the guy became infected with the virus.

According to the NHC, H10N3 is a low pathogenic or less severe strain of the virus in poultry, and the probability of it spreading on a broad scale is quite low.

The patient was stable and ready to leave the hospital. No more cases had been discovered via medical examination of his close contacts.

In China, there are many distinct strains of avian influenza, and some of them occasionally infect humans, generally individuals who interact with poultry. Since the H7N9 variant killed roughly 300 people in 2016-2017, there have been no substantial human illnesses with bird flu.

According to the NHC, no additional cases of H10N3 illness in humans have been detected in the world.

Zoo lion dies of natural ...

Continued from front page

insisted that the animal had already completed its lifespan.

Responding to a question as to how the zoo staff determined the lion's age since the animal was confiscated from a circus, Mr Abbas claimed that this information was gathered from the circus organisers. "We were told that these lions were 16 to 17 years old. The other lion died in 2018." Sources said the zoo administration had been facing a lot of criticism in the media for the past many years over reports of poor animal care and lack of trained staff at the facility.

Currently, the Sindh High Court is pursuing a case in this respect.

In 2017, the wildlife authorities rescued a pair of lions and a chimpanzee kept in miserable conditions for a circus performance in the Gulshan-i-Iqbal area.

No rescue effort, however, was undertaken for the five ponies and a dog, also part of the circus troupe, as they were not wild animals. All animals were reportedly brought from Lahore to Hyderabad where they performed in a circus.

Sources said the Sindh Wildlife Protection Act 2020 bans display of wild animals for entertainment purposes and that the wildlife department is the custodian of the law.

No department, however, is assigned the responsibility to implement The Prevention of Cruelty to Animals Act - a pre-partition law of 1890, which provides protective cover to all animals and remains unimplemented.

Govt announces multiple relief ...

Continued from page 04

and rationalising the tariff structure. Due to these targeted interventions, the middle class of this country will afford a car of this specific category. Moreover, further incentives in the form of reduction of customs duties are electric vehicles for one year to promote the culture of electric vehicles in Pakistan, he said, adding that similarly keeping because of changing international motorcycles trend usage of local manufacturing of heavy motorcycles and specific categories of trucks and tractors were also being incentivised. The minister said that the government had taken kinetic measures to boost industrial growth to tear away the fragile label attached to the economy. He said that this government focused on boosting domestic industry and reducing their cost of doing business from day one. In the Finance Act, 2019-20, tariff rates were reduced to zero per cent on 1639 PCT codes, which were primarily raw material for domestic industry.

Poultry sector demands tax ...

Continued from page 04

The PPA chief said that poultry farmers were selling eggs or chicks at a much lower cost than production costs to minimise losses.

"There is huge potential in Pakistan as the poultry sector is growing at 5-10 per cent per annum," Sattar said, "but the sector faces cycles of growth and then a long period of depression which compels farmers to sell their products below the cost of production."

He warned that egg and poultry prices might rise about 10 per cent shortly because of higher demand, less supply and increasing feedstock costs.

However, price spikes have been acceptable over the last two years compared to prices in neighbouring countries. The poultry sector is one of the largest agro-based sectors of Pakistan's economy, with an investment of more

than \$8 billion.

The poultry sector meets 40-45 per cent of the country's total meat consumption, he said. He said that PPA would prioritise the issues like the high cost of energy, rising taxes and the high cost of doing business.

He stressed the need to overcome the numerous challenges faced by the poultry industry and hope that PPA has continued to work as a vibrant and active body despite a very difficult environment and many hurdles.

He said that during the COVID-19 pandemic, some quarters, including the media, have spread speculation about some new diseases in poultry chickens, which diverted the consumers from poultry products and inflicted huge losses to the poultry industry.

The poultry leader said the malicious campaign against the poultry sector was started by some quarters against the norms, tempered the business environment, and harmed the overall market situation of the country.

KP allocates Rs13bn for ...

Continued from page 04

workshops, car wash services, cinematographic services, quality assurance and inspection services, auctioneers, installation and commissioning services and underwriter services. To promote tourism in the province, the government has especially reduced sales tax on Hotels and Restaurants located in Naran and Kaghan areas of the province from 8pc to 5pc. Similarly, services relating to Mines and Minerals, including government, royalties, and licenses earlier taxed at a 15pc rate, have decreased to the only 2pc. Agriculture-related services covered under different tax slabs have been brought down to a single slab of 2pc. Sales tax on services provided by clubs and sales tax on local standalone and local chains of hotels have been reduced from 15pc to 8pc.

Tax rates on few services that (FY21) been rationalised and brought back to standard rates on the request of the taxpayers from the corporate sector because their backward and forward business linkage are fully documented, and they need normal input tax adjustments not at their end but also for their customers from business circles.

The government wants to encourage investment to the province and increase tax compliance and tax base," said KPRA DG Fayyaz Ali Shah said.

The role of veterinarian in ...

Continued from page 08

In close association with disseminating information, veterinary science, education and discussions among interested parties resulted in improved welfare of all animals, resulting in discussion and promotion of relevant welfare issues, which other institutions and society have promoted. Veterinary professionals also share responsibilities for biosecurity. This is a joint effort in which both the animal and the animal product, the farm, and the companion animal are responsible for sharing. Traditional barriers provided by nature can no longer be relied upon to exclude scattering from country to country. In this approach, the veterinarian is a transmitter for the accidental or intentional introduction of external diseases, early detection, and early response. Veterinarians are, in fact, a key line of defence that society counts against agricultural terrorism and biological terrorism. In short, veterinary professionals are key players in biodynamics, and thus national security, food chain safety, and animal and human welfare.



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Infectious coryza and ...*Continued from page 06*

exudate evident on gross inspection and during the histopathologic examination. With chronicity, this exudate may become consolidated. Histopathologic features include



Figure 4: Courtesy of
Dr E Soriano Vargas

oedema, hyperplasia and erosion of respiratory mucosal and glandular epithelia and oedema with infiltration of heterophils, macrophages, and mast cells. Other lesions may include conjunctivitis, tracheitis, bronchitis, and air sacculitis, particularly if other pathogens are involved.7.

e. Diagnosis of Infectious Coryza in Chickens

• A bacterial culture or PCR assay: Isolation of a gram-negative, satellitic, catalase-negative organism from chickens in a flock with a history of a rapidly spreading disease is diagnostic for infectious coryza. A catalase specific test is essential as nonpathogenic hemophilic organisms, which are catalase-positive, are present in healthy and diseased chickens. Polymerase chain reaction testing of live flocks assay has been

reported to provide more accurate results than bacterial culture, including in countries with fewer resources. A real-time version of the PCR assay is available. Production of typical signs after inoculation with nasal exudate from infected into susceptible chickens is also reliable diagnostically. No suitable serologic test exists; a hemagglutination-inhibition test exists but is not preferable to other methods.

f. Important differential diagnoses are:

- Fowl cholera
- Mycoplasmosis
- Laryngotracheitis
- Newcastle disease
- Infectious bronchitis
- Avian influenza
- Swollen head syndrome (ornithobacteriosis) and
- Vitamin A deficiency

Although currently found only in South Africa and Mexico, the presence of a V-factor-independent A paragallinarum must also be considered. The A paragallinarum PCR assay is an ideal diagnostic tool in this situation..

g. Transmission

The disease reservoirs are carrier chickens that could be healthy but harbour the disease or chronically sick chickens. The disease affects all ages of chickens. The disease can persist in the flock for 2-3 weeks, and signs of the disease are seen between 1-3 days post-infection. Transmission of the disease is through direct interaction, airborne droplets and drinking contaminated water. Chicken having an infection, and those carriers contribute highly to the disease transmission.

h. Control and Treatment of Infectious Coryza in Chickens

Sound management practices and vaccination can help prevent infection

- Bio-Security
- Prompt antimicrobial treatment with supportive care of infected birds to aid recovery
- Prevention is through the use of Stock coryza-free birds.
- In other areas culling of the whole flock is a good means of disease control.
- Bacterin also is used at a dose of two to reduce the harshness of the disease.
- Precise exposure has also has been used but it should be done with care.
- Vaccination of the chicks is done in areas with high disease occurrence.
- Treatment is done by using antibiotics such as Erythromycin, Dihydrostreptomycin, Streptomycin, Sulfonamides, Tylosin, and Fluoroquinolones.

i. Prevention

Prevention is the only sound method of control for infectious coryza. All-in/all-out flow of animals as part of sound farm management and biosecurity practices are important disease prevention measures. Replacement chickens should be raised on the same farm or obtained from clean flocks. If replacement pullets are to be placed on a farm with a history of infectious coryza, bacterins/vaccines are available to help prevent and control the disease.

USDA-licensed commercially produced bacterins are available, and bacterins also are produced

within states for intrastate use. Bacterins/vaccines also are produced in many other countries. Because serovars A, B, and C are not cross-protective, bacterins must contain the serovars present in the target population.

Vaccination on individual farms should be completed ~4 weeks before infectious coryza outbreaks typically occur. Antibodies detected by the hemagglutination-inhibition test after bacterin administration do not necessarily correlate with protective immunity. Controlled exposure to live organisms also has been used to produce protective immunity in layers in endemic areas.

Because early treatment is important, immediate administration of medication via drinking water is recommended until the medicated feed is available. Erythromycin and oxytetracycline are usually effective. Additionally, several newer-generation antimicrobials (e.g., fluoroquinolones, macrolides) are active against infectious coryza. Various sulfonamides, including trimethoprim-sulfamethoxazole and other drug combinations, have been successful for treatment. Antimicrobial use in chickens is subject to national regulations that vary from country to country, and use and efficacy must be reviewed in light of relevant laws. In more severe outbreaks, although treatment may result in improvement, the disease may recur when medication is discontinued.

Preventive medication may be combined with a vaccination program if started pullets are reared or housed on infected premises.

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بقیہ: جانوروں سے انسانوں میں۔۔۔

اختیار شکل اختیار کر لیتی ہے۔ لہذا بہت احتیاط کی ضرورت ہے۔

انٹریکس/گولی یاسٹ (Anthrax): انٹریکس جانوروں کی ایسی بیماری ہے جو براہ راست اور بالواسطہ انسانوں میں منتقل ہو جاتی ہے۔ یہ بیماری پرندوں میں نہیں ہوتی۔ مویشی اور چوپائے اس سے متاثر ہوتے ہیں۔ متاثرہ جانور کے گوشت کھال۔ خون وغیرہ سے انسانی جسم پر زخم وغیرہ کے ذریعہ منتقل ہوتی ہے۔

احتیاطی تدابیر: جانوروں کو حفاظتی ٹیکہ جات لگوائے جائیں۔ مردہ جانوروں کی کھال اور اون استعمال نہ کی جائے۔ بلکہ مردہ جانور کا پوسٹ مارٹم ہی نہ کی جائے۔ کیونکہ جرثومے پھیلنے کا خطرہ ہوتا ہے۔ مردہ جانور کو زمین بہت گہرا دیا جائے۔ اور بہتر ہوگا کہ اسے جلا دیا جائے۔

تشیخ (Tetanus): جانور اور انسان اس بیماری سے یکساں طور پر متاثر ہوتے ہیں۔ لیکن گھوڑا اور خیرسب سے زیادہ متاثر ہوتے ہیں۔ اس بیماری میں جسم کے تمام پٹھے اکڑ جاتے ہیں۔ اس مرض کے

جراثیم کے سپور زگر وغبار اور مٹی میں رہتے ہیں۔ اور یہ جراثیم زخم کے راستے جسم میں داخل ہو جاتا ہے۔ اور اپنا ہر اعصابی نظام کے ذریعے جسم میں پھیلا دیتا ہے۔ اس بیماری میں جسم کے تمام پٹھے اکڑ جاتے ہیں۔ جسم سخت ہو جاتا ہے۔ مریض کے لیے جلنا پھرنا۔ کھانا پینا مشکل ہو جاتا ہے۔ مریض کو بخار ہو جاتا ہے۔ اور روشنی میں تکلیف محسوس کرتا ہے۔ مرض کی مخصوص علامات اور زخم سے جرثومے کی موجودگی یقینی تشخیص میں مدد دیتی ہے۔

احتیاطی تدابیر: بیماری کی صورت میں اینٹینس سیرم (ATS) کا استعمال سودمند ہوتا ہے۔ زخم کی مکمل صفائی اور ڈریسنگ ضروری ہے۔ حفاظتی ٹیکہ جات کرائیں۔

استسقاط حمل (Brucellosis) جانوروں کی یہ مخصوص بیماری انسانوں میں منتقل ہو جاتی ہے۔ بیماری سے مویشی۔ گھوڑے۔ بھیڑ بکریاں زیادہ متاثر ہوتی ہیں۔ یہ بیماری جانوروں میں استسقاط حمل کا باعث ہوتی ہے۔ ایسے مریض جانور میں استسقاط حمل کے وقت خارج ہونے والے مواد وغیرہ سے جراثیم دوسرے جانوروں کو منتقل ہوتا

ہے۔ بیمار جانور کے دودھ میں یہ جرثومے وافر ہوتے ہیں۔ جو انسانوں میں بیماری کا سبب بنتے ہیں۔ عام طور پر اس بیماری کی ظاہری علامات کوئی نہیں ہوتیں۔ صرف استسقاط حمل ہی اس کی پہچان ہے۔ انسانوں میں اس کی علامات میں سردی لگنا۔ درد سرد۔ بخار۔ ٹھنڈا پسینہ آنا۔ شدید کمزوری اور باری کا بخار (10 سے 15 دن تک بخار پھر صحت مند) رات کو بخار آنا جب کہ دن بھر درجہ حرارت نارمل رہتا ہے۔

جسم میں نقابہت اور چند صورتوں میں استسقاط حمل ہو جاتا ہے۔ حفاظتی تدابیر: جانوروں کو حفاظتی ٹیکہ لگائیں۔ جانور کا دودھ اچھی طرح ابال کر پیئیں۔ بیمار جانور کو فوری طور پر ختم کریں۔

ویریوس (Vibriosis): جانوروں میں مویشی اور بھیڑ بکریوں میں یہ بیماری عام ہوتی ہے۔ جو رحم کی سوزش، مردہ بچوں کی پیدائش یا استسقاط حمل کی صورت میں ہوتی ہے۔ یہ بیماری انسانوں میں بیمار جانوروں کے دودھ یا ان کے رحم سے خارج

ہونے والے مواد سے ہوتی ہے۔

بولاہین (Rabies): یہ مرض جنگلی جانوروں لومڑی، بھیڑیے۔ چکا ڈر وغیرہ سے آوارہ کتوں اور پالتوں جانوروں میں ان کے کاٹنے سے منتقل ہوتا ہے۔ ایسے بیمار جانور اور کتے کے کاٹنے سے یہ مرض انسانوں میں منتقل ہو جاتا ہے۔ بیمار جانور کے لعاب میں اس کا وائرس موجود ہوتا ہے۔ جو انسانی جسم پر موجود زخموں پر تھوک لگنے سے منتقل ہوتا ہے۔

انسان میں اس مرض کی علامت سر، جسم کا ٹوٹنا، بخار اور اعصابی تناؤ ہوتا ہے۔ مریض پانی سے ڈرتا ہے۔ کھانے پینے میں تکلیف ہوتی ہے۔ اور منہ سے لیس دار مادہ نکلتا رہتا ہے۔ سانس میں تکلیف محسوس ہوتی ہے۔ اور اگر مرگی کے دور پڑتے ہیں۔ بیماری جانور کے دماغ میں جرثومے کی موجودگی یقینی تشخیص ہے۔ حفاظتی تدابیر: کاٹے ہوئے انسان کو فوری حفاظتی ٹیکہ لگوائیں۔ اگر کسی جانور کو بھی بالادکنا کاٹ جائے تو اسے فوراً حفاظتی ٹیکہ لگوائے۔ پالتو کتوں کو فوراً حفاظتی ٹیکہ لگوائیں۔ جانوروں کو کتوں اور جنگلی جانوروں سے بچائیں۔

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تحریر: عبدالکبیر (پی ایچ ڈی سکارل)، محمد عزیز (فائل ایئر ڈی وی ایم)، سندھ ایگریکلچر یونیورسٹی ٹنڈو جام



شروع ہو جاتی ہیں تو مردہ چوہوں کی جوئیں انسانوں میں بیماری کی منتقلی کا باعث بنتی ہیں اور تاریخ گواہ ہے کہ

ہزاروں انسان لقمہ اجل ہو گئے۔ اگرچہ اس وقت بیماری موجود نہیں۔ مگر اس کا خطرہ ہو سکتا ہے۔ اس لیے چوہوں کا صفایا ضروری ہے۔

بدکنار (Glander): یہ بیماری گھوڑوں، خچروں اور گدھوں کی بیماری ہے۔ انسانوں میں یہ بیماری منتقل ہو

ہیں جب کہ مویشیوں اور بھیڑ بکریوں میں یہ جراثیم فضلے کے راستے خارج ہوتے ہیں۔

جو براہ راست گوبر ملی اشیاء اور ایسی اشیاء جن پر گوبر کے چھینٹے پڑے ہوں کھانے سے انسانوں میں منتقل ہو جاتے ہیں۔ بیمار جانور کے دودھ سے جراثیموں کی منتقلی کی شرح بہت کم ہوتی ہے۔

حفاظتی تدابیر: انڈا۔ دودھ۔ گوشت اچھی طرح ابال کر پکا کر استعمال کریں۔ جانوروں اور انسانوں میں ٹائیفائیڈ کے خلاف حفاظتی ٹیکہ جات کرائیں۔ مکھیوں اور حشرات الارض کم کرنے کے لیے سپرے کرائیں۔ شا کوس

(Psittacosis): اس بیماری کا سبب پالتو پرندوں مثلاً طوطے، بٹھنیں، چھوٹی چڑیاں وغیرہ ہے۔ ایک خاص قسم کے وائرس کی وجہ سے شا کوس کا شکار ہوتے ہیں۔ پرندوں سے یہ بیماری براہ راست انسانوں کو آلودہ ہوا میں سانس لینے یا بیمار پرندے کے کاٹنے سے لاحق ہو جاتی ہے۔

طاعون (Plague): طاعون ایک انتہائی مہلک مرض ہے جو چوہوں اور پسووں کے ذریعے انسان کے خون میں منتقل ہوتی ہے۔ اور جب وبائی شکل اختیار کر لیتی ہے جس میں چوہوں میں اموات

انسانوں اور جانوروں میں بیماریوں کی نوعیت بالکل مختلف ہوتی ہے۔ کچھ بیماریاں ایسی ہیں جو صرف انسانوں میں ہوتی ہیں اور کچھ ایسی ہیں جو صرف جانوروں میں ہوتی ہیں۔ لیکن کچھ بیماریاں ایسی بھی ہیں جو بنیادی طور پر تو جانوروں کی بیماریاں ہیں اگر وہ انسانوں میں منتقل ہو سکتی ہے۔ اور انسانوں میں بیماری کا باعث بنتی ہیں۔ انسان اور پالتو جانوروں کے درمیان گہرا تعلق ہے۔ اس طرح بعض بیماریاں جانوروں کو چھونے اور بعض بیماریاں ان کے گوشت اور دودھ، انڈے استعمال کرنے سے انسانوں کو لگ جاتی ہیں۔ جانوروں سے انسانوں میں منتقل ہونے والی بیماریوں کی مختصر حال ذیل میں درج کیا جا رہا ہے۔

تپ دق: مویشیوں اور مرغیوں سے تپ دق کا مرض انسانوں میں منتقل ہو سکتا ہے۔ بیمار جانور کے دودھ گوشت۔ فضلہ۔ پیشاب اور سانس وغیرہ میں تپ دق کے جراثیم پائے جاتے ہیں۔ جو سانس کے راستے۔ بغیر ابالے دودھ پینے اور ان کا گوشت کھانے سے انسانوں میں منتقل ہو جاتے ہیں۔ انسانوں میں بیماری کی تشخیص کا انحصار علامت۔ ایکس رے اور لیبارٹری کی رپورٹ پر ہوتا ہے۔ ایسا جانور جس کے بارے میں شک ہو کہ وہ تپ دق میں مبتلا ہے تو اس کی بیماری کی ٹیو برکٹین ٹسٹ سے یقینی تشخیص ممکن ہے۔ اگر ٹیسٹ کا نتیجہ مثبت ہو تو جانور کے گوشت کو استعمال نہ کیا جائے۔

ٹائیفائیڈ اور پیرائٹیفائیڈ: اس بیماری کا سبب سالمونیللا گروپ کے جراثیم ہوتے ہیں۔ بیمار مرغی کے انڈوں میں یہ جراثیم پائے جاتے ہیں جو انڈوں کے کھانے میں انسانوں میں منتقل ہو جاتے



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